Committee for Enterprise, Trade and Investment

Report on the Committee's Inquiry into Barriers to the Development of Renewable Energy Production and its Associated Contribution to the Northern Ireland Economy - Volume 1

Together with the Minutes of Proceedings of the Committee
Relating to the Report and the Minutes of Evidence

Ordered by The Enterprise, Trade and Investment Committee to be printed 27 January 2011
Report: NIA 14/10/11R Enterprise, Trade and Investment Committee

Session 2010/2011

Third Report

Committee Powers and Membership

Powers

The Enterprise, Trade & Investment Committee is a Statutory Committee established in accordance with paragraphs 8 and 9 of the Belfast Agreement, Section 29 of the Northern Ireland Act 1998 and under Assembly Standing Order 46. The Committee has a scrutiny, policy development and consultation role with respect to the Department for Enterprise, Trade & Investment and has a role in the initiation of legislation.

The Committee has power to:

- Consider and advise on Departmental Budgets and Annual Plans in the context of the overall budget allocation;
- Approve relevant secondary legislation and take the Committee stage of relevant primary legislation;
- Call for persons and papers;
- Initiate inquiries and make reports; and
- Consider and advise on matters brought to the Committee by the Minister for Enterprise, Trade & Investment.

Membership

The Committee has 11 members, including a Chairperson and Deputy Chairperson, and a quorum of five members.

The membership of the Committee is as follows:

Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)

Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan[1]
Mr William Irwin[2]
Ms Jennifer McCann[3]
Dr Alasdair McDonnell
Ms Claire McGill[4]
Mr Gerry McHugh
Mr Sean Neeson

[1] With effect from 28 June 2010 Mr Paul Frew replaced Mr Stephen Moutray.

[2] On 13 September 2010 Mr Paul Givan was appointed as a member of the Committee for Enterprise, Trade and Investment.

[3] With effect from 13 September 2010 Mr William Irwin replaced Mr Gregory Campbell.

[4] With effect from 13 September 2010 Ms Claire McGill replaced Mr Daithí McKay.

Table of Contents

Volume 1

Section

Appendices

List of Abbreviations and Acronyms Used in the Report

AFBI Agri Food Biosciences Institute

BENI Biomass Energy – Northern Ireland

BIS (Department of) Business, Innovation and Skills

CAFRE College of Agriculture, Food and Rural Enterprise

CBI Confederation of British Industry

CEPA Cambridge Economic Policy Associates

CHP Combined Heat and Power

CRCEE Carbon Reduction Commitment Energy Efficiency Scheme

DARD Department of Agricultural and Rural Development

DEL Department of Employment and Learning

DETI Department of Enterprise, Trade and Investment

DFP Department of Finance and Personnel

DoE Department of Environment

DSD Department of Social Development

DSO Distribution System Operator

ESCo Energy Supply Company

EP Energy Performance Certificates

EU European Union

FDI Foreign Direct investment

FIT Feed-in Tariff

GB Great Britain

GBRO Great Britain Renewable Obligation

GSNI Geological Survey of Northern Ireland

GWh Gigawatt Hours

IBEC Irish Business and Employers Confederation

IPP Individual Power Producers

JBC Joint Business Council

kWh Kilowatt Hours

MWh Megawatt Hours

NI Northern Ireland

NIAUR Northern Ireland Authority for Utility Regulation

NIE Northern Ireland Electricity

NIEL Northern Ireland Environmental Link

NIGLA Northern Ireland Local Government Association

NIRIG Northern Ireland Renewable Industry Group

NIM Northern Ireland Manufacturing

NIRO Northern Ireland Renewable Obligation

NPP Northern Periphery Programme

Ofgem Office of the gas and electricity markets

OFMDFM Office of the First minister and deputy First Minister

PAC Planning Appeals Commission

PPS18 Planning Policy Statement 18

R&D Research and Development

RE Renewable Energy

RHI Renewable Heat Incentive

ROC Renewable Obligation Certificate

RoI Republic of Ireland

RSPB Royal Society for the Protection of Birds

SCADA Supervisory Control and Data Acquisition

SEF Strategic Energy Framework

SEIDWG Sustainable Energy Interdepartmental Working Group

SEM Single Electricity Market

SGI SmartGridIreland

SME Small & Medium Enterprises

SSC Sector Skills Council

SWEG Small Wind Energy Group

TSO Transmission Systems Operator

UFU Ulster Farmers Union

UK United Kingdom

UU University of Ulster

WWF World Wildlife Fund

Executive Summary

Background and Purpose of the Inquiry

1. We are living in an era of ever increasing energy prices and of great uncertainty in relation to our energy future. We are largely dependent on imported fossil fuels to power our energy needs, and the markets for these are becoming increasingly volatile. We are required to meet specific EU targets for reducing the amount of energy we consume from fossil fuels. A recent report from carbon management consulting company, Carbon Masters, concludes that under the Coalition Government's Carbon Reduction Commitment Energy Efficiency Scheme (CRCEE), energy costs for Northern Ireland businesses and public bodies could double over the next five years due to 'carbon tax' payments.[1] The Report states that the cost and carbon implications for organisations in Northern Ireland will be far worse than for similar organisations in the rest of the UK. The reasons provided are the high dependency of the Northern Ireland energy mix on oil compared to other parts of the UK and the already high price of both gas and electricity here. For these reasons it is essential that we have the right vision, policies and strategies in place to secure our energy future. This will mean a much larger dependency on renewable sources to meet our energy needs. We must therefore ensure that we take the appropriate steps now to remove the barriers that exist to renewable energy production in Northern Ireland. It is also essential that policy on the economy takes account of the strategic importance of renewable energy to our economic future.

2. The Inquiry was undertaken in order identify the main barriers that are inhibiting the development of renewable energy production. The Committee also wanted to bring forward recommendations on how these barriers can be overcome in order to optimise the development of renewable energy technologies, the contribution of renewable energy to the local economy and the production of energy from renewable sources.

Government Vision

3. During the course of the Inquiry, the Committee took a considerable amount of both written and oral evidence from a wide range of stakeholders. It became apparent that the issues arising were wide ranging and covered the remits of a number of Government departments and public sector bodies. The wide range of issues is reflected in the nature of the recommendations in this Report. The Committee believes that the depth and breadth of the barriers to the development of renewable energy is symptomatic of the Government's approach to the matter to date.

4. This Report makes recommendations to assist in removing barriers to the development of renewable energy however the Committee wishes to stress that it values the achievements that have been made so far by a number of departments. The Department of Enterprise, Trade & Investment (DETI) has brought forward the Strategic Energy Framework (SEF) which outlines Northern Ireland's energy future up to 2020. The Department of Agriculture & Rural Development (DARD) has developed its Renewable Energy Action Plan 2010 which is designed to develop renewable energy opportunities in the land based sector. The Department of Employment & Learning (DEL) provides funding to Further Education Colleges to deliver courses and programmes on energy efficiency and renewable energy. The Office of the First Minister and the deputy First Minister (OFMDFM) has developed its Sustainable Development Strategy which includes objectives relating to the increase in energy derived from renewable sources. The Department of the Environment (DoE) has developed Planning Policy Statement 18(PPS18) and associated guidance for development that generates energy from renewable sources. Government departments are also working together with a common agenda through the Sustainable Energy Inter-Departmental Working Group (SEIDWG).

5. In addition to the work being undertaken within Government there are a number of agencies, many established by Government with responsibility for advising and informing the public and business on energy issues. The Energy Saving Trust provides advice and support on energy saving in the home, low carbon transport, on renewable technologies and on saving water and waste. Action Renewables' objectives include promoting renewable energy, providing information and support, removing barriers and leading and completing relevant research in renewable energy. The Carbon Trust provides specialist support to help business and the public sector cut carbon emissions, save energy and commercialise low carbon technologies. The Northern Ireland Energy Agency activities include promoting action by householders and not-for-profit organisations on energy efficiency, renewable energy, low carbon transport, water and waste.

6. There is no doubt that there is a significant amount of activity ongoing in relation to renewable energy. It may therefore seem surprising that so many businesses and support organisations in the local renewable energy sector believe more needs to be done. In the course of the Inquiry, the Committee has come to the conclusion that much work is indeed being undertaken. However, despite the work of SEIDWG, the Government approach to the renewable energy agenda requires more focus and an overall vision for our long-term energy future. There are many examples in this Report which demonstrate the need for a clearer vision and for a fully integrated approach to resolving our energy problems and securing our energy future. The need for a clearer focus was highlighted in the Independent Review of Economic Policy (Barnett Report) which called for a clear focus and leadership to the range of energy policy issues. This recommendation is supported by the Committee. The Committee believes that this should be achieved by bringing all responsibility for energy policy and strategy under a single Government department (Recommendation 1).

7. The Committee believes that the vision for renewable energy should extend well beyond the SEF timescale of 2020 and that Government should now be looking much further forward in order to secure our long-term energy future. Any vision for our energy future must not only ensure an integrated approach within Northern Ireland, it must also be integrated with the visions of other devolved administrations, with the Republic of Ireland and possibly even further afield. This is especially the case in relation the Single Electricity Market (SEM) and in relation to the SEF target of 40% of electricity consumed coming from renewable sources by 2020. Both are highly dependent on our ability to export and import electricity through interconnection.

8. In addition to an energy perspective, the energy vision also requires an economic perspective. There are many opportunities, now and in the future, both for our indigenous businesses and for Foreign Direct Investment in the renewable energy sector. Therefore any vision for renewable energy must plan to take advantage of these opportunities. The long-term vision for renewable

energy must include both an energy perspective and an economic perspective and must establish long-term partnerships with other devolved administrations in the UK and with the Republic of Ireland, and should, where appropriate, include an all-island dimension for renewable energy (Recommendation 2). The Committee believes that many of the recommendations made in this Report result from problems that have arisen because there is no overarching vision for renewable energy. The development of a long-term vision should provide focus and assist in developing solutions to many of the problems faced.

9. Although much work is being done within Government on renewable energy, this work has been done in the absence of an overall vision for renewable energy in Northern Ireland. This has resulted in significant aspects of this work being done largely in isolation, without a full understanding or appreciation of what is happening in other sectors and other regions and without a full appreciation of what can be achieved here. Examples have been provided to demonstrate that more could have been achieved if the appropriate resources and technical expertise had been available. The result has been that Northern Ireland has fallen behind in the development and deployment of some renewable energy technologies which are now well established in other European Union (EU) Member States. Examples include anaerobic digestion, energy from waste, geothermal energy and renewable heat. In the future, more resources and technical expertise must be provided to those responsible for developing energy policy to proactively drive the renewable energy agenda and enable the development of policies and strategies to help Northern Ireland progress in those renewable energy areas which are underdeveloped in relation to other regions (Recommendation 3).

Government Policy and Strategy

10. Many Government departments' remits include policies and strategies relating to renewable energy. OFMDFM's Sustainable Development Strategy attempts, to some extent, to bring these together. There is however no overarching policy or strategy for renewable energy. The first step to achieving an overarching policy and strategy must be to secure a long-term vision for renewable energy.

11. The main document outlining Government policy for Energy is the new Strategic Energy Framework. The SEF extends to 2020 but does not contain interim targets or milestones apart from a target for the level of electricity consumed to come from renewable sources by 2012, which is only one year away. No interim targets exist between then and 2020 for any aspect of the SEF. The Committee believes that this will make it difficult to determine what is achievable year-on-year and to monitor progress to determine if we are on course to achieve the long-term target. It is therefore important that interim targets are put in place in relation to Strategic Energy Framework objectives (Recommendation 4).

12. Many respondents to the Committee's call for evidence commented on high dependence of Government policy on the target of 40% of electricity coming from renewable sources by 2020 and the associated high dependence on wind-generated electricity. Some felt that this focus had resulted in other technologies being neglected. The Committee understands the reasons why the Department has concentrated on wind-generated electricity. DETI is working with very limited resources within Energy Division and Northern Ireland is required to make a suitable contribution to the overall UK target to meet EU requirements. This has however, resulted in missed opportunities in other sectors; opportunities which we must now try to grasp. In order to make the most of these opportunities, in conjunction with a new long-term vision for renewable energy, targets must be set well beyond 2020. The Committee therefore believes that the 40% target for electricity consumption from renewable sources by 2020 should include specific stretching targets for electricity from sources other than wind and/or stretching targets for non-wind sources by 2025 and beyond (Recommendation 5).

13. In order to ensure that its vision for renewable energy is appropriately aligned and takes into account the expertise, needs and views of key stakeholders and to ensure that future opportunities are appropriately exploited, Government must make use of the available expertise when developing its vision, policies and strategies. Therefore, the Sustainable Energy Interdepartmental working group should be supplemented by a group which includes representatives from the renewable energy sector, business, academia and the Northern Ireland Local Government Association to advise on the development of Government policy on renewable energy (Recommendation 6).

14. In the course of the Inquiry, the Committee became aware of a potential opportunity where an integrated approach to renewable energy could potentially result in significant benefits to a wide range of stakeholders within Government. Members were informed that there is huge potential to generate electricity through anaerobic digestion at water treatment plants throughout Northern Ireland. This would involve the co-digestion of wastewater sludge and agricultural material. Further research will be required in order to determine the viability and potential of such a proposal (Recommendation 7).

Government Communications

15. As stated earlier, there are many organisations providing information, advice and support in relation to renewable energy. However, communications from Government was seen as a major concern for many respondents to the call for evidence. Issues were raised in relation to communications between Government and the public, between Government and the business sector as well as communication within Government.

16. The raising of public awareness about the need to develop renewable energy resources was considered important. Some respondents also considered the absence of reliable, independent advice to the public to be a barrier to the deployment of renewable energy. Communication between Government and business was also an issue for a number of respondents.

17. The Committee believes that the current mechanisms for communicating with the public and with business should be better integrated. There is a need for a single organisation providing consistent, efficient, easily accessible advice and support to business and the public on all energy issues. This organisation should have a section dedicated to developing policy on the dissemination of support, advice and information to the public and business on renewable energy and its importance to the future of Northern Ireland (Recommendation 8).

Incentives for Renewable Energy Production

18. During the course of the Inquiry, the Committee was not convinced that the incentives being provided are always the most appropriate to stimulate the production of renewable energy. There was also evidence of inconsistency in the approach taken, leading to a bias in favour of technologies such as large-scale wind electricity generation. It is understandable, from an energy perspective that DETI would concentrate on providing incentives to assist in achieving its 40% target through wind-generated electricity. However, this approach did not consider the business opportunities that could become available through incentivising other technologies. There was a sense from the evidence gathered that in some cases the incentives provided were inadequate to stimulate development and that many potential investors/developers were waiting to see what would become available in the next consultation on the Northern Ireland Renewables Obligation (NIRO) and whether incentives would improve.

19. The Committee welcomes the move by the Department to increase incentives for some renewable energy technologies however, in some cases there is a sense that potential

developers in some technologies believe that incentives may improve further in the future. Some developers are not therefore convinced that now is the time to invest. More certainty must be provided to developers to encourage and incentivise them to invest now. Therefore assurances should be provided to developers that they will not be worse off by investing now than they would be had they waited. This will require assurances that the incentives provided to future developers will be mirrored for existing developers (Recommendation 9).

20. A key debate throughout the course of the Inquiry was whether a Renewable Obligation Certificate (ROC) or a Feed-in Tariff (FIT) is the better mechanism for incentivising renewable energy production. Both mechanisms are explained in detail in the body of the Report. The Committee can see advantages and disadvantages in both mechanisms. One key advantage of the ROC from a Northern Ireland perspective is that it is a UK wide mechanism. A FIT mechanism would, on the other hand, have to be paid for by Northern Ireland consumers. Much of the evidence relating to FITs centred on the long-term security they provide for investors who can obtain finance for renewable energy installations on the basis that they will have a fixed income which is inflation-proofed for up to 20 years. The value of ROCs is determined by market forces and can potentially rise and fall. The Committee was informed that only 25-30% of the value of a ROC is bankable and that financial institutions were unwilling to lend on that basis. The Department informed the Committee that it has controls in place to ensure that the ROC maintains an appropriate value and that investor confidence is protected. The Committee therefore considers it important that that DETI educate the financial sector and provide some level of assurances on the long-term security of ROCs so as reassure lenders and stimulate lending to renewable energy investors (Recommendation 10).

21. While the Committee accepts that the ROC is probably the better mechanism for incentivising large-scale renewable energy production, it is mindful of the fact that a FIT mechanism was introduced for small-scale generation in GB and is therefore considered the preferred mechanism for small-scale generation there. It is unclear however, whether the benefits that a FIT would provide for small-scale developers and for indigenous renewable energy businesses would outweigh the costs to the Northern Ireland economy. Therefore, DETI should undertake an analysis to determine the costs and benefits to the Northern Ireland economy, business and renewable energy developers of introducing a FIT for small-scale generation along the lines of what has been introduced in GB (Recommendation 11).

22. The SEF contains a target for 10% of heat consumed to come from renewable sources by 2020. The Treasury offer of £25million for Northern Ireland to develop a Renewable Heat Incentive (RHI), if accepted, should greatly assist in ensuring that this target is achieved. A RHI would have a heavy reliance on biomass. Some respondents to the call for evidence raised concerns about the sustainability and practicality of biomass. It was suggested that if a policy is created relating to biomass, it must be sustainable here rather having to rely on imported biomass which, it was stated, would almost certainly be the case if biomass is used to generate electricity. The Committee is concerned that, if biomass for domestic heating has to compete with biomass for electricity generation, this may result in the need to import biomass which could create market volatility. Therefore the Committee believes that, in the short-term, Government policy on biomass should concentrate on renewable heat to assist in meeting the Strategic Energy Framework target of 10% of heat from renewable sources by 2020. DETI should also give favourable consideration to the Treasury offer of £25 million for a Renewable Heat Incentive for Northern Ireland (Recommendation 12).

Support for the Development of Renewable Energy Technologies

23. Concern was expressed in the call for evidence about the level and nature of support available in Northern Ireland for the development of renewable energy technologies. In those EU regions at the forefront of renewable energy generation and production, drivers for research and development included issues around security of energy supply and the need to ensure energy self sufficiency. These are the very issues currently faced here. The Committee believes that opportunities were missed in Northern Ireland to take advantage of the funding available for research and development under EU Framework Programme 7. It is essential that, under the next programme, Framework Programme 8, Northern Ireland is in a position to take full advantage of opportunities for funding for research and development. Therefore, DETI must explore the opportunities for enhancing the research funding system in Northern Ireland by benchmarking against leading European regions (Recommendation 13).

Support for Business

24. Most indigenous renewable energy sector businesses are not exporting. However, they need to grow and develop to meet the needs of local users of renewable energy products and services. If they fail to develop, the result will be a reliance on imports to meet our renewable energy needs. More targeted advice and support is required for Small and Medium Enterprises (SMEs). Therefore, the nature of Invest NI support should be reviewed to realise the net benefits that indigenous SMEs can bring to the overall Northern Ireland economy (Recommendation 14).

25. The need for more specialist technical advice for businesses to enable them to take advantage of opportunities in the renewable energy sector was raised as an issue by a number of respondents. As Invest NI continues to identify companies with potential to develop to take advantage of opportunities in the renewable energy sector, more emphasis will have to be put on building internal renewable energy markets and associated skills bases. Invest NI must ensure that incentives do not result in imports of renewable energy products and services due to a lack of indigenous expertise. Invest NI should review the technical knowledge and skills available within the organisation so as to ensure that it has the appropriate resources available to support the indigenous renewable energy sector (Recommendation 15).

26. A number of respondents raised the issue of the need to make renewable technologies mandatory for new buildings. Experience in other EU regions has demonstrated that there are benefits to both the public and the economy of making certain renewable technologies mandatory for new buildings. The costs and benefits of this should be reviewed with a view to bringing forward proposals if feasible (Recommendation 16).

27. The Northern Ireland Green New Deal Group believes that a significant contribution from public funds is warranted to leverage additional investment for a green recovery package for Northern Ireland. It states that the total cost of such a package could be in the region of £900 million. The Group has published a paper on the "Green New Deal Housing Fund" which is designed to enable the energy retrofit of 500,000 homes over a ten year period. As the Fund would offer significant incentives for householders to deploy renewable energy technologies it provides a clear and immediate opportunity to give support to both the renewable energy sector and the construction sector here. The Committee therefore believes that the Executive should, as a priority, consider the proposals for a Green New Deal Housing Fund with a view to agreeing how this can be taken forward (Recommendation 17).

Grid Infrastructure

28. There was general consensus from written and oral evidence that the current electricity grid infrastructure requires major investment for upgrading and reinforcing. A number of respondents agreed that, in its present form, the grid cannot cope with the amount of renewable energy

being generated. Several respondents stated that the absence of a Government grid infrastructure development plan is an obstacle with limited evidence of a structured approach to grid development. The Department informed the Committee that it is working with Northern Ireland Electricity (NIE) as it develops its options for grid development. The Committee considers it important that a plan for infrastructure development is prepared and implemented to assist in meeting the 40% target for electricity consumption from renewable sources by 2020 (Recommendation 18).

29. The need for further interconnection on the electricity grid was raised by several respondents. The Department considers the proposed North-South Interconnector to be an essential requirement to meet its 40% target for renewable electricity as well as being important for the Single Electricity Market (SEM). The Utility Regulator informed the Committee that not having the North-South Interconnector is costing the Northern Ireland economy approximately £20million per year. Northern Ireland Electricity submitted a planning application for the Interconnector in December 2009. This was subsequently referred to a Public Inquiry. NIE informed the Committee that the initial indication was that the Public Inquiry may not be heard until late 2012. Evidence to the Committee has demonstrated that the North-South Interconnector is a vitally important element of infrastructure both from an energy perspective and from an economic perspective. It is essential that a decision on the Interconnector is made with the utmost urgency. Therefore, the Department of the Environment and the Planning Appeals Commission should prioritise the Public Inquiry process so as to ensure that high priority, key infrastructure projects such as the North-South Interconnector are dealt with as a top priority (Recommendation 19).

Grid Connection

30. The main issues arising in relation to grid connection included high costs, long delays in gaining access to the grid and NIE's new Distribution Code.

31. Concerns were raised by a number of respondents in relation to the cost of connection for small-scale developers. In Northern Ireland, the cost of connection depends on the location of the installation. The Department informed the Committee that the Utility Regulator plans to consult on the issue and that this will provide an opportunity to consider how to improve pricing structure for small-scale generators. Some EU regions offer subsidised connections but currently in Northern Ireland work is paid for by the developer.

32. NIE's Distribution Code sets out the day-to-day planning and operational procedures required by NIE for system users including electricity generators. NIE estimates that the infrastructure needed to meet the requirements of the Distribution Code will cost generators approximately £20,000 plus VAT. The Committee was informed that, for many small-scale generators, this is a significant up-front cost.

33. The Committee is concerned that the costs of grid connection and the Distribution Code requirements, coupled with potential uncertainty around the timescales for connection, may be a key barrier to small-scale renewable electricity generation. The process for grid connection should be reviewed to ensure that it is fully transparent and costs are fully explained. Connections for installations should be made in a timely fashion, with both parties aware of how long the process is going to take (Recommendation 20).

Planning and Consents

34. A large number of respondents to the call for evidence cited the planning process as a significant issue. This concern was reinforced by a number of those giving oral evidence to the

Committee. There was considerable concern expressed in relation to the impact that the planning process could have on renewable energy projects and the related impact on the economy. The main issues arising were in relation to planning policy for renewable energy and in particular Planning Policy Statement 18 (PPS18), delays in reaching planning decisions, planning for micro generation, building regulations and permitted development.

35. In written evidence, several respondents welcomed PPS18 however others expressed uncertainty around the policy and its supplementary guidance. Some expressed concern that potential still exists for inconsistent application through the different interpretation of planning guidance by individual planners. Given the significant impact that the planning process can have on renewable energy and the related impact on the economy the Department of the Environment and the Planning Service should ensure that planning policy for renewable energy (PPS 18) is implemented and applied in a consistent manner (Recommendation 21).

36. The field of renewable energy is quite diverse and many of the concepts are quite new to Northern Ireland. With improved incentives and a strategic focus on renewable energy the number and quality of planning applications should improve. The Committee believes that, given the complexity of some renewable energy technologies, the associated complexity in applications and the, sometimes ill-informed conceptions that third parties may have, Planning Service staff must be fully informed and have an up-to-date awareness of the impact of renewable energy technologies. There is therefore, an onus on other departments to work with the Planning Service to fully inform Planners and to provide clear guidance and advice on the impact of these technologies (Recommendation 22).

37. Currently in Northern Ireland, all proposals for renewable energy installations must go through the planning process. In other regions permitted development rights have been granted for some installations. DoE has undertaken a consultation exercise on permitted development for domestic renewable energy installations. DoE officials informed the Committee during oral evidence that a report would be published in early 2011 and that legislation on permitted development for the installation of domestic micro generation equipment would be proposed thereafter. The Committee believes that such proposals should be brought forward at the earliest opportunity (Recommendation 23).

38. DoE has not undertaken a consultation on permitted development for business or agricultural renewable energy installations. There are clear advantages in allowing permitted development rights for some small-scale, non-domestic renewable energy installations. The Committee believes that DoE should commence a consultation exercise on permitted development for business and agricultural installations with a view to bringing forward proposals for permitted development in these sectors (Recommendation 24).

Public Buildings and Renewable Energy

39. Government must take a more active role in the promotion of renewable energy and in reducing public sector dependence on carbon intensive energy sources. It is important that Government is seen to lead by example. This is especially the case given reports that energy costs for both business and the public sector could double within the next five years due to UK Carbon Reduction Commitment legislation. Therefore the Executive must bring forward a programme to develop the renewable energy potential of public buildings. This should include targets and time-scales for substantially increasing the deployment of renewable energy right across the public sector (Recommendation 25).

Summary of Recommendations

Government Vision (Recommendations 1-3)

1. The Barnett review stated that the Executive must provide clear focus and leadership to the range of energy policy issues as a separate and distinct Government priority. The Committee supports this recommendation and calls on the Executive to provide appropriate leadership in delivering the overall energy agenda by bringing all responsibility for energy policy and strategy under a single Government department.

2. The Executive must develop a long-term vision for renewable energy which includes both an energy perspective and an economic perspective and establishes long-term partnerships to the benefit of Northern Ireland with other devolved administrations in the UK and with the Republic of Ireland, and should, where appropriate, include an all-island dimension for renewable energy.

3. The Executive must provide more resources and technical expertise to those responsible for developing energy policy to proactively drive the renewable energy agenda and enable the development of policies and strategies to help Northern Ireland progress in those renewable energy areas such as anaerobic digestion, energy from waste, geothermal energy and renewable heat which are underdeveloped in relation to other regions.

Government Policy and Strategy (Recommendations 4-7)

4. In relation to the Strategic Energy Framework, interim targets should be put in place in order to provide a clear indication of what is achievable and what has been achieved at interim stages and to assist in monitoring progress with the implementation of the Framework.

5. The 40% target for electricity consumption from renewable sources by 2020 should include specific stretching targets for electricity from sources other than wind and/or stretching targets for non-wind sources by 2025 and beyond.

6. The Sustainable Energy Interdepartmental working group should be supplemented by a group which includes representatives from the renewable energy sector, business, academia and NILGA to advise on the development of Government policy on renewable energy.

7. DETI, DRD, DARD and DoE should work with NIAUR as the Regulator for both water and energy, to conduct research to determine:

i how much energy potential exists for anaerobic digestion through co-digestion of wastewater treatment sludge and agricultural material;

ii the viability of moving quickly to establish anaerobic digestion facilities throughout Northern Ireland which can be used for wastewater treatment sludge and agricultural waste; and

iii the most appropriate means of delivering such anaerobic digestion facilities whether through Northern Ireland Water, private sector contracts or other means.

Government Communications (Recommendation 8)

8. DETI should, as a priority, review the structures and mechanisms which have been established to provide advice and support on energy with a view to establishing a single organisation providing consistent, efficient, easily accessible advice and support to business and the public on all energy issues. This organisation should have a section dedicated to developing

policy on the dissemination of support, advice and information to the public and business on renewable energy and its importance to the future of Northern Ireland.

Incentives for Renewable Energy Production (Recommendations 9-12)

9. To provide certainty for developers and to encourage and incentivise them to invest now, assurances should be provided that no investor will be worse off by investing now than they would be had they waited. This will require assurances that the incentives provided to future developers will be mirrored for existing developers.

10. It is important that DETI educate the financial sector and provide some level of assurances on the long term security of Renewable Energy Certificates so as reassure lenders and stimulate lending to renewable energy investors.

11. DETI should undertake an analysis to determine the costs and benefits to the Northern Ireland economy, business and renewable energy developers of introducing a FIT for small-scale generation along the lines of what has been introduced in GB.

12. In the short-term, Government policy on biomass should concentrate on renewable heat to assist in meeting the Strategic Energy Framework target of 10% of heat from renewable sources by 2020. DETI should also give favourable consideration to the Treasury offer of £25 million for a Renewable Heat Incentive for Northern Ireland.

Support for the Development of Renewable Energy Technologies (Recommendation 13)

13. DETI must explore the opportunities for enhancing the research funding system in Northern Ireland by benchmarking against leading European regions so as to ensure that Northern Ireland is in a position to take full advantage of opportunities for funding for research and development under EU Framework Programme 8.

Support for Business (Recommendations 14-17)

14. The nature of Invest NI support should be reviewed to realise the net benefits that indigenous SMEs can bring to the overall Northern Ireland economy.

15. Invest NI should review the technical knowledge and skills available within the organisation so as to ensure that it has the appropriate resources available to support the indigenous renewable energy sector.

16. The Department of Finance & Personnel should review the costs and benefits of making certain renewable energy technologies mandatory for new builds with a view to bringing forward proposals if feasible.

17. The Executive should, as a priority, consider the proposals for a Green New Deal Housing Fund with a view to agreeing how this can be taken forward including the nature and level of Government support required.

Grid Infrastructure (Recommendations 18-19)

18. A plan for infrastructure development must be prepared and implemented, with all key stakeholders having input into the plan. The timescales for infrastructure development must be included and must plan for the appropriate infrastructure to be in place in time to meet the 40% target for renewable electricity.

19. The Department of the Environment and the Planning Appeals Commission should prioritise the Public Inquiry process so as to ensure that high priority, key infrastructure projects such as the North-South Interconnector are dealt with as a top priority.

Grid Connection (Recommendation 20)

20. The Utility Regulator should review the process for grid connection to ensure that it is fully transparent and costs are fully explained. Connections for installations should be made in a timely fashion, with both parties aware of how long the process is going to take.

Planning and Consents (Recommendation 21-24)

21. The Department of the Environment and the Planning Service should ensure that planning policy for renewable energy (PPS 18) is implemented and applied in a consistent manner.

22. In order to inform planning decisions relating to emerging technologies, DETI, DoE and DARD should work with the Planning Service to fully inform Planners and to provide clear guidance and advice on the impact of these technologies.

23. The Department of the Environment should publish the results of its consultation on permitted development for domestic installations at the earliest opportunity and bring forward proposals as soon as possible.

24. The Department of the Environment should commence a consultation exercise on permitted development for business and agricultural installations with a view to bringing forward proposals for permitted development in these sectors.

Public Buildings and Renewable Energy (Recommendation 25)

25. The Executive must bring forward a programme to develop the renewable energy potential of public buildings. This should include targets and time-scales for substantially increasing the deployment of renewable energy right across the public sector.

Introduction

Background

1. The Committee for Enterprise, Trade & Investment held a workshop for stakeholders in the renewable energy sector in Northern Ireland on Tuesday 18th May 2010. The workshop featured contributions from Small & Medium Sized Enterprises (SME) in the renewable energy sector and specialists in the fields of economics, energy and Government. The workshop identified a variety of barriers that stakeholders believe are inhibiting both the development of renewable energy production and the potential of SMEs working in the renewable energy sector.

2. In advance of its workshop, the Committee launched its vision for the Northern Ireland renewable energy sector. The Committee's vision is:

The Committee for Enterprise, Trade & Investment is ambitious for the development and promotion of renewable energy technology, both from an energy and from an enterprise perspective. To this end, the Committee wants to see a Northern Ireland which:

- Is self-sustaining in relation to heat and electricity
- Is a net exporter of energy
- Is a market leader and world class exporter of renewable energy technologies
- Exceeds the renewable energy targets in the DETI Strategic Energy Framework
- Uses the wide range of renewable energy opportunities available so as to optimise the use of all potential renewable energy resources at our disposal

The Committee will play its full part in supporting and challenging DETI, Government, the business sector and the renewable energy sector to help achieve this vision.

3. If the Committee vision is to be realised it is essential that both Government and the local renewable energy sector play their full part in overcoming barriers to the development of the wider mix of renewable technologies. Government and support organisations in the renewable energy sector must also support our SMEs in the sector to develop and grow both indigenous and export markets.

4. Discussions from the workshop are summarised in an Assembly Research paper entitled 'Key points from the Committee for Enterprise, Trade and Investment's Renewable Energy Workshops'. This paper is at Volume 2, Appendix 7 of this Report.

5. There were many positive comments arising from the workshop. Delegates recognised the wealth of renewable energy resources that exist here and the fact that many of the skills required to grow the renewable energy industry already exist in Northern Ireland, particularly in the areas of research and manufacturing. In this respect it was also recognised that Northern Ireland has a vibrant manufacturing base. The positive role of Government was recognised in that the Renewable Obligation system is responsible for bringing money into the Northern Ireland economy. Delegates also commented on the excellent academic research base that exists here.

6. There were also a large number of issues arising from the workshop. This included the need to develop the indigenous renewable energy market and export potential, financial issues including incentivisation and banking, issues with Government structure, policy and strategy on renewable energy and related matters, and issues of communication with both the public and business.

7. Many respondents also brought forward suggestions for what could be done to improve the development of renewable energy and assist businesses in the renewable energy sector. These, along with other comments are included in the Assembly Research Paper from the Workshop at Appendix 4.

8. Having undertaken the workshop the Committee gained some understanding of the range and complexity of the issues and problems arising in relation to renewable energy from the viewpoints of the wide range of stakeholders. For this reason the Committee considered it appropriate to conduct this Inquiry in order to assist in the development of our indigenous

renewable energy industry for the benefit of consumers, producers and the Northern Ireland economy.

Terms of Reference for the Inquiry

9. The Terms of Reference for the Inquiry stated that the Committee will critically examine the current level of support and assistance made by key stakeholders in the renewable energy sector to the development and growth of renewable energy production. The Committee will make recommendations, where appropriate, on how good policies and practices can be built upon and on future mechanisms to assist the development of the local renewable energy sector.

10. Specifically, the Committee will:

- Consider the current mechanisms at national, regional and local level to support and assist renewable energy production;
- Compare the mechanisms for support and assistance in Northern Ireland with those in other EU member states considered to be in the forefront of renewable energy development;
- Examine the support and assistance available to SMEs in the renewable energy sector to develop renewable energy technologies;
- Examine the support and assistance available to SMEs in the renewable energy sector to grow and develop their businesses;
- Assess the appropriateness of current mechanisms to develop and grow both local renewable energy markets and export markets;
- Assess which EU member states are considered to be in the forefront of renewable energy development both overall and for each type of renewable energy; and
- Report to the Assembly with full findings, conclusions and recommendations for overcoming the barriers to the development of renewable energy production and its associated contribution to both the energy mix and the Northern Ireland economy.

Committee Approach to the Inquiry

11. The Committee made a call for evidence from identified key stakeholders including:

- Electricity generators and suppliers;
- Northern Ireland businesses in the renewable energy sector;
- Department for Enterprise, Trade & Investment, Energy Division;
- Department for Enterprise, Trade & Investment, Strategic Policy Division;
- Invest NI;
- Other relevant committees and Government departments;
- The Northern Ireland Authority for Utility Regulation;
- Action Renewables;
- The Single Electricity Market Operator; and
- System Operator Northern Ireland.

12. A general call for evidence was also made through the local press on 23rd June 2010. On the basis of written evidence submitted, the Committee decided which organisations and individuals to invite to provide oral evidence.

13. Prior to the commencement of the Inquiry, the Committee undertook visits to a deep geothermal energy plant in Soultz, France and to a gasification plant in Herten, Germany to gain a practical understanding of the issues involved and the problems faced by cutting edge developers in the renewable energy sector. During the course of the Inquiry, the Committee visited the Giant's Park on Belfast's north foreshore. The facility hosts Belfast's first landfill gas electricity generating facility. Members were informed that the facility uses five 1MW generators to produce enough electricity to meet the needs of 6,000 homes.

14. Assembly Research was commissioned to undertake appropriate research to inform the Committee. Research was undertaken into:

- Comparative analysis of Renewable Obligation Certificates (ROCs) and Feed-in Tariffs (FITs) as mechanisms for supporting and incentivising renewable energy production;
- Comparative analysis of the support and incentives available in Northern Ireland with other UK regions and other EU member states;
- The impact and future potential of the GB Energy Act (2008) to increase renewable energy production;
- Comparative analysis of the planning regimes in the UK and the Republic of Ireland with a focus on renewable energy development;
- Comparative analysis of connecting renewable generation to the electricity grid with reference to connection procedures in the UK, the Republic of Ireland, Denmark and Germany; and
- Renewable Energy Governance Structures in selected EU countries.

15. Research papers are included at Appendix 4.

16. Those providing written evidence to the Committee were asked to respond by 6th August 2010. Written Evidence to the Committee is included at Appendix 3. Oral evidence was taken between 14th October and 9th December 2010. The Minutes of Evidence from all organisations that provided oral evidence to the Inquiry is at Appendix 2:

17. Before commencing oral evidence on the Inquiry the Committee took oral evidence from the Biogas Alliance on plans to incentivise the production of biogas. The Committee considered the evidence to be highly relevant to the inquiry and subsequently decided to include it as part of the oral evidence to the Inquiry. Minutes of Evidence from the Biogas Alliance, is included at Appendix 2.

Key Issues and Findings

Current Mechanisms to Support and Assist Renewable Energy Production

18. This section outlines the level and nature of support available from within Government and outside Government to assist the renewable energy sector.

Department of Enterprise, Trade & Investment Support

19. Overall responsibility for the Energy remit in Northern Ireland lies with the Department of Enterprise, Trade & Investment (DETI). The strategic aim of DETI is for a more secure and sustainable energy system. DETI's policy direction up to 2020 is outlined in the Department's Strategic Energy Framework (SEF) 2010.[2] The Department recognises that much policy in the field of renewable energy is driven by Directives agreed by Member States at EU level.[3] The Renewable Energy Directive (2009/28/EC) sets the UK target at 15% renewable energy (including heat, transport and electricity) by 2020. In order to assist in achieving this target, DETI has put in place a target of 40% electricity consumption and 10% heat consumption from renewable sources by 2020. There is an interim target of 12% electricity consumption from renewable sources by 2012. The SEF lists the current level of electricity from renewable sources at almost 10%. The Department recognises that these targets are towards the upper limit of what is achievable given constraints such as electricity grid upgrade requirements. There are however, no interim targets between 2012 and 2020 for energy from renewable sources included in the SEF.

20. The SEF outlines the key areas of electricity, natural gas and renewable electricity. It sets out four key energy goals. Namely:

- Building competitive markets;
- Ensuring security of supply;
- Enhancing sustainability; and
- Developing our energy infrastructure.

21. The goal of ensuring security of supply includes objectives to support the development of renewable energy technologies to maximise Northern Ireland's sustainable energy resources; to support higher levels of renewable energy generation; and to explore the need for up to 300MW of biomass power generation. These objectives recognise that, in order to enhance our security of supply, the balance of Northern Ireland's energy mix needs to move more in the direction of indigenous renewable resources and away from reliance on imported fossil fuels. The SEF also recognises that both indigenous and imported biomass could play a significant role in our energy future.

22. The goal of enhancing sustainability includes objectives for energy efficiency, renewable electricity and renewable heat. The energy efficiency objectives include consideration of carbon emission reduction targets; working with other departments and key stakeholders to develop sustainable energy communications; encouragement of combined heat and power systems; and targeting of sustainable energy research.

23. The key objective in the SEF for renewable electricity is to increase to 40% by 2020 electricity consumption from renewable energy sources. To achieve this the Department intends to give sustainability a higher priority on its and NIAUR's duties; ensure that appropriate support mechanisms are in place in incentivise renewable electricity production (namely the Northern Ireland Renewable Energy Obligation (NIRO)); work with developers, planners and those responsible for environmental consents to ensure that the need for renewable electricity is recognised; and work with other departments to implement the first Bioenergy Action Plan. In addition, there are objectives for Invest NI to promote and raise awareness of supply chain opportunities and to support the growth of sustainable energy sector manufacturing or tradable service companies.

24. The Department has set a challenge in the SEF to maximise the contribution of renewable heat in the Northern Ireland energy mix by 2020. To achieve this it intends to consider how best to encourage new entrants; publish a Renewable Heat Route Map by March 2011 (which will include opportunities for geothermal energy); promote opportunities to switch to biomass; and

work with other departments to manage the impact on renewable fuel demand resulting from any increase in uptake.

25. In relation to the goal of developing our energy infrastructure, the Department highlights the investment required in the electricity grid which will be required for Northern Ireland to maximise its use of renewable electricity resources. It also outlines the need for the North-South Interconnector (which is currently going through the planning process) to improve security of supply, increase the resilience of electricity supply and facilitate growth in renewable energy generation and enable the target of 40% consumption of electricity from renewable sources by 2020 to be achieved.

26. In addition to the SEF, the Department intends to produce a number of more specific action plans during 2011. These are:

- Cross Departmental Bioenergy Action Plan;
- Renewable Heat Route Map;
- Offshore Renewable Energy Strategic Action Plan; and
- Sustainable Energy Action Plan.

27. DETI has focused on encouraging technologies which can make the greatest contribution to renewable electricity targets. For this reason the Department does not have specific strategies for micro-generation or small-scale generation.[4] The Department does however provide support for small-scale and micro-generation through the NIRO. The Department previously provided support for micro-generation through the Reconnect Scheme providing 50% grant support. The Department's reason for discontinuing the Scheme was that it was mainly taken up by more affluent rural households and did little to help those in fuel poverty.

Department of the Environment Support

28. Planning Policy Statement 18 (PPS 18) sets out the Department of the Environment's planning policy for development that generates energy from renewable sources. The final version was published in August 2009. Supplementary planning guidance (published in August 2010) accompanies PPS 18 and provides broad, strategic guidance in relation to the visual and landscape impacts of wind energy development.

29. Annex 1 of PPS 18 provides background information on the various renewable energy technologies that may come forward in Northern Ireland and is designed to contribute to the development control process. Annex 1 contains the following sub-categories:

- Wind Energy
- Biomass
- Energy from Waste (Biological Processes)
- Energy from Waste (Thermal Processes)
- Small Hydro
- Active Solar (Photovoltaics)
- Solar Thermal (Solar Water Heating)
- Ground, Water & Air Source Heat Pumps[5]

Department of Agriculture & Rural Development Support

30. In oral evidence to the Inquiry officials from the Department of Agriculture and Rural Development (DARD) informed members that the Department's objective is to assist with the creation of a favourable environment that will enable the agriculture and forestry sectors to exploit opportunities that will assist in contributing to the targets that have been set at local and national level.[6] DARD's approach is set out in its Renewable Energy Action Plan 2010.[7] In its Renewable Energy Action Plan DARD states that it will focus its efforts to encourage a culture which is conducive to the future exploitation of renewable energy by the land based sector. It intends to focus its efforts on the following cross cutting themes:

- Policy;
- Supply Chain Development;
- Market Understanding;
- Capability Development;
- Research and Innovation; and
- Implementation.

31. DARD's Action Plan has been developed around recommendations from the Agricultural Stakeholder Forum on Renewable Energy. The Forum's recommendations are as follows:

1. Exploit investment in the development of emerging technologies which can be supplied by the agricultural sector and/or which are suitable for adoption within the agricultural sector to accelerate the adoption and stimulation of the market.

2. Exploit the opportunities associated with Sustainable Scale Anaerobic Digestion and associated technologies.

3. Exploiting opportunities relating to the production of heat, particularly with the development of the Energy Supply Company (ESCo) model.

4. Exploiting opportunities relating to energy security by displacing fossil fuel derived energy with renewable energy within the agricultural and forestry sectors – with a view to growing the demand and having a positive impact on energy security and carbon footprint.

5. Exploiting opportunities associated with integrated business solutions – enhancing energy security and increasing competitiveness.

6. To ensure timely delivery of the strategy DARD must put in place an effective implementation mechanism based on the appointment of a group of external stakeholders to oversee the delivery of the strategy.

32. Renewable Energy Research Programme (implemented by Agri Food Biosciences Institute – AFBI) has the initial focus of developing the opportunities for agriculture and forestry to generate renewable energy from indigenous resources such as animal manures, biomass crops and forest brash. It also aims to provide a sound evidence base on which to develop further policy in renewable energy and will also provide information relevant to the roll out of continued knowledge exchange and industry training programmes through the College of Agriculture, Food and Rural Enterprise (CAFRE). The intended outcome of this programme is the provision of relevant information specific to the Northern Ireland land based sector and the identification of new opportunities.[8]

33. The Biomass Processing Challenge Fund is aimed at supporting the purchase of various technologies that improve business efficiency and sustainability at farm level, utilising cost-effective and sustainable methods of processing agricultural wastes and other appropriate biomass material to generate renewable energy. The expected outcomes include: accelerated adoption of biomass technologies; increased demand for biomass feedstock and displacement of fossil fuels with renewable energy.[9]

Department of Employment & Learning

34. The Department of Employment and Learning (DEL) aims to promote learning and skills, to prepare people for work and to support the economy. DEL recognises that it can contribute to the development of the renewable energy sector through skills development and by increasing the capacity of research and development in the Higher Education sector.[10] DEL provides funding to Further Education colleges to deliver courses and programmes on energy efficiency and renewable energy. Five Further Education Colleges have renewable energy laboratories to improve installer skills.

35. DEL funds Sector Skills Council (SSC) projects, the role of which is to work with employers to identify current and future skills needs and to develop training solutions to meet those needs.[11] A number of SSCs involved in renewable energy activities have grouped together in a Cross Sector Renewables Group to identify training needs that will help companies in the sector to grow. Projects for which funding has been provided include:

- Developing labour marked intelligence in respect of wind energy;
- Review of existing training material being used to deliver installer training for solar, wind, biomass and heat pumps; and
- Development of a qualification of architects, designers and specifiers of renewable energy technologies.

Office of the First Minister and the deputy First Minister (OFMDFM)

36. OFMDFM is taking the lead on the Sustainable Development Strategy. OFMDFM sees sustainable development as aiming to bring viability, stability and opportunity to social, economic and environmental activities and programmes.[12] The Strategy includes a number of objectives which are particularly relevant to the issues under consideration in this Inquiry. These are:

- Increase the number of jobs in the low carbon economy;
- Increase the energy efficiency and resource efficiency of businesses;
- Ensure that our provision of learning and skills responds to the needs of the low-carbon economy;
- Reduce the total quantity of waste going to landfill;
- Reduce greenhouse gas emissions;
- Increase the proportion of energy derived from renewable sources;
- Implement energy efficiency measures, particularly for vulnerable groups; and
- Adapt to the impacts of climate change.

37. The draft Sustainable Development Strategy Implementation Plan contains objectives for all Government departments.

Department for Regional Development (DRD)

38. A number of Committee members attended an event on Bio Renewables in the Long Gallery, Parliament Buildings on Tuesday 14th December 2010. At the event members were informed that there is huge potential to generate electricity through anaerobic digestion at water treatment plants throughout Northern Ireland. The Committee subsequently agreed to write to DRD to obtain the Department's views on this matter.

39. DRD responded[13] that the future regulation, planning and delivery of water and sewerage services have a role to play in contributing to sustainable development through the use of renewable energy. The Department went on to state that it expects Northern Ireland Water to promote more carbon efficient wastewater treatment and disposal methods such as anaerobic digestion. The Committee was informed that DRD Water Service did operate a number of anaerobic digestion plants but that these were all decommissioned by 2006 due to increasing costs resulting from legislative and other restrictions associated with the operation of plants and disposal of the digestate. DRD now has a long-term contract for the disposal of all sludge produced at its wastewater treatment works.

40. DRD now believes that the co-digestion (where two types of waste are mixed prior to treatment) of wastewater treatment sludge and agricultural waste appears to offer shared opportunities to reduce disposal costs and produce renewable energy. The Department raised the issue that, in England and Wales the Regulator, OFWAT, has not permitted companies to use regulated funds to build and operate co-digestion plants. Northern Ireland Water does however have plans to consider options for possible investment in anaerobic digestion as part of the development of the next Asset management Plan covering the period 2014 to 2019. Northern Ireland Water considers this a long and complex process due to a number of issues including waste management licences, funding for anaerobic digestion, requirements by NIAUR to make licence changes and the limited experience of co-digestion within the UK water industry. Northern Ireland Water also states that the UK water industry experience is that anaerobic digestion will produce only a fraction of the energy needed to operate a water company.

Structures Established through Government for Supporting Renewable Energy

41. There have been a number of structures put in place to support Renewable Energy in Northern Ireland. Both within the Government structure itself as well as to funding being given to other Energy Support organisations. Many Departments within the Northern Ireland Executive have overlapping responsibility on the overall issue of energy. Of all the current Executive Departments, eight have a policy remit over energy somewhere in their portfolios.

Sustainable Energy Inter-departmental Working Group

42. The sustainable Energy Interdepartmental Working Group (SEIDWG), which is chaired by the Minister for Enterprise, Trade & Investment was established due to the need for renewable energy to be considered on a cross-departmental basis. The aims of the IDWG are primarily that the "IDWG shall ensure a co-ordinated approach across Government to the promotion of sustainable energy...", and that, "The IDWG shall ensure that all Government Departments work together to ensure that policies and practices are in concert with each other and with the main aim of maximising use of public funding and delivering value for money in support of sustainable energy initiatives in Northern Ireland".[14] The key output of the IDWG is the development of a report of recommendations in respect of co-ordinated sustainable energy activity, including appropriate structure(s) to continue joined up delivery.

43. SEIDWG has taken a number of steps to increase awareness of the issues around renewable energy and to increase generation of energy from renewable sources. These include the setting up of a number of sub groups to look at the main issues surrounding renewable energy generation such as its economic impact and the issues surrounding communication on renewable energy.

44. SEIDWG established a sub-group on economic opportunities and skills. The aim of the sub group is to bring together departments which can contribute to ensuring that Northern Ireland maximises the opportunities presented by the ever growing field of sustainable energy, both in relation to the emerging technologies, supply chain and skills development necessary to become a world leader in this field. The group's focus is on innovation, skills and economic opportunities, particularly in manufacturing, supply chain development, tradable services and planning. The development of a successful indigenous sector would not only have a significant economic impact, but would also have an impact on the achievement of the proposed 40% renewable energy target.[15]

45. The communications sub group was set up in September 2009 and was charged with developing a strategy for unifying communications on sustainable energy. This was as a result of previous research which had illustrated that consumers in Northern Ireland were often confused by the high number of energy saving messages from the plethora of organisations (both government and non-government) that operate in this space.[16]

Energy Saving Trust

46. The Energy Saving Trust sees itself as the UK's leading impartial organisation helping people to save energy and reduce carbon emissions. It is currently funded from central Government, the devolved administrations and the private sector.

47. The Energy Saving Trust advice centre offers free, comprehensive advice and support on how people can save energy in the home, low carbon transport and renewable technologies, as well as tips on saving water and waste. In Northern Ireland it currently operates with offices in Belfast, Enniskillen and Derry/Londonderry.[17]

48. It provides expert insight and knowledge about energy saving, supporting people to take action, helping local authorities and communities to save energy and providing quality assurance for goods, services and installers. It states that its free, impartial advice and information service helps people across the UK to find the best ways to save energy, conserve water and reduce waste. In 2009 the Energy Saving Trust dealt with over 3,000,000 consumers.[18]

Action Renewables

49. Action Renewables considers itself a lead authority on renewables in Northern Ireland. It is a not-for-profit organisation, a private company, limited by guarantee, reporting to a Management Board consisting of an Executive Chairman and Non-Executive Directors. Currently, Action Renewables receives 15% of its turnover from DETI, however officials informed the Committee during oral evidence that by April 2011, the organisation will receive no funding from DETI.[19]

50. One of the key objectives of Action Renewables is to increase awareness of sustainable energy and renewable energy technologies. Action Renewables has put much resource over the last three years into establishing its position as the lead authority on renewable energy. Action Renewables considers itself to be synonymous with renewable energy, and it continues to raise brand awareness within key audiences, and encourages individual action from householders.

51. Action Renewables main activities include raising awareness about renewable energy as a solution for householders and community groups. Its objectives include promoting renewables, providing information and support, removing barriers and leading and completing relevant research in the area of renewable energy.[20] It also aims to significantly raise awareness of the impending threat from climate change and the depletion of resources and the security of our energy supplies. Action Renewables' aim is to increase understanding of the issues associated with conventional energy use and to promote renewables generally in the context of a possible solution.

Carbon Trust

52. The Carbon Trust was established in 2001 as a private company with a remit covering the whole of the United Kingdom. Part of its role included taking over most of the Energy Efficiency Best Practice Programme previously managed by the predecessor to the Department for Environment, Food and Rural Affairs. The Carbon Trust was set up as a private company, along the same lines as the Energy Saving Trust and the Waste and Resources Action Programme (a government funded programme which aims to help businesses and individuals reduce waste, develop sustainable products and use resources in an efficient way), to allow it operational flexibility and to enable it to adopt a business focus. It receives funding from central Government and from the devolved administrations.[21]

53. The Carbon Trust is a not-for-profit company with a mission to accelerate the move to a low carbon economy. It provides specialist support to help business and the public sector cut carbon emissions, save energy and commercialise low carbon technologies. By stimulating low carbon action it contributes to key UK goals of lower carbon emissions, the development of low carbon businesses, increased energy security and associated jobs.[22]

54. Over the last eight years the Carbon Trust has helped business and the public sector to cut around 23 million tonnes of carbon dioxide (MtCO2) emissions and make direct cost savings of £1.4 billion. At the same time it has supported the development of over 250 new low carbon technology projects and companies in the UK.[23]

Northern Ireland Energy Agency

55. In April 2007 the Northern Ireland Energy Agency replaced the three previous local energy agencies and was officially launched on Monday 22nd October 2007 in the Long Gallery, Stormont Buildings. Northern Ireland Energy Agency is a member of the Bryson Charitable Group and operated in partnership with Fermanagh District Council & Derry City Council Area. Its aim is to promote action by householders and not-for-profit organisations on energy efficiency, renewable energy, low carbon transport, water and waste to help combat climate change across Northern Ireland with 35 people employed in their offices throughout Belfast, Derry/Londonderry and Enniskillen.

56. In pursuit of sustainability, the Northern Ireland Energy Agency focuses its efforts on awareness-raising at public events, in schools and by providing advice to tenants in their own homes. Additionally, the Agency facilitates the delivery of practical improvements to improve domestic energy efficiency.

57. Within its activities, the Northern Ireland Energy Agency works with a range of supporters from the private and public sectors. The Agency is actively supported in its work by the Energy Saving Trust, the Northern Ireland Housing Executive, NIE Energy, Belfast City Council, Derry City Council, Strabane District Council, Limavady Borough Council, Fermanagh District Council, Phoenix Natural Gas and Firmus Energy.[24]

Support Outside Government for Renewable Energy

Northern Ireland Environment Link

58. Northern Ireland Environment Link (NIEL) is the forum and networking body for organisations interested in the environment of Northern Ireland. NIEL was formally launched in 1990 to complete the network of four 'Country Links' in the UK: Scottish Environment Link, Wales Environment Link and Wildlife and Countryside Link. NIEL is core funded by the Northern Ireland Environment Agency, the Esmée Fairbairn Foundation and from membership subscriptions. Northern Ireland Environmental Link's mission is to facilitate understanding of environmental issues and enhance the capacity of groups and individuals to speak and act in a co-ordinated way in the interests of the natural and built environment. NIEL's members include Action Renewables, Northern Ireland Energy Agency, National Trust and Sustainable NI.[25]

59. NIEL has a number of strategic aims which include to enhance the credibility of NIEL's role through instigating debate and discussion amongst members and those whom it seeks to influence, achieve a fully informed and co-ordinated environmental sector, influence relevant regional, national and international policy.[26]

Northern Ireland Renewables Industry Group

60. The Northern Ireland Renewables Industry Group is a joint venture between the Irish Wind Energy Association (IWEA) and Renewables UK to represent the renewable industry in Northern Ireland. It represents the majority of wind energy developers in Northern Ireland.

SmartGridIreland

61. SmartGridIreland (SGI) is a network of organisations based in/operating out of Northern Ireland and the Republic of Ireland - seeking to jointly exploit new commercial opportunities in the Smart Grid sector locally, nationally and internationally. Member organisations are drawn from industry, research bodies, universities and government agencies. SmartGridIreland is an industry led commercially focused group, facilitated by a not-for-profit body that is part-funded under EU Regional Development Fund / Invest Northern Ireland's Collaborative Network Programme.[27]

62. SmartGridIreland has a number of purposes including the aim to establish a consensus, industry view of the network challenges that smart grids could help address and therefore the likely features and functionality that would characterise a smart grid within the UK/Ireland and European context. It also aims to galvanize stakeholders to translate policy into action and change through collaborative networking, research, development and deployment opportunities. They believe that this should be pursued in the immediate future to ensure that their networks companies are fully prepared to deploy smarter solutions as they become necessary or beneficial and determine the high level costs and benefits of developing smart grids in terms of government policy objectives (carbon budgets and renewable targets, prices, targets), security of supply and business benefits of developing the technology and developing SGI expertise on smart grid technology.[28]

Biomass Energy Northern Ireland

63. Biomass Energy – Northern Ireland (BENI) has been set up established as a co-ordinating body for biomass producers and processors. It will facilitate the establishment of a sustainable supply chain from producer to end user. BENI will also establish benchmarks and quality standards in the production and utilisation of energy from biomass crops.[29]

64. Membership is open to anyone who supports the aims and objectives of BENI. They suggest membership will be of benefit to anyone who is currently producing biomass or is thinking of doing so. Membership will provide access to a reservoir of knowledge and practical experience in the production and processing of biomass fuel. Additionally members will be able to access supply opportunities collectively that they could not fulfil individually.[30]

65. BENI members can provide help, advice and practical demonstrations of each facet of willow production. They have members who can provide contracting services for most stages of the process, especially the more specialised ones such as planting and harvesting.[31]

Small Wind Energy Group

66. The Small Wind Energy Group NI (SWEG) consists of seven operators of small-scale wind energy generators who have installed their generators within the last 4 years. SWEG accommodates requests from prospective small scale wind generators to share its knowledge, and thereby contribute to the development of renewable wind energy in Northern Ireland.

Northern Ireland Green New Deal Group

67. The Northern Ireland Green New Deal Group includes representatives from Bryson Group, the Confederation of British Industry, Energy Saving Trust, Friends of the Earth, the Irish Congress of Trade Unions, the Institute of Directors, the Northern Ireland Council for Voluntary Action, the Northern Ireland Housing Executive, the Sustainable Development Commission, the Utility Regulator and the Ulster Farmers Union.[32] The vision of the Green New Deal is to:

- Refurbish tens of thousands of existing homes each year with full insulation and renewable energy;
- Transform the energy performance of public and commercial buildings;
- 'Decarbonise' regionalise and localise the supplies of both electricity and heat through large scale renewables, micro generation and using fossil fuels more efficiently;
- Employ a 'carbon army' of high and lower skilled workers to implement this vast systematic reconstruction programme creating around 24,000 new jobs;
- Transform our transport system to be fit for purpose in the coming era of high oil and carbon prices;
- Create thousands of 'green collar' jobs in the £3,000billion world market for low carbon environmental goods and services;
- Develop a wide-ranging package of financial innovations and incentives to assemble and leverage the very large sums needed to implement such a programme, based on collaboration and partnership between the public sector, the private sector, other stakeholders and the public.

68. The Northern Ireland Green New Deal Group believes that the total cost of a full green recovery package for Northern Ireland could be in the region of £900 million. The Group believes that, given the economic, social and environmental benefits that will accrue, a significant contribution from public funds is warranted and will help leverage significant additional investment. The Group considers the role of Government to be critical.

69. The Green New Deal Housing Fund document,[33] published in November 2010, is designed to enable the energy retrofit of 500,000 homes over a ten year period. The total cost is estimated at £253 million with £72 million being sought from Government as grant support for householders. It is believed that this level of Government funding will leverage investment of

£181 million through borrowing from the European Investment Bank, commercial banks and household contributions.

Support for Renewable Energy Sector SMEs to Grow and Develop their Businesses

70. As one of DETI's non-departmental public bodies, Invest NI aims to "increase business productivity, prioritising support to increase wealth and quality of employment".[34] In its written evidence to the inquiry, Invest NI listed its activity in the renewable sector which includes:

- Providing support and assistance to companies to deliver resource efficiency savings
- Developing market opportunities emerging from the renewable sector
- Raising awareness of the benefits and opportunities of applying and developing renewable activities
- Positioning Northern Ireland as a key player in the renewable sector to attract relevant foreign direct investment
- Providing support and assistance to companies developing new products/services in the renewables sector.[35]

The details of each activity can be found in Invest NI's written submission to the inquiry at Appendix 3.

71. In the organisation's oral evidence to the Committee, it stated that the core driver in renewables is the economic benefits[36]; furthermore, the most substantial opportunity that it sees for NI businesses is the contribution they can make to the supply chain in renewables.

72. The Committee received written and oral evidence from the Northern Periphery Programme (NPP) in relation to support that is available to SMEs. The organisation stated that there is too much emphasis on research rather than the implementation of technology. Furthermore, funding can be hard to obtain, limiting applications to those with the time and resources.[37] NPP also highlighted the main sources of support for SMEs in its written submission to the Inquiry (Appendix 3, section 8.3), which included the Carbon Trust, Invest NI and European Funding. The organisation also mentioned its project called MicRe which looks at the use of renewable energies in SMEs and how they can use renewable energy to reduce their energy costs. The project also looks at economic opportunities for SMEs in peripheral regions to sell their technology.[38]

Support and Assistance available to SMEs in the Renewable Energy Sector to Develop Renewable Energy Technologies

73. In its written submission to the Inquiry, Invest NI detailed the work that is ongoing to develop renewable energy technologies (Appendix 4, section B). Support included grants for research and development, applied research grants and knowledge transfer partnerships (KTPs). During Invest NI's oral evidence, officials stated that NI research is world-leading, but the challenge is to keep the benefits of the research in NI.[39]

74. The Northern Periphery Programme's written and oral evidence also addressed the support available to SMEs. Additionally, the organisation compared the mechanisms for support and assistance in Northern Ireland with those in other EU member states considered to be in the

forefront of renewable energy development. The complete details can be found in the written submission at Appendix 4.

75. In its oral evidence to the inquiry, the University of Ulster Centre for Sustainable Technologies outlined the research it is carrying out and gave an example of how it is working with companies to develop the technologies (work with Kingspan in developing new solar concentrators).[40]

76. The Renewable Energy Research Programme (implemented by Agri Food Biosciences Institute – AFBI) has the initial focus of developing the opportunities for agriculture and forestry to generate renewable energy from indigenous resources such as animal manures, biomass crops and forest brash. It also aims to provide a sound evidence base on which to develop further policy in renewable energy and will also provide information relevant to the roll out of continued knowledge exchange and industry training programmes through the College of Agriculture, Food and Rural Enterprise (CAFRE). The intended outcome of this programme is provision of relevant information specific to the north of Ireland land based sector and identification of new opportunities.[41]

Comparison between Mechanisms for Support in Northern Ireland with those in Other EU Member States

Renewable Obligation Certificates (ROCs)

77. The main mechanism for support for Renewable Energy in Northern Ireland is the Northern Ireland Renewable Obligation Certificate (NIROC) introduced on 1st April 2005. It is a quota based system that requires electricity suppliers (or transmission service operators in some cases) to supply increasing amounts of electricity sourced from renewable generation.

78. Suppliers must produce one ROC for every megawatt hour (MWh) of electricity that they supply to the relevant authority (Ofgem in the UK). ROCs are issued free of charge, to generators for every MWh of renewable electricity produced. These are then sold to suppliers as a separate entity to the electricity itself. If they fail to produce the predetermined amount of ROCs, suppliers are required to pay a buy-out fee (in Northern Ireland this was £36.99 per MWh during 2010/11).[42] The proceeds of this buy-out fee are redistributed amongst suppliers who have produced the required amount of ROCs in a particular period.[43] Thus it creates an incentive for suppliers to produce ROCs as they then benefit from the redistributed buy out fees. A full table of ROCs and buy-out fees is at Appendix 2.

79. The Renewables Obligation Certificate under the Great Britain Renewable Obligation (GBRO) is the current main mechanism for supporting large scale generation of renewable electricity in England and Wales. The Spending Review of 20th October 2010 announced that this will continue, confirming the Government's commitment to the Renewables Target. Since its introduction in 2002, it has succeeded in more than tripling the level of renewable electricity in the UK from 1.8% to 6.64% and is currently worth around £1.42 billion per year in support to the renewable electricity industry. In Scotland the Renewable Obligation Scotland was first introduced in 2002, and in line with the energy sector wishes, was introduced in almost identical terms to the Renewable Obligation Order 2002 which applies primarily to England and Wales. However, other EU nations leading in the field of renewable energy production have tended to implement Feed-in Tariffs rather than a ROC based system.[44]

Feed In Tariffs (FITs)

80. Feed-in Tariffs (FITs) work at their most basic level by setting a fixed price for renewable electricity for a fixed rate of time. Suppliers (or transmission service operators) are obliged to purchase every MWh of renewable electricity produced. There are two broad categories of FITs; market-independent FITs and market-dependent FITs. Within each category there are a number of subcategories which operate at various levels of complexity. Northern Ireland currently has no such system in place and relies solely on the NIROC scheme.

81. A FIT for small-scale generation was recently introduced in GB (not applicable in NI) comprising two tariff types – a generation tariff and an export tariff. The cost of providing these tariffs is to be taken-up by electricity suppliers (with a minimum of 50,000 domestic customers), with allowance made for implementation costs.[45] Germany has operated a market-independent Feed-in Tariff system since 1991.[46]Denmark employed a FIT between 1993 and 2004.[47] Finland is set to introduce Feed-in Tariffs from 1st January 2011.[48] Through the feed-in tariff scheme, electricity producers would receive support for a period of twelve years to cover the difference between the actual production costs of electricity and the market price of the energy source in question, or the costs of alternative fuel. The Republic of Ireland introduced its own Feed-in tariff as of May 2006.[49]

Renewable Heat Incentive

82. A renewable Heat Incentive (RHI) is similar to a FIT in that it pays a fixed price to renewable heat producers. The RHI is designed to provide financial support that encourages individuals, communities and businesses to switch from using fossil fuel for heating, to renewables such as wood fuel.

83. The UK is set to introduce a renewable heat incentive in GB from June 2011. The RHI will have £860 million funding which is intended to increase the level of heat derived from renewable sources more than ten-fold over the next ten years.[50] Northern Ireland currently has no form of Renewable Heat Incentive. DETI informed the Committee during oral evidence that the Treasury has set aside £25 milllion to support a Renewable Heat Incentive in Northern Ireland. Officials said that they had already completed research which has concluded that there is a market for renewable heat in Northern Ireland[51]. In announcing the outcome of the research, the Minister said that there would be a detailed economic appraisal to assess the most appropriate way forward. She also stated that if a Renewable Heat Incentive went ahead, support would be backdated to the date of the publication of that research (September 2010). Officials informed the Committee that work on the economic appraisal has already been commissioned.

Permitted Development

84. Permitted Development is where permission is granted for certain specific renewable building applications to proceed without having to submit a formal application for planning permission. The types of build allowed under permitted development will vary under different jurisdictions and differing rules and regulations. Northern Ireland currently has no permitted development policies for Renewable Energy applications.

85. In England from April 2008 new rules on micro generation brought certain categories of renewable generation into the category of permitted development. These changes enabled homeowners to install solar panels, heat pumps, combined heat and power equipment and biomass systems without the need to secure planning permission; subject to certain conditions.

86. In Scotland there are a few types of development that fall into the permitted development rights category in a domestic context including wind, solar photovoltaic and free-standing solar.

A consultation on proposals to extend these to non-domestic properties was launched on the 15th July 2010; the closing date for responses was 8th October 2010. The Scottish Government has stated that it is, "committed to bringing forward the permitted development rights by April 2011".[52]

87. In 2009 changes to planning legislation in Wales granted permitted rights to certain types of domestic renewable micro generation. Current permitted rights for domestic properties define micro generation as technologies which generate electricity with a capacity of up to 50kW and technologies which generate heat, with a capacity of up to 45kW. Technologies that have been granted permitted rights for domestic use include heat pumps solar electricity (photovoltaic) and solar water (thermal) panels. Within each of these categories, developments must meet certain criteria. A full list of these criteria is included in the Assembly Research paper entitled, "Renewable Energy: Planning" at Appendix 4.

88. In the Republic of Ireland permitted development rights have been allowed in domestic, agricultural, business and commercial settings. They are permitted in the case of the following technology types; wind turbines, solar PV and solar thermal, combined heat and power and biomass. In each case specific criteria must be met to qualify for permitted development status. These criteria are outlined in Annex 5 of Assembly Research paper entitled, "Renewable Energy: Planning". The Republic of Ireland has completed the extension of permitted development rights in a non-domestic context.[53]

Grid Connection

89. Jurisdictions across the EU tend to operate within one of three variations of grid cost allocation – a deep cost allocation, shallow cost allocation or hybrid cost allocation

90. Of the three variations, shallow cost allocation and the hybrid cost allocation tend to be seen as being more of a support mechanism to encourage renewable energy production. This is because with deep cost allocation a requirement is placed on the renewable energy producer to cover the cost of the grid connection and any necessary reinforcements[54].

91. Shallow cost allocation requires the renewable energy producer to pay for the cost of connection only. In such models it is often the Transmission Systems Operator (TSO) or Distribution System Operator (DSO) who is required to pay any grid reinforcements. Regions operating this form of grid cost allocation include Germany and Denmark.[55]

92. The UK, including Northern Ireland, opts for the hybrid allocation model. This offers different cost allocation for connecting to the transmission network compared to the distribution network.[56]

EU Member States Considered Leaders in Renewable Energy

93. The following provides a brief analysis of the Assembly Research papers which examined the assessment of EU Member States considered being at the forefront of renewable energy development. Also included are some of the views obtained through written submission to the Inquiry from key stakeholders.

94. There are a few European states considered to be at the forefront of Renewable Energy Development. Mainly Denmark and Germany, and to a lesser extent, Finland. Early moves to develop renewable policy and a long-term and stable approach to financial incentives through robust Feed-in tariffs, small-scale ownership and financial support of R&D are traits common to Denmark and Germany's successful development of renewable energy.

Denmark

95. Denmark operates a unitary system of government and has a dedicated central government ministry with responsibility for energy and climate matters. Various areas fall under its responsibility including energy supply and efficiency, mitigation of, and adaption to, climate change, research and development and public outreach and services – including advice to citizens, enterprises and public institutions.[57] The Ministry oversees a number of institutions including the Danish Energy Agency, the Danish Energy Saving Trust and the Energy Board of Appeal. For full details of the work carried out by these and other agencies under the Ministries remit, please refer to the Assembly Research paper, "Renewable Energy – Governance Structures".[58] Of particular importance is the Danish Energy Agency. The Agency's work includes energy resources, energy supply, energy efficiency and international cooperation; and climate change and energy economics.[59] The Research paper also outlines details of renewable energy development at Denmark's regional government level.

96. Denmark is a leading member state considered to be at the forefront of renewable energy technology. It began as result of the 1970s oil crisis, no known (at the time) indigenous sources of oil, coal or hydro power and no public support for nuclear power. Denmark began to seriously consider renewable energy following the oil crisis of 1973. At that time the region was 100% dependent on energy imports, 95% of which came from imported oil and the remaining 5% from imported coal. Security of supply and ensuring self sufficiency became major policy drivers and Denmark, like Northern Ireland, had little to no fossil fuels or traditional hydro sources available.[60]

97. The policies developed have ensured Denmark has gone from being an importer of energy, into a self-sufficient net-exporter of energy. The region also has the lowest energy consumption per unit of GDP and the highest contribution of electricity from new renewables in the EU. The development of renewable energy has led to a fundamental shift in Denmark's energy system – from a centralised fossil fuel generation, featuring a few large-scale generators, to decentralised renewable generation, typified by thousands of individual power producers (IPPs) with the energy supply side operating on a not for profit basis.[61]

98. Denmark has undertaken a number of policies since 1973 in order to increase renewable energy production. Two key factors have led to this transformation. Firstly a shift towards combined heat and power (CHP) and district heating, 'created the necessary infrastructure' to facilitate a decentralised, renewable energy system, and secondly, financial incentives have also played their part including Feed-in Tariffs, investment subsidies and tax breaks.[62]

99. Denmark has initiated many policies and incentives as mechanisms for driving its renewable energy production. These include a long-standing Feed-in Tariff that has offered security to investors and encouraged a variety of investors into the market – most significantly small-scale investors and a local community ownership model that has helped to overcome planning objections associated with renewable technology.

100. Denmark employed a FIT between 1993 and 2004. Measured in capacity installed, by 2005 Denmark's level of renewable penetration ranked fifth in the world. However, examined from a per capita basis the region is a world leader in installed capacity. In 2005, 3122MW of installed wind capacity provided for 20% of the country's electricity demand.[63] This has led to a successful sector of renewable energy from wind where now, "Danish wind industry companies have more than 50% share in the global market with annual revenues from this sector of approximately £2.7billion, the vast majority of which comes from export markets".[64]

101. Guaranteed grid access (thus removing barriers to market) and investment subsidies, leading to high levels of interconnection, have also helped to counter the intermittency

associated with renewable generation. Denmark has very successfully driven forward its dramatic increase in use of renewable energy by operating a policy of open and guaranteed access to the grid. The policy requires Transmission System Operators, to finance, construct, interconnect, and operate the transformer stations and transmission and distribution infrastructure for renewable energy technologies. It is argued such a policy has a number of advantages, namely it-serves to minimise barriers to market entry and prevents existing utility companies from using their market share to block entry on transmission and distribution grounds thus increasing interconnectivity on the grid.[65]

102. Denmark has been able to integrate large amounts of wind generation into its electricity system in part due to interconnection to the Nordic hydro based electricity systems in the North, and the continental mainland in the South. Cross border interconnection has enabled Denmark to address the imbalance in supply caused by the intermittent nature of wind generation. This import/export mechanism is used to balance around 70% of wind power variability- with the remainder balanced through internal mechanisms, typically coal fired generation.[66] However, with significant amounts of intermittent generation coming on-stream in neighbouring regions, it is expected that this balancing act will become increasingly difficult in the future.

103. There are different rules in regards to connection charge depending on the particular generation technology that is being connected. When 'environmentally benign' electricity and CHP plants are connected to the electricity supply grid, the owner of the plant is only required to pay the cost of the connection to the 10-20 kV system, regardless of whether the grid owner selected another (higher) connection point. The grid owner meets all other costs including upgrade and expansion. If however the generation plant chooses to be connected at a higher voltage than the 10-20 kV grid system, then it will meet the costs associated with connecting to the higher voltage however any costs associated with grid upgrade and expansion will still be met by the grid owner.[67]

104. Denmark has also led the way in renewable energy technology in investing in research and development. A prime example of this is when, in 1986, they established the Riso Research Centre,[68] a wind power test station to provide quality assurance of turbines sold to the public. There have been a number of benefits associated with this. It has allowed the region to refine turbine and power-system design and moreover, the expertise developed through research and development (R&D) has substantially benefited the export market. Other examples include a strong research and development programme which has led to technology efficiencies and has facilitated growth in the export market and an energy efficiency programme that has included high energy taxes and information campaigns, energy saving obligations, and building requirements.

105. In 2008 Denmark introduced the Energy Agreement which established a number of mechanisms to support renewable growth including tax reform which involved lowering the tax on work and increasing the taxes on energy, climate and transport subsidies for energy efficient building renovation, stricter requirements for the energy performance of buildings and a commitment to reach DKK 1bn of public financial support for new technology R&D in 2010 (approx. £112million).[69] These policies support Green Energy 4U's view as stated in their written submission that, "Denmark is a classic example of how the development of an energy sector has demonstrated that through an active and persistent policy, sustainable growth it possible".[70]

Germany

106. The German state has a federal structure and at central government level the lead Ministry for sustainable development is the Federal Chancellery. Some of the country's key priorities under the broad sustainable development policy category are Energy/Climate and

environmentally-friendly mobility.[71] Specific responsibility of German energy policy is spread across a number of ministries dependent upon the specific initiative involved. This is exemplified by Table 1 in Assembly Research paper, "Renewable Energy – Governance Structures" at Appendix 4, which outlines initiatives introduced by the Integrated Energy and Climate Programme alongside the ministries tasked with taking them forward.

107. At Federal State (Land) level the constitution of Germany allocates certain legislative powers to the Länder (Federal States); in practice legislation is generally made at national level with the Länder responsible for its implementation. However, when it comes to central climate policy in general, the Länder have few implementation responsibilities. The Länder can however, establish measures themselves, so long as these are additional. Support for climate change policy in general differs from Land to Land. It is often the case that a specific Land supports policy that fits with its specific interests and capabilities.[72]

108. Germany has had a long history of renewable energy development as a result of the 1970s oil crisis; early public acceptance of renewable influenced by the Chernobyl disaster; and an awareness of climate change. The development of Renewable Energy in Germany can be seen to have progressed in 2 distinct stages, from 1990 – 2000, and from 2000 onwards.

109. 1990-2000 marked the first steps towards increased renewable energy production and included the introduction of Germany's own Feed-in Tariff. Initiatives such as the '1000 roof programme' which ran from 1991 until 1995 provided successful applicants with a total of 70% of the investments cost for installing solar photovoltaic. A second programme involved replacing of the wind turbine investment of up to 100 MW (later extended to 250MW) by paying €0.04/kWh to producers.[73] The latter programme was enhanced by the Feed in Tariff Law 1990. The FIT placed an obligation on utility companies to purchase all renewable energy produced at rates equivalent to 65% to 90% of the average retail price of electricity. The introduction of a FIT had a number of impacts in that it provided a large degree of stability to the renewable electricity investment. In doing so it encouraged investment by smaller producers, leading in turn to the development of decentralised generation.[74] The FIT required utilities to pay a premium for all renewable electricity produced. The geographical spread to renewable sources in Germany meant that utility companies in certain regions were obliged to purchase more renewable electricity than others. The reason for this was that a stronger resource existed in regions and more renewable electricity could be produced as a result. This imbalance was redressed in 2000 with the introduction of a compensation scheme to spread the cost of funding the FIT across all utilities firms equitably.

110. While the benefits that FITs bring in terms of increased renewable energy production, particularly in Germany and Denmark are clear, NIE Energy Supply warns that countries such as Germany which have had very successful FIT incentives also have amongst the highest electricity prices in Europe.[75]

111. Financial Incentives included approximately €1.85bn research funding for renewable energy between 1990 and 1998 and more than €3bn in reduced interest rate loans for renewable energy system installations between 1990 and 1998. Germany also initiated measures that privileged wind turbines in the construction code; training programmes for architects and public information programmes.[76]

112. Since 2000 a number of new policies have been introduced in order to drive forward Renewable Energy Development in Germany including the introduction of a Renewable Energy Sources Act which created more favourable investment conditions by refining the FIT system.[77]

113. Introduced with the aim of doubling renewable energy production by 2010, the key measure of the act was to repeal the Feed-in Law 1990 replacing it with an improved FIT mechanism that features fixed rates (as opposed to the previous models percentage of final price system) for renewable electricity for twenty years. It is significant that the reform of the Feed-in Tariff served to increase the revenue stability for renewable generators.[78] Other features of the new FIT tariff included favourable rates for offshore wind, solar PV and biomass as well as a front loaded tariff structure whereby renewable generators were paid more in the earlier years of a project than in later years.[79]

114. The FIT was one of many significant incentives introduced under the Act. Guaranteed grid access featured as part of the act and was enshrined into law, "...the principle that the grid connection is to be paid for by the producer of eco-power, while upgrading of the grid is to be paid for by the grid operator".[80] Also the introduction of a clearing centre to provide a forum for disputes arising from grid operators passing on the cost of grid improvement to producers.

115. Overall the FIT, in its original form from 1991 and reformed new FIT from 2000 onwards has proved to be very effective in increasing renewable energy generation. In terms of installed capacity the region is the world leader in wind and solar energy production. By 2005 Germany had achieved 18428MW of installed wind capacity and 1400MW of installed solar capacity. This allowed the region to meet 10.2% of its electricity needs for renewable generation in that year.[81]

116. It must be remembered though that wind energy efficiency averages around 30% in Northern Ireland according to some reports. In its written submission to the Inquiry the Ulster Farmers Union stated that a recent study found that when looking at the wider issue of renewable energy and climate change, Germany's actual CO2 savings from wind power stand at only 1%.[82]

117. Many of the incentives are considered in more detail in the Assembly Research papers at Appendix 4 however a brief outline of some of the more successful policies that have aided Germany in become an European leader in the production of renewable energy is provided here.

118. Financial assistance is offered to promote the use of bio-fuels, geothermal and solar thermal in the heating sector. Larger systems have been supported by low-interest loans and debt relief.

119. Germany also had an ecological tax which is aimed at increasing the price of motor fuels, heating fuels and electricity. Renewable energy is exempt from the tax if the producers use it or if it comes from an electricity line exclusively fed by a renewable source. Any monies raised goes to directly promote the use of renewable energy.[83]

120. Two policy instruments have been used to promote R&D in renewable technology in Germany. Institutional funding has been used to boost the expertise of research intuitions, while project funding has been used to support projects with a limited lifecycle.

121. A Renewable Energies Export Initiative with the aim of increasing renewable exports, the German Energy Agency offers support to companies across four areas: network building and coordination; export expertise; marketing abroad; and development of foreign markets.

122. Germany has an energy efficiency target to double energy efficiency by 2020 compared to 1990. Policy measures include €1.5billion per year to improve energy efficiency in buildings, the modernisation of existing power stations, programmes to promote the use of CHP, support for EU initiatives on energy efficiency; and programmes by the German Energy Agency directed at the improvement of energy efficiency in transport, buildings and electricity consumption.[84]

123. Looking forward Germany is set to continue to provide numerous mechanisms for support for its renewable energy sector. A grid system study is currently ongoing to examine ways to incorporate an increased share of electricity from renewables into the grid system and there is the possibility of an amendment to the Renewable Energy Sources Act 2000 in 2012 to include demand supply load management and the improvement of direct marketing electricity from renewable energy.[85]

124. Renewable Heat Energy is also proving to be of major concern to Germany when improving upon its Renewable Energy Generation. Taking forward policies introduced as part of the Renewable Energies Heat Act 2009, the act places an obligation on owners of new buildings to use renewable energies for heat. Financial support is provided in the region of €500 million and provisions to extend the use of heat grids are also included. Most Recently Germany has committed to grid improvements and has introduced the Heat Act, which outlines measures to secure 14% of renewables in the heating mix by 2020.[86]

Finland

125. Finland is a unitary system with energy policy in the remit of a sub-division of the Ministry of Employment and Economic Affairs. An Energy Department, with responsibility for energy matters, makes up a sub-division of the wider Ministry. The Department specifically oversees base production of energy, energy markets, energy efficiency and technology; and renewable energy.[87] There are a number of agencies within the Department that have responsibility for energy and these include The Energy Market Authority, Geological Survey of Finland and TEKES (the Finnish Funding Agency for Technology and Innovation) which provides funding for research and innovation, with a focus on renewable energy.[88]

126. Municipal governments in Finland are responsible for energy supply and environmental protection. The Association of Finnish Local and Regional Authorities adopted an action programme for sustainable development which set out the key principles which should inform sustainable development strategies at municipal level such as the aim that sustainable development should play a greater role in municipal strategies. More information on these aims is contained in the Assembly Research paper "Renewable Energy – Governance Structures" at Appendix 4. Finland is considered to a major European country successfully increasing its renewable energy production due a number of successful mechanisms.

127. Finland's financial model – based on tax exemption and subsidy – has resulted in a less pronounced penetration of 'newer' renewable sources but the region has done so in a cost effective manner. Instead, unlike other countries in Europe, much of Finland's Renewable energy comes from source such as hydro-energy, "The growth of renewable in Finland is also unique amongst the regions examined as the region has access to significant amounts of large-scale hydro generation. The region has also developed nuclear power".[89] This financial model as of 2007 meant total annual financial support for renewables was €85million.[90]

128. Energy related taxation has a central role in Finland. The region was the first to place a tax on carbon emissions in January 1990 (the Netherlands, Sweden and Denmark quickly following suit). The Finnish Government imposes a tax on electricity suppliers for every kWh of electricity passed onto the consumer. Suppliers then receive a refund for every kWh of renewable electricity supplied. The rate for wind energy is set at 0.69 eurocents per kWh, for all other technologies the rate of 0.42 eurocents per kWh.[91]

129. Investment Subsidies include the incentive that a company's construction cost of renewable plants is co-financed by the Finnish Government – up to 40% for wind generation plants and up to 30% for other technologies. In 2006, the major recipients of investment subsidies were wood burning biomass plants, receiving 60% of all subsidies. The same rules apply to renewable heat

investment. Finland has also operated a specific programme to subsidise renewable heating systems in residential buildings.[92]

130. Significantly, unlike their European neighbours, Finland in recent years has not introduced a FIT system in order to provide a mechanism to push forward its renewable energy production however this will change when it introduces its own FIT system on 1st January 2011.[93]

131. Other aspects of Finland's mechanisms for renewable energy development include guaranteed grid access for all electricity users and electricity producing plants, which will then automatically include renewable electricity producers[94] and support for research and development on new renewable energy technologies which totalled €15million in 2007.[95] Finland has also initiated an energy efficiency programme based on voluntary agreements designed to target specific sectors including industry, the electricity generation sector, district heating, electricity transmission and distribution, municipalities, the property and building sector, housing properties and the transport sector (energy grants were provided between 2003 and 2005 to assist with meeting the cost of energy efficiency requirements). Information campaigns were also put in place to increase public motivation, targeted towards small-scale consumers and single family house-owners.

Appropriateness of Current Mechanisms to Support Renewable Energy

Government Policy and Strategy

132. Many respondents to the Committee's call for evidence believe that current Government structures and policies are inhibiting the development of renewable energy in Northern Ireland. Issues were raised in relation to vision within government, policies and strategies for renewable energy, the perceived fragmentation of renewable energy responsibilities in Government and the need for more private sector input into the development of renewable energy policy. Action Renewables informed the Committee in oral evidence that the United Kingdom is third from the bottom of the European Union table for renewable energy production and that Northern Ireland is below the rest of the UK.[96]

Government Vision

133. Action Renewables highlighted that the long term vision should be for the island of Ireland to export large amounts of electricity by 2025 and the potential to export 50% of electricity production by 2050. Action Renewables felt that the vision to achieve this is not present within Government, possibly due to cost implications and the fragmented nature of the renewable energy remit within Government structures. In its written submission to the Committee, the University of Ulster Centre for Sustainable Energy Technologies concurred with this view, stating that the main barrier to developing the renewable energy sector is the lack of an all-island vision.[97]

Government Policy

134. Government policy was seen by many as a key barrier to the development of renewable energy. A number of respondents called for an overall UK strategic policy for renewable energy. Others suggested that what is needed is a clear joined up policy in Northern Ireland coordinated across all Government departments. The Joint Business Council informed the Committee in oral evidence that, in its opinion, it is important to have more clarity and certainty about Government policy and the nature of the support and incentives that can be provided.[98] They stated that

their members are concerned about competitiveness and the need for Government policy to ensure that energy costs are kept down.

135. Some respondents commented on Government policy's high dependence on wind-generated electricity. Action Renewables stated that the focus should be on renewable energy but is currently on renewable electricity from wind because the capacity exists to deliver more through this method in the short-term. They felt that, in the long-term, the focus will shift to renewable heat and transport.[99] The Ulster Farmers' Union was concerned that farmers are being led into wind energy because the commercial sector is driving it. They told the Committee that biomass and anaerobic digestion have huge potential but farmers and landowners have been extremely frustrated by the lack of progress on the issue over the last several years.[100]

136. In oral evidence to the Committee DETI officials stated that, in reality, the 40% target for electricity from renewable sources can most easily be achieved by ensuring the development of large-scale renewable installations. They informed the Committee that large scale on-shore wind is currently the main source of renewable electricity because of Northern Ireland's plentiful resource and because it is a well developed and mature technology. Officials went on to state that, to meet the 40% target will require between 1,600MW and 1,800MW of installed capacity of electricity from renewable sources. They stated that planning permission has been granted for 41 onshore wind installations which should provide a total of 600MW. A further 46 installations are in the planning system and, if approved and built, have the potential to generate up to 750MW. There is potential for a 300MW biomass power station, 600MW of offshore wind and 300MW of tidal and wave generation. If the total potential is realised it would represent 2,550MW of installed capacity. Officials stated that the policy is not wind driven but is reflective of what is happening in the market place. They informed members that the resource is available to easily achieve the 40% target but that the speed at which the target is reached will be greatly affected by planning decisions.[101]

137. Biomass policy was an issue for a number of respondents, with calls for the development of supply chains. Other respondents called for more policy support for research and development of technologies and products with some respondents such as GT Energy and the University of Ulster calling for Northern Ireland to become a 'test bed' for renewable energy development projects.

Government Strategies and Plans

138. DETI's written submission to the Committee stated that the Sustainable Energy Interdepartmental Working Group Report found that in Northern Ireland the intent to act is high but that this does not, in many cases, translate into action. Others agreed that longer term strategies and plans were needed in order to develop renewable energy. Northern Ireland Environment Link highlighted the need for more joined-up Government. Renewable Energy Systems Ltd suggested that there is a need for common objectives across Government departments to deliver the SEF and to improve coordination of policy development and implementation. Action Renewables went further than this calling for a long-term strategy for renewable energy beyond the SEF. ESB International suggested that, in order to join up regional Government with local Government, local development plans should be developed at local Government level to specify Councils' plans for renewable energy.

Government Structure to Deliver Policy and Strategy

139. The need for a more joined-up approach in Government to create a vision, policies, strategies and plans was highlighted by a large number of respondents from the private, public

and renewable energy support sectors. A number of respondents believe that this approach must go beyond Government and include industry, academia and even the voluntary sector.

140. GT Energy believes that Government departments find it difficult to communicate with each other. Action Renewables suggests that the need for joined-up Government may be part of the lack of vision on renewable energy. Respondents from the Northern Periphery Programme stated that, not only is there a lack of cohesion between Government departments, there is a need to increase the level of collaboration between Government and bodies specialising in renewable energy.[102]

141. In a written submission to the Committee, Economist, John Simpson stated that key deficiencies seem to be in the areas of planning, grid, policy and decision making. He suggested that the main recommendation must be that the disparate stakeholders in the development of renewable energy must work in an integrated and effective way.[103] In its written submission to the Inquiry, DETI agreed that collaboration is required across all departments in order to meet renewable energy objectives.[104] Northern Ireland Manufacturing believes that the issue must be addressed at Northern Ireland Executive level. They state that the Executive needs to minimise the impact of the diverse range of responsibilities across Government departments and agencies. They consider the current approach cumbersome and bureaucratic and believe it will lead to missed opportunities and increased costs.[105] NIE was more positive in its response, stating that it welcomes DETI's intention to commit to working with other Government departments and bodies to ensure that there is an appropriate supportive policy environment to ensure clear and proportionate processes for renewable energy.[106]

142. The need for structural changes to Government to assist in the development of the renewable energy agenda was highlighted in the 2009 'Barnett Report' on the Independent Review of Economic Policy, which was commissioned by DETI. The report noted that DETI and Invest NI do not have the policy lead across all strands of energy policy.[107] It lists the diverse policy responsibilities across DARD, DFP, DSD, DoE and OFMDFM and concludes that the cross cutting nature of energy policy makes it difficult to secure integrated and coordinated policies. It states that:

"This is particularly the case around energy efficiency, renewable transport and bioenergy, as well as ensuring that job creation and Innovation opportunities are maximised. The Panel note that in GB, the former DTI (and part of DEFRA) was re-organised into BIS (the Department for Business, Innovation and Skills) and DECC, (the Department for Energy and Climate Change), as a means of giving clear focus and leadership to the range of energy policy activities, as a separate and distinct government priority. Similar restructuring in NI may be needed to ensure that sufficient emphasis and impetus is delivered here."

143. This view is supported by the University of Ulster. In its written submission to the Inquiry the University stated that too many Government departments control energy and that there is a lack of understanding of the scale and of local markets.[108] In giving oral evidence to the Committee University of Ulster officials reiterated the point and informed the Committee that, due to the number of bodies involved, projects can fall between two stools as the bodies consulted for advice may not be in possession of the correct information.[109] Green Energy 4U stated that it is essential to have reliable advice from a central point.[110] The Northern Periphery Programme written submission agreed, stating that there is an over-abundance of advisory bodies and that a one-stop-shop is needed.[111] The Joint Business Council also called for a one-stop-shop to make it as easy as possible for organisations to manoeuvre through the process.[112] Both Rural Generation Ltd[113] and the University of Ulster believe there would be benefit in a single department for Energy however the University of Ulster recognise that such a structure is liable to be impractical and call for some sort of "co-joined, top-down approach".[114]

144. Some respondents stated that there would be benefit in having more private sector input to renewable energy policy development. Both Northern Ireland Environment Link and Action Renewables believe that the Sustainable Energy Interdepartmental Working Group would be more effective if industry was represented on the Group. Action Renewables also states that an umbrella organisation would be helpful in coordinating the work of universities and industry.[115] They cite the Centre of Excellence in Scotland as a good example, stating that one element is already in place in Northern Ireland in the form of the Agri-Food and Biosciences Institute (AFBI) which considers energy for farms. The suggestion of a Centre of Excellence is also supported by Northern Ireland Environment Link and the Joint Business Council.

Government Communication

145. Communications from Government was seen as a major concern for many respondents to the call for evidence. Issues were raised in relation to communications between Government and the public, between Government and the business sector and within Government between departments and between local and regional Government.

Communication with the Public

146. The perceived lack of public awareness about the need to develop renewable energy resources was of concern to a number of respondents with many calling for more positive, structured communication from Government to the public. Belfast City Council believes that the public needs to be educated about modern renewable energy facilities and the importance of guaranteeing energy security for Northern Ireland.[116] NIAUR stated, in its written submission to the Committee that public acceptance of renewable energy technologies will be essential.[117] However, according to Rural Generation Ltd, Government departments appear to find it difficult to communicate directly with the public[118] - a view which is supported by both GT Energy and Action Renewables. In giving oral evidence to the Committee, Action Renewables stated that there is no direct communication in Northern Ireland between Government and the public on renewable energy.[119] The Northern Ireland Renewables Industry Group suggests that, where Government has communicated with the public, this has focused on energy efficiency. They state that the key messages required relate to grid infrastructure, security of supply, economic competitiveness and the need to reduce carbon consumption.[120]

147. The absence of advice for members of the public was raised by some respondents. NIE Energy Supply stated that the lack of public awareness about the scale of the energy challenge is a barrier to the deployment of renewable energy. They believe that the public needs advice, guidance and awareness training but that there is a lack of reliable, independent advice available.[121] Representatives from the Northern Periphery Programme agreed that, although people may know about renewable energy, they do not know who to go to for advice and information. They went on to state in oral evidence that advisors do not have a satisfactory knowledge of managing renewable energy issues. They stated that there have been many failures of renewable energy projects because the 'experts' gave poor advice.[122] Green Energy 4U believes that, in order to stimulate behavioural change, reliable advice is needed alongside regulations and incentives.[123] The SEIDWG Report[124] states that energy usage and the environment are not obviously connected in the minds of end energy users in Northern Ireland. It states that current communications do not appear to be driving behaviour change. The Joint Business Council states that engagement between business and communities and between Government and communities is the key issue. They suggest that public inquiries are the inevitable result of poor communication.[125]

148. In oral evidence to the Inquiry, DETI officials agreed that Government needs to educate and communicate with the wider public on renewable energy issues and explain why it is so

important. They stated that Government also needs to assist companies such as NIE to get the message across.[126]

Communication with the Business Sector

149. Communication between Government and business was also an issue for a number of other respondents including the University of Ulster which, in its written submission to the Committee, stated that university research is under represented in the renewable energy sector, given its wide industrial contacts.[127] SmartGridIreland mentioned the need for a suitable coordinated programme involving universities, colleges and the renewable energy industry. Lisburn City Council believes that there is a need to raise awareness locally of successful European schemes which could be implemented in Northern Ireland. They believe that both business and consumers need to clearly see the benefits.[128]

150. Some respondents were more positive about communications from Government. NIE stated that communications with the business sector seem to have gathered momentum in the past number of years. They also state that there is improvement in communicating the general message to the wider public, especially in the education sector.[129] GT Energy believes that the service provided by Action Renewables is to be commended. They state that it is the main organisation in Northern Ireland providing free, independent advice and information on renewable energy to the general public.[130]

151. DETI officials informed the Committee in oral evidence that Government needs to stop confusing the marketplace. They stated that external advisory bodies and Government bodies with an interest in energy are bombarding the public with slightly different messages. On a more positive side, officials informed the Committee that DETI has a member of staff who specialises on NIRO and who proactively meets the developer community to inform people about the finance available under the NIRO, to explain how it works and to outline how it is a key reference point of Government strategy.[131]

Communication within Government

152. Although ESB Wind believes that there is good interaction between Government departments and between regional and local Government in relation to wind energy, some respondents believe that communication between the various elements of Government shows room for improvement. Rural Generation Ltd believes that Government departments communicate very poorly with each other. They believe that all decisions are based on short-term economics.[132] Northern Ireland Environment Link believes that communications between Government departments, and with local Government, is not as good as it should be.[133] The organisation believes that clear and integrated communications are needed on renewable energy.

153. In oral evidence DETI officials stated that the SEF is not, and should not be seen as, DETI's document.[134] They informed members that it is a Northern Ireland Executive document which has a role for the wider stakeholders' group in the private sector. Officials said that the Executive has provided leadership by embracing and agreeing the SEF and by establishing the SEIDWG. They said that the formation of the Group has already facilitated better cross-departmental working on renewable energy.

Incentives for Production of Renewable Energy

Renewable Obligation Certificates and Feed-in Tariffs

154. As stated earlier, the main support mechanism for incentivising the production of renewable energy is the ROC. The issue arose in a number of submissions to the Inquiry of whether a ROC system or a FIT system was the better method of incentivising renewable energy production. The key issue for the University of Ulster was that there needs to be agreement in the long-term on whether ROCs or FITs will be used to support production.[135] The Ulster Farmers' Union told the Committee in oral evidence that financial incentives are a better and longer-term route than capital grant schemes. They believe that the latter can add to the price of technology instead of reducing it. They welcome long-term financial incentives whether they are in the form of FITs or ROCs.[136] The Carbon Trust's view was that the assessment of the overall cost and impact on consumers of schemes such as FITs and Renewable Heat Incentives must be taken into consideration when deciding which mechanism to use.[137] This view was supported by Michael Coyle, the only individual member of the public to provide evidence to the Committee.[138]

155. Many respondents called for the introduction of a FIT mechanism to incentivise renewable energy production. NIE Energy stated that, with the introduction of the FIT in GB, there is a customer expectation that Northern Ireland should have a similar incentive.[139] The Ulster Farmers Union told the Committee that a FIT is more attractive to a prospective creditor as they are fixed in value, unlike a ROC, the value of which is determined by market forces. They believe that the guaranteed price for renewable energy that the FIT provides is a better incentive for banks and financers when those considering changing to renewable energy wish to take up loans to pay for installations. They do however concede that, the ROC system is better for the Northern Ireland economy as ROCs are paid for from a central pot and FITs would be paid for by electricity consumers in Northern Ireland.[140] The Biogas Alliance informed the Committee that a Feed-in Tariff is much more bankable than the ROC system. They stated that a Feed-in Tariff gives the banks a guaranteed, inflation-proof return for 20 years and that, due to the potential volatility of the system, only about 25% to 30% of the value of a ROC is bankable[141]. The Northern Ireland Energy Agency stated that a FIT is needed to stimulate small scale production.[142] The Committee received no evidence on the cost of a FIT to the Northern Ireland Economy. Action Renewables informed the Committee in oral evidence that it was unfortunate that FITs were not introduced in Northern Ireland at the same time as they were in Great Britain but that DETI has delivered the renewable obligation in a positive way. They went on to say that current ROC support levels have gone a long way to equating ROC support to the amount of support provided in GB through FITs.[143] In its answer to follow-up questions from the Committee, DETI stated that in order to avoid the price of a ROC crashing, the obligation level imposed on suppliers will always be higher than the anticipated number of available ROCs to ensure that demand is greater than supply. Known as the "headroom mechanism", it is designed to ensure that there is always a positive gap of on average 10% between generation and the size of the obligation. DETI states that this protects investor confidence by ensuring there is always a market for ROCs.[144]

156. The Joint Business Council sees the ROC system as the best long-term policy instrument to support the deployment of renewable energy technologies.[145] Representatives informed the Committee that its members accept modifications to the ROC system provided it is implemented sensibly, in a way that provides stability and encourages investment. They informed the Committee that ROCs were preferred because of the overall cost effectiveness.[146] This view echoed the Department's view. Officials informed the Committee during oral evidence that Government policy is to provide support for renewables through incentivisation rather than grant support as it gives a longer term signal to the market and to investors. In support of work undertaken on DETI's behalf by Cambridge Economic Policy Associates officials informed the Committee that Northern Ireland should retain the NIRO for as long as possible but will keep the situation under active review. [147] They stated that, should the need arise they would not preclude moving away from the NIRO to a different form of incentivisation.

157. A number of respondents raised issues about the level of ROC support for specific technologies and about regional differences in support. The Joint Business Council believes that regional differences should be harmonised as developers will only invest when they are confident they will make an adequate return. Both ESB Wind[148] and B9 Energy[149] believe that the Northern Ireland Renewables Obligation has proved successful for large scale projects. GT Energy believes that there should be better provision for deep geothermal energy.[150]

Anaerobic Digestion

158. The Ulster Farmers' Union informed the Committee in oral evidence that last year with the introduction of a FIT for small-scale generation in GB there was a change in the incentive mechanism for anaerobic digestion in the rest of the UK but that there was no change in Northern Ireland. They informed the Committee that the explanation provided by the Department was that staff did not have time to make the change.[151] Lack of progress with the development of anaerobic digestion was an issue for a number of respondents. The Biogas Alliance informed the Committee that the resource is totally unexploited in Northern Ireland and requires support to get it started.[152] Both DETI[153] and DARD[154] suggest that anaerobic digestion is an emerging technology. In giving oral evidence to the Committee DARD officials stated that they recognise that there is a lack of knowledge and that there is a need for some 'pump-priming' in the form of financial support. They informed the Committee that Northern Ireland is at a very early stage in the development of renewable energy in the land-based sector. The Biogas Alliance believes that, because Northern Ireland does not have large areas of arable lands without livestock, our disposal methods for much of the manure produced is limited. They informed the Committee that, combined with our grass growing potential, the use of existing waste streams could kick-start the agricultural economy and allow Northern Ireland to meet future legislative requirements for nitrates. They believe that there is potential in anaerobic digestion to create 400 to 500 jobs in the first four or five months if the appropriate incentives are put in place.

159. DETI stated in its written submission to the Inquiry that it considers the proposed increase in support for anaerobic digestion to 4 ROCS for installations up to and including 500MW capacity and 3 ROCs for those larger than 500MW to be sufficient to stimulate investment in commercial anaerobic digestion.[155] DETI officials informed the Committee in oral evidence that the overall impression is that the anaerobic digestion industry is very favourable towards the proposed uplift and that there appear to be significant moves towards building installations. In oral evidence DARD officials stated that this will make a significant contribution to the future development of anaerobic digestion in the land based sector.[156] They stated that the state aid approval required from the EU points to the development of anaerobic digestion for heat but that ultimately, anaerobic digestion should also focus on providing electricity to the grid. Officials stated that this would be particularly viable if groups of farmers come together to develop anaerobic digestion facilities.

Renewable Heat Incentive

160. In oral evidence to the Committee DETI officials were asked to define what is meant by the term 'renewable heat'. They informed members that put simply, it is heat from any renewable source such as solid biomass, bio-liquids, biogas, air source heat pumps, ground source heat pumps, solar or geothermal.[157]

161. A large number of respondents supported the call for a Renewable Heat Incentive (RHI) including Biomass Energy Ltd, Farm Woodland, Glen Dimplex, GT Energy, the Joint Business Council, Northern Ireland Energy Agency, Northern Ireland Manufacturing, the Royal Society for the Protection of Birds and Rural Generation Ltd. Michael Coyle commented that as more than half of Northern Ireland's energy is used on heat, more attention to the delivery of heat from

renewable sources could have a significant impact on external fuel dependency.[158] The Green Party believes that the introduction of support mechanisms such as RHIs would increase demand for renewable energy products.[159]

162. DETI officials informed the Committee in oral evidence that the current estimated heat demand for Northern Ireland is in the region of 17,000 gigawatt-hours (GWh) per year. Officials stated that the 10% target for renewable heat in the SEF can be achieved, but some form of intervention will be required. In relation to the Treasury offer of £25 million for a Northern Ireland Renewable Heat Incentive, officials stated that the biggest heat demand is in the domestic sector and that this represents a huge potential to target an incentive. They said that an economic appraisal will determine which model will provide the best value for money and contribute most to meeting the target. If the economic appraisal points to the domestic sector, officials said that communication with householders will be required. Householders will be required to make a capital investment to install their chosen technology and the incentive will pay them tariffs over a 15 to 20 year period.[160]

Energy from Biomass

163. The need for supply chains for biomass was raised by a number of respondents. The Royal Society for the protection of birds (RSPB) stated that there is a need to secure the market for biomass heat to get farmers to grow energy crops.[161] This view is supported by Farm Woodland which states that the Northern Ireland Executive needs to support the establishment of supply chains between fuel suppliers and end users.[162] The Ulster Farmers Union cited failed examples of grants having been paid where there is no supply chain or working market in place.[163] They told the Committee in oral evidence that indigenous biomass should be used rather than imported biomass. They believe that, if a policy is created, it has to be sustainable here.[164]

164. Some respondents raised concerns about the sustainability and practicality of biomass. GT Energy informed the Committee that, as far as heating is concerned, biomass will still need to be imported because Northern Ireland does not have adequate supplies. They suggested that this will create market volatility as is currently the case with oil because biomass will eventually have to be imported from Russia.[165] The University of Ulster raised a number of issues with biomass. They posed the question, "what is the best value for the biomass that we can grow sustainably?" They informed the Committee that they have been trying, with difficulty, to answer that question for some time. They explained that growing grass and using anaerobic digestion to get fuel and gas for engines, electricity and heat was not a problem but although quick-growing wood crops such as willow can be grown in three years the return is only between £60 and £80 per tonne, whereas the price of wheat went up to £200 per tonne last year. They explained that if a farmer has grown big wood crops, he cannot plough them into the ground and start again, whereas, if he has appropriate land he can grow wheat and get a quick response. On biomass for heating, the University of Ulster informed the Committee that the low density of the fuel compared to coal would result in frequent large deliveries requiring adequate space for storage.[166] They also raised concerns about district heating systems. They stated that such systems lock users in to a particular provider and removes choice.

Energy from Waste

165. The Joint Business Council believes that more should be done to encourage energy from waste. They informed the Committee that the Confederation of British Industry had just completed a national policy document on energy from waste which argues strongly that energy from waste will be vital in meeting our landfill, energy and climate change challenges. It is considered compatible with high levels of recycling and it is clean. They reported that energy from waste is economically viable on a wide scale.[167] The RSPB agreed that bioenergy from

waste sources should be prioritised. They believe it is a win-win for environment and climate change.[168] Northern Ireland Environment Link agrees stating that Government needs to look at major waste streams and innovative technologies to convert waste into energy to solve waste disposal and pollution problems.[169]

166. DETI officials informed the Committee in oral evidence that they have been engaging with DoE colleagues in relation to energy from waste and the EU requirements to reduce the level of waste going to landfill.[170] Officials stated that they are aware of three groups of councils which have come together with energy from waste projects. It was stated that such projects are very important in helping DETI to meet its targets and to help DoE to meet its landfill targets. It was stated that these projects could provide up to 35MW of capacity to the electricity grid. One of these projects, Arc21, which represents 11 councils, states that it has potential to generate enough renewable electricity for up to 40,000 homes.[171] DETI officials informed the Committee that the main issues with such projects come from the process of getting planning approval and that a number of energy from waste projects have fallen at this stage due to council decisions.[172]

167. Throughout the evidence gathering process for the Inquiry, the Committee found very little evidence of the energy from waste agenda being driven at the top level of Government. There was no evidence of a clear Government policy on energy from waste with most responsibility being devolved to local councils.

168. Committee members noted with disappointment and concern the decision by Belfast City Council not to proceed with the proposed state-of-the-art Energy from Waste plant at the north foreshore of Belfast Lough despite the relatively low level of local objection to the project. The plant, which was proposed by Arc21 would have greatly assisted in meeting EU requirements for the reduction in the level of waste going to landfill as well as providing considerable income to Belfast City Council through the sale of land.

Geothermal Energy

169. GT Energy is the main company in Northern Ireland with a key interest in geothermal energy. The Company gave oral evidence to the Committee[173] and informed members that some key benefits are that geothermal energy is one of the few base-load renewable energies available; unlike wind, geothermal energy is available all the time; and the main costs of geothermal energy are up-front, thus allowing long-term contracts (20 years) to be agreed with customers. They stated that it is an abundant resource from which an estimated 4,000 times Northern Ireland's energy demand available. The company reported that it could build 20 geothermal electricity plants and still have up to five or six megawatts of heat left over that could supply 5,000 or 6,000 houses. The Company believes DETI has to drive forward the geothermal energy agenda. They stated that to date, there has been only 'soft support' as geothermal energy is not well known, nor is it high on DETI's agenda. GT Energy would like to see the issue pushed up the agenda.

170. GT Energy informed members that the Company has been asked by many district councils to look at their sites. They say that to build one geothermal plant in Ballymena requires £30million to be spent. They stated that if they could get bank debt to cover that amount for 30 years the plant would pay for itself without any financial incentive. However, because of commercial rates and because private investors want to see a return in 15 years, GT Energy says that it needs support up front. The Company estimates that the cost of developing geothermal technologies will reduce in the first five or six years, by up to 40%.

171. At present there are two ROCs available for geothermal energy which, according to GT Energy is not adequate to incentivise the market. Company representatives informed the

Committee that, not only must ROCs be at a higher level, a Renewable Heat Incentive must be in place to encourage the development of geothermal heat plants.

172. GT Energy also believes that there is an opportunity for DETI and the Northern Ireland Executive to charge a royalty for geothermal energy by introducing a legislative and development framework for geothermal energy. They believe that this would put in place security of tenure and an orderly development structure. They say that, although legislation is not a requirement to develop geothermal heat or electricity plants, such a framework would help the industry to develop, would create security of tenure for investment and would provide for the orderly development of geothermal energy installations. They believe that a definition of ownership of geothermal energy resources in Northern Ireland is required where Government states that it owns an interest in geothermal energy and has the right to administer the development of the resource. The Company cited the example of the USA where such legislation was put in place and where Government now collects royalties on geothermal plants similar to the way royalties are collected for mineral or petroleum extraction.

173. In its written submission to the Inquiry DETI noted that Northern Ireland has good geothermal potential which has been examined by the Geological Survey of Northern Ireland (GSNI).[174] In Annex H to DETI's submission GSNI summarises the barriers to the development of geothermal energy. The barriers outlined relate to deficiencies in the regulatory system; lack of information about geothermal energy resources and technologies; quality standards; and economic factors. GSNI states that in most countries where deep geothermal energy is exploited there is appropriate legislation. It states that the lack of regulation is a major barrier to investment here. In its oral evidence to the Inquiry DETI officials stated that there is no definitive judgement on ownership right to geothermal energy at present.[175] Rights could be owned by the landowner, by a holder of mineral rights, by the Crown or by nobody. If the Crown or the State had ownership of the rights then royalties could be charged however, given the high capital costs and current low returns the charging of royalties could slow down the development of the industry. Officials stated that if royalties were to be considered they may, initially, have to be set at zero.

174. GSNI states that, due to high initial capital costs and the long payback period for geothermal projects some form of state support is usually needed in the form of long-term contracts. The submission stated that several states provide both capital grants and feed-in tariffs for power and heat produced from geothermal energy resources. In oral evidence DETI officials stated that, as time passes and technology improves, the cost will fall and geothermal energy should become more attractive. Currently in Northern Ireland 2 ROCs are issued for every Mwh of geothermal electricity produced.

Support for Business in the Development of Renewable Energy Technologies

175. Aside from the issues surrounding the need for support for the deployment of renewable energy technologies in Northern Ireland, a number of respondents were concerned about the level and nature of support available for the development of those technologies. The Joint Business Council advised the Committee that, in the development of renewable energy technologies, there are considerable opportunities for the economy. Both the Ulster Farmers Union[176] and Biomass Energy Northern Ireland[177] commended DARD and CAFRE for the support infrastructure they have developed including advice and funding.

176. Glen Dimplex believes there is a need for additional mechanisms to encourage innovation and development of new energy technologies. They stated that, what they term 'key technologies', should be made mandatory for new buildings[178]. Omagh District Council stated

that the support and assistance offered in Northern Ireland should be at least equal to the best that other EU member states can offer for SMEs in the development and supply of renewable energy technologies.[179] ESB International believes that capital grants are essential to develop the renewable energy industry.[180] The Northern Ireland Energy Agency believes that the stop-start nature of Government support for renewable energy installations is leading to uncertainty among investors and developers and uncertainty in the supply chain for manufacturers, installers, growers, etc.[181] This view is supported by both the Northern Periphery Project[182], NIE Energy[183] and the RSPB.[184]

177. Lisburn City Council believes that, if renewable energy technologies are to be developed, the banking sector must be brought on board.[185] Rural Generation Ltd concurs, stating that credit from banks is restricted because, as Government will not commit to renewable energy support, the banking sector will not commit to the technologies.[186] NIAUR cautioned that investment in many renewable energy technologies will require additional support for generators, paid for by customers through their energy tariffs. Therefore support mechanisms aimed at promoting investment in renewable technologies must demonstrate value for money.[187] The Joint Business Council believes that Government can support the development of the renewable energy industry through 'green procurement' in public service, through the introduction of 'smart metering' and through support for the lowest cost renewable energy technologies.[188] Northern Ireland Manufacturing states that support should be given to those technologies that allow wealth creation through export of skills, intellectual property and renewable energy products.[189]

Grid Infrastructure

178. There was general consensus from written and oral evidence that the current grid infrastructure requires major investment for upgrading and reinforcement. The investment required to bring the grid up to a standard where it is "fit for purpose" is generally accepted as being £1 billion. Funding for the grid investment will have to be approved by the Utility Regulator. As such, NIAUR commented that investment in infrastructure needs to be economic, efficient and coordinated to ensure value for money.[190] The Joint Business Council stated that failure to deliver the necessary grid strengthening at the lowest cost will increase the level of fuel poverty.[191] There was acknowledgement from several respondents that without strengthening of the grid, the SEF target of 40% renewable energy by 2020 would not be met. Furthermore, Action Renewables stated that without investment into the grid infrastructure, the development of renewable energy would be negatively impacted.[192] The main issues that arose in relation to problems with grid infrastructure included: general grid infrastructure/efficiency; lack of grid infrastructure development policy; and the North-South Interconnector.

Grid Infrastructure Efficiency

179. In relation to grid infrastructure and efficiency, issues that arose were capacity and capability of the grid to handle renewable sources. WWF NI stated that the centralised grid is highly inefficient with two thirds of the energy generated wasted before it reaches the consumer.[193] Regarding energy from renewable sources, ESB International commented that to develop/accommodate offshore renewable, including tidal energy, significant modifications and upgrades to the transmission system are required.[194] In the Report on its Inquiry into climate change (2009), the Assembly Committee for the Environment highlighted the need to strengthen the grid to accommodate the shift in the location of power generation.[195]

180. Several respondents agreed that currently, the grid cannot handle the amount of renewable energy that is being generated. Action Renewables suggested that the grid could not accommodate the current stock of potential renewable energy sources that are in the pipeline for planning approvals.[196] South Down and Armagh Green Party stated that, "The grid and its

associated infrastructure were historically not designed with renewable energy or dynamic demand side response in mind. Although the grid has been enhanced over the years, it was originally designed essentially to connect large point-source producers to largely passive users. Generally speaking, it is weakest in the areas where the best renewables resources are located – in western parts of the country."[197] NIE addressed this concern by stating that a lot of its efforts into grid investment are concentrated on the large-scale renewables (mostly located in the west and north).[198] Lisburn City Council stated that there should be sufficient capacity in the local grid network, particularly for large scale renewable energy projects.[199]

181. During NIE's oral evidence session, it outlined its short, medium, and long-term plans for grid investment to support the connection of renewable generation. The short term plan concentrates on the existing network, the medium term plan focuses on the 110kV network (wood pole network) and the long term plan focuses on building 275kV infrastructures towards the west and around the north of Northern Ireland. NIE also confirmed that it is committed to the investment that is required in the grid to meet the SEF target.

182. In its written response to the inquiry, DETI stated that:

The Department is currently developing a Strategic Action Plan for onshore renewable electricity (wind and all other onshore technologies), in light of the proposed generation target of 40% of electricity from renewable sources by 2020. This Action Plan will examine various generation mixes to meet this target and will include all technologies. It is likely that a substantial proportion of renewable electricity will come from onshore wind, based on current planning applications, however the Plan will look at the role of other technologies, such as biomass, hydro and micro generation.

The Plan will also consider the need for strengthening of the electricity grid to support the increase in renewable electricity and cope with intermittency issues linked to onshore wind in particular. The Plan will also look at the impact on the grid of increasing levels of offshore renewable energy and will look to identify potential landing hubs to connect offshore renewable energy with the grid.[200]

183. DETI also mentioned its draft Offshore Renewable Energy Strategic Action Plan 2009-2020 (ORESAP) which sets out a range of policy, legislative and operational actions required to put in place the right environment for private sector investment in offshore renewables in Northern Ireland. These actions include the strengthening of the grid to handle offshore renewables.

184. In response to additional queries from the Committee regarding the level of detail that the Plan will look at the upgrading of the grid, DETI stated that:

The OREAP is currently being developed and its focus is onshore renewable electricity generation and the implications this will have for the electrical transmission and distribution grid which will require strengthening in order to accommodate future renewable generation. The Strategic Environmental Assessment refers to the in-combination effects of future generation, including offshore renewable energy, with the potential associated grid upgrades. The OREAP will not however look at specific route corridors.

This is something that NIE is currently developing with both a Grid 25 plan and the Renewables Integration Development Programme (RIDP) (in conjunction with Eirgrid). The RIDP in particular will focus in more detail on potential transmission reinforcement route options, with each route likely to be subject to separate environmental studies/assessments to meet the requirements of the planning process.[201]

Grid Infrastructure Development Policy

185. Several respondents stated that the lack of a published grid infrastructure development plan by government is an obstacle. Respondents highlighted the need for such a policy to include grid reinforcement and upgrading. NIE commented that departments seem unwilling to take strategic responsibility and stated there is limited evidence of a structured approach in Northern Ireland.[202]

186. There were several comments from organisations that addressed the need to integrate a smart grid concept to grid developments. The Joint Business Council stated that, "It is also essential that NI invest in the right infrastructure and to achieve this there needs to have an excellent understanding of how demand is likely to change and can be managed more effectively through smart metering and the development of 'smart grid' technology."[203] ESB International stressed the importance of communicating grid infrastructure issues with the public by stating that the inevitable grid infrastructure to support the renewable energy should be addressed with the public at as early a stage as possible.[204] The Ulster Farmers Union reiterated the need for Government to investigate the intelligent grid alternatives and called for review of the grid infrastructure, stating that without this any further policies which are implemented will be simply "papering over the cracks."[205]

187. DETI acknowledges that grid infrastructure is key to reaching the 40% targets and stated that the Department is working with NIE as it develops its options and plans the grid development required to reach the 40% target. The Department also stated that it is currently carrying out a Strategic Environmental Assessment of the cumulative impact of additional renewable electricity generation, and the corresponding impact on the electricity grid to accommodate much higher levels of renewable power generation.

North-South Interconnector

188. The need for further interconnection was raised by several respondents, some in written evidence but mostly during oral evidence sessions. The NI Energy Agency stated that grid strengthening and interconnection issues need to be addressed if NI is to realise the full potential of its indigenous renewable resources. Furthermore, it stated that greater grid connection is needed with RoI, GB and with Europe to maximise integration of renewable electricity onto networks - e.g. European super grid.[206] The Joint Business Council reaffirmed this view in its submission by stating that, "further interconnection will help integrate the island with the British and continental systems. It will aid renewable integration and bring wholesale prices in line with those across the region and therefore contribute to competitiveness and will support security of supply, assist with renewable targets and enhance competition. Every effort must be made to reduce technical barriers to integration with the larger GB market and to encourage the entry of new suppliers."[207]

189. During NIE's oral evidence session on the inquiry, witnesses stressed the importance of the North-South Interconnector to meet the SEF targets because generation must match the load on the whole island. NIE provided the following example, "The maximum demand in the province is around 1,800Mw, but on a summer night, it is around only 600Mw. If it is a windy summer night and there is 1,500/1,600 mw of wind, it cannot be used because there is nowhere for the power generated from it to go. That problem becomes an easier problem to solve on an all-island basis, because the wind is not always blowing at the same time in the North as it is in the South."[208]

190. In relation to the opposition of the Interconnector from the public, NIE stated that though the organisation has met with local councils and residents to educate the public, Government has a role to educate the public in the reasons for the need of the Interconnector. NIE informed the Committee that the reasons are firstly, the single electricity market (SEM) does not work efficiently; secondly, to help to connect with energy from renewable sources; and thirdly, to help with security of supply.

191. NIE also quoted planning and consents as a major barrier to the North-South Interconnector. Officials stated that the planning application was submitted in December 2009 and was referred to a public inquiry and initial indication is that it may not be heard until late 2012.[209]

192. During NIAUR's oral evidence the issue of planning and the public inquiry in relation to the Interconnector arose as a major issue. The Utility Regulator stated the following:

"The absence of interconnection is a major problem for renewable development. As the cost of constraints is transparent and is being paid by consumers, it is a major cost for consumers. We are probably paying about £20 million a year in the North because we do not have a North/South cable. The planning application is stuck in a queue waiting for the Planning Appeals Commission to deal with it. There are projects in front of it in the queue that may well be of commercial interest to the developers in question, but I find it hard to see that they are adding value to society in the same way as the Interconnector. That is not a comment on whether it should pass or should not pass; that is not for us to say. However, I feel that the inability of the system to recognise strategically important projects and to deal with them rapidly is completely unacceptable and needs to be addressed."[210]

193. During DETI's oral evidence to the inquiry, officials agreed that the North-South Interconnector is an important piece of economic infrastructure and essential to meeting the 40% target. DETI also stressed the importance of the Interconnector to the benefits to the Single Electricity Market (SEM) and the importance of interconnection in general for the future. Officials stated the following:

"While we are talking about the grid and the Interconnector, another point to make is that Northern Ireland has a very small energy market. We have taken some steps to make that bigger and more robust with the single electricity market (SEM), but that is really only step one. When I was talking to the Committee on 9 November, I mentioned the drive and push from Europe, and what we will need to do. The SEM will need to be integrated with the bigger market in the British Isles over the next number of years, and the market in the British Isles will have to be better integrated with Europe. That is the way that market integration is going at European level, and if we do not have the quality of grid in place and the quality of interconnector on the island, we are going to be stuck out on the corner of Europe and very exposed."[211]

194. DETI also stated that it continues to work with the Utility Regulator and with NIE to communicate to the public the strategic reasons why the second North-South Interconnector is required, including the need to provide the infrastructure to support sustainable economic growth. This has included briefing the Assembly Environment Committee in public session. Furthermore NIE, as the constructor and asset owner, has prime responsibility for informing relevant parties of the need for the Interconnector and the reasons why the route selected was chosen.

195. DoE stated that the North-South Interconnector is a priority and that the department will be asking the PAC to carry out a public inquiry and to treat it as a priority.[212]

Grid Connection

196. The main issues that arose in relation to problems with grid connections included: costs, timelines and the new Distribution Code.

Grid Connection Costs and Timelines

197. A number of respondents to the inquiry stated that grid connection costs and timelines to set up a connection are major concerns. NI Renewables Industry Group and Renewable Energy Systems Ltd both stated that unknown grid connection costs lead to inability of developers to finance projects.[213] The UFU stated that the charges are significant and acknowledged that while they have been approved by the Utility Regulator, the concern is that there is currently no direct reference point to access these charges. For example, UFU provided the example that a potential wind turbine owner would not know of the grid connection charges until they have started the project and apply for a connection to the grid. This is not helpful when anticipating costs and drawing up budgets when a would-be generator is compiling a business case for financiers.[214] Northern Periphery Programme supported this view and commented that every increasing cost coupled with time delays in joining the grid makes the initial start-up process capital intensive.[215]

198. During its oral evidence to the Inquiry, NIE addressed grid connection costs and issues. When addressing the cost of connection, NIE stated that it will depend on the location of the applicant. In relation to what the charges for connection represent, NIE said that the cost must represent the carrying out of the work and each connection is individually designed.[216] In relation to the high cost of grid connection in Northern Ireland, NIE stated that it believes that the reason Northern Ireland costs are so much higher than other European countries is because of the grid and the infrastructure that exists here. As a result there are much longer distances involved in order to reach connection points.[217]

199. In its written evidence to the inquiry, DETI stated that it recognises that a number of stakeholders have raised concerns about grid connection policy and charging for small-scale renewable electricity installations. Furthermore, DETI stated that the Utility Regulator plans to consult on this issue in Autumn 2010 and this will provide an opportunity for further consideration of the potential for improving the way in which connection pricing is structured for small-scale renewable energy generators.

200. In relation to the high cost of grid connection, NIAUR stated that except in the case of small connections below 1MW, connection charges are based on cost reflectivity – that is the person who requests the connection pays for materials and labour associated with the work. Additionally, the cost of the materials and labour which NIE is allowed to charge is benchmarked to other areas and is comparable. Some countries may offer subsidised connections but in NI the position remains that the person who requires the work to be done should pay for the materials and labour. Finally, NIAUR stated that any move to offer subsidised connections would require a source of funding to cover the subsidy and may require political or legislative cover.[218]

NIE Distribution Code

201. The NIE Distribution Code (the Code) outlines the 'principles and procedures governing the Distribution Network Operators relationship with all users of the distribution system, be they generators, suppliers or demand customers.'[219] It is a largely technical document that sets out the day-to-day planning and operational procedures. The Code was published in May 2010 after a consultation process. The Code requires that:

i. generators must have a telephone line in place;

ii. the owner of the generation site is responsible for arranging and paying for the installation of said telephone line; and

iii. generators ensure a Supervisory Control and Data Acquisition (SCADA) system is in place to monitor the installation.[220]

202. Both the Northern Periphery Programme and UFU raised the issue of the new distribution code in their written submissions. It is estimated by NIE the communication line and the Supervisory Control and Data Acquisition (SCADA) will cost approximately £20K plus VAT. Both the Northern Periphery Programme and UFU stated that this is a significant up-front cost and is causing much concern from organisations that are worried about the capital investment required to generate renewable energy.[221]

203. NIE addressed the need for SCADA system during its oral evidence session. NIE stated that the system is about telecommunications and control which is the meaning of a smart grid. The smart grid allows the balancing of generation and loads in a smarter way and enables more renewable generation to be connected.[222]

Planning and Consents

204. The planning system for renewable energy installations emerged as a significant issue in written and oral evidence. Several organisations expressed the view that without a modified system, the SEF target of 40% renewable energy by 2020 would not be achieved. NIAUR asserted that planning and consents for the construction of the necessary power lines, electricity substations and other infrastructure will need to be obtained in a timely fashion if 2020 targets are to be met.[223] NI Renewables Industry Group called for a consistent application of planning policy and timely planning decisions.[224]

205. There was concern regarding the impact that the planning system could have on renewable energy projects and ultimately the impact on the economy. The Joint Business Council supported this by stating that reform of the planning system is vital to give investors more certainty.[225] The Economist, John Simpson, in his response to the Inquiry endorsed this view stating that the present planning system prevents a broader appreciation of the need for economies of scale when responding to potential investors.[226] The University of Ulster affirmed this by stating that Foreign Direct Investment opportunities are lost by battles with planning service and other agencies.[227] In its oral evidence to the Committee, Invest NI added that when investors talk about potential projects, some of the first things they ask about is whether the land will be available, whether the environment agency will work with them and whether planning will be processed in a timely and efficient manner.

206. One organisation, GT Energy stated that planning and consents was not an issue at all for geothermal energy plants because they have low visual impact. GT Energy stated that it has met the planning service in Northern Ireland and that they had little issue with them. Furthermore, as there are no letters of objection, the process is quite fast.[228]

207. The major issues that arose surrounding planning were the Planning Policy Statement 18 (PPS 18) and planning policy, delays in planning, planning for micro generation and building regulations and permitted development.

PPS 18 and Planning Policy

208. PPS 18 sets out the Department of the Environment's planning policy for development that generates energy from renewable sources. The final version was published in August 2009. Supplementary planning guidance (published in August 2010) accompanies PPS 18 and provides broad, strategic guidance in relation to the visual and landscape impacts of wind energy development. In the written submission for the Inquiry, several respondents welcomed PPS 18, however, some expressed uncertainty around PPS 18 and the supplementary guidelines. ESB Wind Development UK stated that there are a number of ambiguous issues and clarifications that need to be made and there remains the potential for the guidelines to be a very significant

barrier to the development of new projects, depending on the interpretation of the guidelines by planners and others.[229] RSPB pointed out the lack of spatial planning and strategic locational guidance, which it believes would provide certainty to the industry, planners and the public.[230] NI Renewables Industry Group called for a consistent application of planning policy.[231] NI Environment Link stated that there are issues regarding planning policy and delivery for specific renewable installations.[232]

209. In relation to application of the policy, Green Energy 4U believes that one of the major barriers to the establishment of a successful renewable energy sector is the under-resourcing and under-training of the Planning Service. The organisation also stated that this issue still needs to be addressed; expecting the current planning regime to deliver on the future energy policy of NI is not a realistic situation.[233] In its oral evidence to the Committee, Action Renewables shared the concern that Planners may not have the technical knowledge to make the decisions.

210. When queried about special training for Planners at headquarters and in regional offices to gain an understanding of the nature of renewable energy installations in both settings, DoE stated that there is a specialist team at Planning Service headquarters which processes large scale renewable planning applications.

211. Green Energy 4U commented on planning in local Government, stating that it is vital that local government acknowledge that by 2012 Northern Ireland may not reach its initial target of 12% target unless there is smoother running of the planning application service for individuals and business.[234] UFU also commented that planning policies and related rules and regulations must be rolled out to each regional office, ensuring that they are all in possession of the most up-to-date policies.[235] Lisburn City Council suggested that the growth of the renewable sector be taken into account during the development of any new town, city or regional plans to ensure that these developments (e.g. renewable energy power plant) are integrated into all future planning.[236] Belfast City Council suggested that future statutory local area development plans designate suitable sites for renewable energy generation and that this could help to speed up the development of renewable energy facilities in Northern Ireland.[237] Finally, the Northern Ireland Assembly, Committee for Regional Development emphasised the need for the use of renewable energy to be incorporated into all aspects of land use planning and future housing plans and felt that more has to be done to place an onus on public and private sector developers to take this issue into account when planning developments.[238]

212. The Committee received oral evidence from the Department of Environment (DoE) as part of the inquiry and officials outlined DoE's three aims to contribute to land-based activities which are: the publication and promotion of clear policy guidance that will assist the renewable energy industry in planning its investment programmes; the processing of planning applications for individual renewable energy projects in a consistent and timely manner; and the monitoring of regulations and the amending of those as necessary.[239]

213. DoE also stated that it feels that the policy guidance (PPS18 and the accompanying supplementary guidance) is up-to-date and relevant. DoE gave its reasons as follows:

"Because it (PPS18) is accompanied by a best practice guide, it provides advice on the various forms of renewable energy technologies that may come forward. The guidance informs the reader about where each technology works best and provides information on planning requirements and other authorisations and consents that each technology may require. In addition, there is supplementary planning guidance that guides developers on the siting and design of wind energy developments on Northern Ireland landscapes, and it will support the other two documents."

214. When queried further on the supplementary planning guidance for PPS 18, DoE stated that it is not currently aware of any problems or negative issues that have been raised following the publication of the Guidance. Furthermore, the Northern Ireland Renewable Industry Group (NIRIG) has written to the Minister of the Environment to welcome the publication of the Guidance stating that it believes the guidance rightly reflects the pro-renewables position of PPS 18.[240]

Planning Delays

215. In relation to the delays in planning, many respondents commented on the length of time that is taken to bring projects through the planning process. NIE commented that it is a threat to implementation of a project.[241] Carbon Trust pointed out that the planning process is a key aspect to renewable energy development and can add substantial costs and time delays to technically viable projects. The organisation also suggested that perhaps designating geographic areas as preapproved renewable energy zones could facilitate more rapid and cost effective deployment.[242] The Joint Business Council stated that a more streamlined and timetabled procedural guide for planning is required and also a need to speed up the system and make it more predictable.[243] Northern Ireland Water specified that a key barrier is the cost and time required for appraisal studies, environmental impact assessments and in securing planning permission.[244]

216. It was also suggested by several organisations that delays in planning could impede the renewable energy sector and generation of renewable energy. For instance, Belfast City Council stated that in order to encourage renewable energy generation, planning consent must be made easier to obtain and the planning process must be quicker.[245] NI Energy Agency stated that planning is a barrier to the deployment of renewable energy.[246]

217. DoE addressed the delays in planning during its oral evidence and stated that it acknowledges that the process needs to be shortened. Furthermore, DoE listed the possible factors that could contribute to delays in a renewable energy planning application. Those factors were: complexity of the proposal; and the additional information needed under environmental regulations; the speed of consultation response from a wide range of agencies; delays on the part of the agent of the applicant who has submitted the application; the poor quality of the initial submission; and the significant number of third-party objections in some cases. Officials also stated that on examination of the delays in a number of the biggest projects, quite often DoE has had to go back a second or third time for more information.[247]

Building Regulations and Planning for micro generation

218. Inclusion of mandatory micro generation in building regulations arose as an issue for a number of respondents. WWF NI called for an urgent amendment to building regulations to ensure development and use of renewable energy sources with clear targets.[248] Northern Ireland Manufacturing (NIM) also called for an introduction of new planning guidelines for micro generation on industrial sites.[249] Glen Dimplex claimed that, "the current building regulations relate only to new buildings. However, mechanisms should be considered to make key technologies mandatory. This has been successfully implemented in the Republic of Ireland. The gradual reduction in CO2 emissions towards the zero carbon targets is established in UK policy but it remains to be seen how it will be achieved in practice. Mandatory specification by building regulations would help accelerate this process."[250] South Down and Armagh Green Party supported this claim by confirming that plans for mandatory micro-generation inclusion in building regulations have been excluded from building regulations.[251] Green energy 4U suggested that the use of Energy Performance Certificates (EPCs) could be used to drive up the efficiency of existing houses as they come into the marketplace and that regulations could be tightened to prevent the sale or let of houses in the bottom EPC bands.[252]

Permitted development

219. During the oral evidence session with DoE, the issue of permitted development for domestic premises arose. Permitted development refers to types of installations that do not require planning permission. In the Assembly Research Paper on "Renewable Energy: Planning" the permitted development regimes for England, Scotland, Wales and RoI were compared. A DoE consultation was carried out and ended in January 2010, however currently, there are no regulations that allow permitted development in Northern Ireland.

220. When questioned about permitted development during oral evidence, DoE officials stated that it is envisaged that a report will be published by early 2011. Thereafter, DoE will propose legislation for permitted development for the installation of domestic micro generation equipment including solar panels, ground and water source heat pumps and solid biomass fuel storage. However, the proposals will not cover wind turbines and air source heat pumps until issues relating to the standards and safeguards have been agreed and tested elsewhere.[253] DoE also acknowledged that the direct impact of domestic permitted development will principally be upon householders. It stated that "The provision of PD rights that allow micro-generation development which previously would have required a planning application is beneficial to householders by removing the costs associated with submission of a planning application and the fees which would be charged by the Department to process that application."[254]

Business support

221. Many barriers to the development of renewable energy in SMEs arose in the written evidence to the Inquiry. The University of Ulster listed speed of response, lack of policy, lack of direction, lack of review of decisions taken, underselling skills of Northern Ireland's workforce, sites for foreign direct investment (FDI) opportunities, binding contracts for FDI opportunities, alignment of FDI contracts with university R&D and indigenous company support as the main barriers.[255] The Carbon Trust commented that the Northern Ireland (and indeed, the RoI) energy market is relatively small and efforts should be focussed on those technologies that allow wealth creation through export of skills, intellectual property and renewable technologies. A 2008 Carbon Trust study makes clear that there is no guarantee that jobs resulting from the deployment of renewable energy technologies in any given geography will be created in that geography. Many jobs will be created and sustained during the development phase of the technology and will therefore largely be located in the country/region development.[256]

Financial Support

222. The Joint Business Council made suggestions in its written evidence that Government needs to encourage asset and equity finance including business angel investment. During oral evidence, the organisation also stated that Government could and should do more to incentivise investment by companies, particularly in energy efficiency, but also in renewable energies, perhaps through some form of rating rebate.[257]Additionally, Government needs to provide support to business to understand various forms of finance. In relation to European funding, encouragement for companies to bid for FP7 support is needed and policy intervention is needed to stimulate the RE sector through a long term rating discount incentive.[258]

Information and Advice

223. During oral evidence, NIM stated that it feels there is a need for more targeted advice and assistance for SMEs because many of NI's largest companies are struggling to understand how to get into the renewable sector and take advantage of it. NIM also stated that NI renewables

industry has "fantastic" prospects and used the example of ongoing engineering and fabrication. However, the organisation stressed the importance of concentrating on fundamentals and bringing the opportunities in the renewable energy sector to the local and Northern Ireland level. NIM suggested that a specific directorate in DETI with a managing director specifically responsible for renewable energy could offer more focus.[259]

Enterprise Zones

224. NIM suggested that test sites and enterprise zones throughout Northern Ireland could potentially bring in investment as well as having an effect on SMEs, as they would be in a position to make prototypes for the sites. Additionally, further down the road, having made the prototype, Northern Ireland would be in an advantageous position to make the full-scale version.[260]

Technical Support

225. During the Northern Periphery Programme's oral evidence, the organisation commented that the subject of renewable energy is very new and the training and accreditation of those who work on the trades skills (plumbing, engineering and electrics) and the professional skills (law, planning and accounting), have no specific training in renewable energy. The organisation commented on the need for one route and accreditation process for anybody who wants to work in a renewable energy field, particularly in communities, as the quality of work is not adequate.[261] NPP also commented on its interaction with Invest NI and stated that it recognises that Invest NI is very much aimed at exporting, and renewable energy is local. Action Renewables also supported this view during oral evidence, stating that Invest NI is active in promoting renewable energy development with companies in Northern Ireland but its remit covers exporting, job creation and inward investment. This is a potential problem because, unless companies are exporting, they do not receive support. This relates to the fact that there is no joined up thinking in Government.[262] Glen Dimplex commented that Invest NI provides very good support mechanisms for R&D activities in NI and actively encourages collaboration between companies and with the universities.[263] However, in relation to Invest NI, a lack of specialised technical resource relating to renewable energy arose as an issue.

226. NIAUR stated that there should be a focus on research and development in renewable energy technologies and the development and manufacture of renewable technologies and equipment for export.[264]NIM suggested that government needs to examine support available to SMEs in the renewable energy sector to grow and develop their businesses and local and export markets.[265] Omagh District Council stated that support and assistance offered in Northern Ireland should be at least equal to the best that other EU member states can offer, especially for SMEs in the development and supply of renewable energy technologies.[266]

227. The Joint Business Council provided the following example during its oral evidence to the Committee:

"In 2009, the Joint Business Council held it's plenary in Edinburgh, facilitating the first tripartite energy forum for Northern Ireland, Ireland and Scotland. We brought together the three respective Ministers with the energy remit – Arlene Foster, Eamon Ryan and Jim Mather. On the day, 120 delegates from the energy sector and the wider business community attended, representing industry and government. One of the key outcomes from the summit was that the three regions should assess R&D capability in their respective universities' centres of excellence and work collectively on tripartite research projects; for example, renewables."[267]

Northern Ireland Green New Deal

228. In oral evidence, Invest NI officials suggested to the Committee that the Green New Deal would be a great help to the construction sector. They believe that there is an opportunity on the construction side that can be taken up relatively quickly. DETI officials informed the Committee that they have seen the proposals and believe that there are some interesting and potentially exciting proposals on energy efficiency. They discussed the GB Green New Deal proposals from the Department of Energy and Climate Change and stated that, at the next interdepartmental meeting chaired by the Minister for Social Development, they would be raising the question of how the Northern Ireland Green New Deal, which may require £70 million in Government subvention compares to the GB New Deal which is funded by the private sector.[268] The GB Green New Deal calls for Government to put in place a national plan for a low energy future and relies on a mixture of public and private spending financed through borrowing.[269]

229. The Committee welcomes the statement in the Executive's Draft Budget that the Executive has agreed in principle to engage on the Green New Deal and the news that resources have been set aside accordingly.

Public Buildings and Renewable Energy

230. A number of respondents to the call for evidence suggested that Government needs to take a more active role in the promotion of renewable energy. The JBC suggested that environmental criteria should be taken into account in procurement procedures.[270] Glen Dimplex believes that Government should do more to consider the energy performance of public buildings.[271] Farm Woodlands believes that Government should do more to create awareness among potential users of large quantities of renewable heat in the public sector as well as in the private sector.[272] Northern Ireland Environment Link goes further, stating that Government needs to implement a major programme of renewable energy aimed at achieving a carbon neutral Government Estate by 2020.[273] Delegates at the Committee workshop on renewable energy suggested that Parliament Buildings would be a good place to start such a programme.

Conclusions & Recommendations

Government Vision

231. It is clear that the Department has recognised the need to develop the electricity grid and to increase interconnection to meet its 40% renewable electricity target by 2020. The Moyle Interconnector and the development of the Single Electricity Market is an example of how these needs are being met.

232. The Department informed the Committee that the Strategic Energy Framework is an Executive document however the Committee could see little evidence of a renewable energy vision at Northern Ireland Executive level. The SEF provides targets up to 2020 but beyond this there is no evidence of a longer term vision within DETI. The Committee believes that, although DETI states that the 40% target is not a 'wind' target, there has been almost exclusive focus on wind generated electricity. There is a need for much greater focus on other renewable energy technologies. This is reflected in the assertion of both DETI and DARD that anaerobic digestion is an emerging technology. Having considered the research evidence on other regions such as Denmark, where, according to the Biogas Alliance, 40% of farms have an anaerobic digester,[274] the Committee considers anaerobic digestion to be a well established technology in Denmark and in other regions. It is therefore unacceptable that Northern Ireland, as a region which is so dependent on agriculture and which has huge potential for anaerobic digestion, has fallen so far behind with no commercial facilities in the region. Anaerobic digestion has considerable potential to assist the farming industry to meet EU Nitrates Directive targets. It is

therefore disappointing that consideration is only now being given to providing an appropriate level of incentive, through the NIRO, for its production.

233. Energy from waste is another area which, the Committee believes, has been neglected. Energy from waste provides considerable potential for both heat and electricity and can go a long way to resolving EU targets for reduction in waste going to landfill. The Committee recognises that there is an absence of any clear leadership or policies on energy from waste at regional level. However, members were disappointed that there has not been more drive to establish energy from waste facilities and that the first proposal from Arc21 was rejected by the Council.

234. The Committee believes that these examples demonstrate a lack of vision within Government and a lack of a fully integrated approach to resolving our energy problems and meeting other targets. The Department stated that wind energy has been developed because of what has happened in the market place. The Denmark example suggests otherwise. It suggests that if appropriate incentives and support are provided other technologies can develop. In coming to an understanding of the issues relating to the Northern Ireland renewable energy targets the Committee is reluctant to suggest that there has been too much focus on wind energy. The Committee does however believe that a lack of focus on other technologies has led to Northern Ireland falling behind.

235. The Department has prioritised its actions but has not fully considered the benefits of other renewable energy technologies (which largely fall outside the remit of DETI Energy Division) such as solving landfill and nitrates problems, providing business opportunities and developing and exporting renewable technologies. The Barnett review stated that the Executive must provide clear focus and leadership to the range of energy policy issues as a separate and distinct Government priority. The Committee supports this recommendation and calls on the Executive to provide appropriate leadership in delivering the overall energy agenda by bringing all responsibility for energy policy and strategy under a single Government department (Recommendation 1).

236. The Northern Ireland Executive's lack of long-term vision for renewable energy compared to other countries was highlighted recently when some Committee members met informally with the United Arab Emirates Ambassador to the UK. He pointed members in the direction of the United Arab Emirates Economic Vision 2030 for transforming the country's economy.[275] The vision puts a strong emphasis on value-added knowledge-based industries such as renewable energy and sustainable technologies. Members were concerned that, if an oil rich country such as Abu Dhabi is considering the long-term development of its renewable energy resources up to 2030 and beyond, a region such as Northern Ireland is in serious danger of falling behind if we do not have an agreed vision beyond 2020. Some respondents commented on the need for a long-term all-island vision for renewable energy and, more specifically for renewable electricity. The Department has recognised that such an approach will be essential. The Committee believes that if Northern Ireland is to succeed in developing our indigenous resources for renewable energy for the benefit of the public, business and the local economy, the Executive must develop a long-term vision for renewable energy which includes both an energy perspective and an economic perspective and establishes long-term partnerships to the benefit of Northern Ireland with other devolved administrations in the UK and with the Republic of Ireland, and should, where appropriate, include an all-island dimension for renewable energy (Recommendation 2).

237. The Committee recognises that even if responsibility for energy policy is brought under a single department considerable inter-departmental working will still be required however it believes that such a structure will provide a greater vision and focus for the wide range of renewable energy issues. The Committee further recognises and appreciates the efforts of DETI Energy Division in developing and implementing renewable energy policy on behalf of the

Minister. It is apparent that these efforts have focused on putting in place the infrastructure and incentives to achieve the 40% target for renewable electricity and that, with very limited resources, Energy Division has delivered admirably to date. However, if the Executive considers the development of our indigenous renewable energy resources to be essential to our energy future and if it believes the assertion from Invest NI that there is huge potential for business and employment in renewable energy then it must take action. The Executive must provide more resources and technical expertise to those responsible for developing energy policy to proactively drive the renewable energy agenda and enable the development of policies and strategies to help Northern Ireland progress in those renewable energy areas such as anaerobic digestion, energy from waste, geothermal energy and renewable heat which are underdeveloped in relation to other regions (Recommendation 3). The Committee does not make this recommendation lightly. Members are cognisant of current constraints on public expenditure but are also confident of the high returns that can be achieved through future business opportunities and employment.

Government Policy and Strategy

238. The Committee recognises that the Strategic Energy Framework is a welcome positive step towards our renewable energy future. The absence of any action plan or interim targets between 2012 and 2020 does however indicate a lack of control over outcomes and suggests that the Department could be relying mainly on hope to meet its target. In relation to the Strategic Energy Framework, interim targets should be put in place in order to provide a clear indication of what is achievable and what has been achieved at interim stages and to assist in monitoring progress with the implementation of the Framework (Recommendation 4).

239. The need for an overall vision for renewable energy is reflected in Government policies. Policies are not well integrated. For example, in consideration of the North-South Interconnector the Department gave little consideration to educating the public, politicians or the Planning Service of the need for grid development. Another example is the drive by DARD to gain support for anaerobic digestion and other forms of biomass without the adequate incentives required to stimulate development. UFU's contention that DETI did not have resources to consider support for anaerobic digestion is symptomatic of the lack of an integrated approach. DETI asserts that wind energy was brought forward as the main form of renewable electricity generation because the supply chains are in place. This does not however mean that wind energy should be the only main form of renewable electricity generated. More work needs to be done in the meantime to develop supply chains in other renewable energy technologies. Invest NI believes that the 40% target will provide opportunities for Foreign Direct Investment and for indigenous business however this will not be the case if the focus is almost exclusively on on-shore and off-shore wind generation. The 40% target for electricity consumption from renewable sources by 2020 should include specific stretching targets for electricity from sources other than wind and/or stretching targets for non-wind sources by 2025 and beyond (Recommendation 5). This will not detract from the proposed capacity already in the pipeline but will assist the Department in focusing on other forms of renewable electricity generation and assist in exceeding the overall target. This recommendation is also supported by the recommendation in the Assembly Committee for Agriculture & Rural Development Report (2008) on its inquiry into renewable energy and alternative land use.[276] The Agriculture Committee recommended that steps are taken to ensure the ongoing development of the non-wind renewable energy sector.

240. The fragmented nature of policy on Energy is evidenced by the fact that eight Government departments have some responsibility for energy. There is little evidence of input from the renewable energy sector or from business in the development of Government policy on renewable energy. The main input seems to be in the consultation process after draft policy has been developed. In addition, there is no evidence of integration of regional and local government policies. Whilst SEIDWG is considered beneficial, it is staffed by civil servants who have little

direct experience in the field of renewable energy. For this reason, the Sustainable Energy Interdepartmental working group should be supplemented by a group which includes representatives from the renewable energy sector, business, academia and NILGA to advise on the development of Government policy on renewable energy (Recommendation 6).

241. An example of an area where real possibilities exist now for an integrated approach to the energy agenda leading to the achievement of real benefits is the opportunity to develop anaerobic digestion plants for the co-digestion of wastewater sludge and agricultural material. If DETI's proposals for the level of ROCs for anaerobic digestion are accepted this should further improve the viability of such projects as should any future Renewable Heat Incentive. Northern Ireland is in a unique position where both water and energy are regulated by a single authority (NIAUR) and this should prove advantageous in driving this agenda forward and meeting the needs of Northern Ireland Water through an understanding of what can be achieved from an energy perspective. Northern Ireland Water believes that there is a long and complex process before potential investment in anaerobic digestion becomes a reality. A more integrated approach from Government should help to shorten this time scale considerably. The Executive should consider funding requirements in conjunction with DETI and the potential to generate income through ROCs and a Renewable Heat Incentive; DoE should consider waste management licences; NIAUR should consider licence changes required; and DARD should bring its experience in anaerobic digestion to bear to assist in the process.

242. The assertion that anaerobic digestion will produce only a fraction of the energy needed to operate Northern Ireland Water may have some validity however if it is achieved through co-digestion with agricultural material the level of energy produced should increase significantly. DRD did not produce evidence to the Committee on the amount of energy that could be generated. It should also assist greatly in meeting the needs of the agricultural industry. DETI, DRD, DARD and DoE should work with NIAUR as the Regulator for both water and energy, to conduct research to determine:

i how much energy potential exists for anaerobic digestion through co-digestion of wastewater treatment sludge and agricultural material;

ii the viability of moving quickly to establish anaerobic digestion facilities throughout Northern Ireland which can be used for wastewater treatment sludge and agricultural waste; and

iii the most appropriate means of delivering such anaerobic digestion facilities whether through Northern Ireland Water, private sector contracts or other means (Recommendation 7).

Government Communications

243. It is apparent from the evidence provided to the Committee that the public does not know where to go for information and advice on renewable energy. By the Department's own admission Government needs to educate and communicate with the wider public on renewable energy issues and explain why it is so important. The SEIDWG sub-group on Communications was formed in September 2009 but to date there have been no discernable outcomes. There are currently poor public perceptions in relation to renewable energy. The Committee believes that a great many of these perceptions are unfounded and result from a lack of understanding of renewable energy and its necessity for Northern Ireland's energy future.

244. As outlined earlier there are a large number of agencies, established by Government with responsibility for advising and informing the public and business on energy issues. The Energy Saving Trust provides advice and support on energy saving in the home, low carbon transport, on renewable technologies and on saving water and waste. Action Renewables objectives include

promoting renewable energy, providing information and support, removing barriers and leading and completing relevant research in renewable energy. The Carbon Trust provides specialist support to help business and the public sector cut carbon emissions, save energy and commercialise low carbon technologies. The Northern Ireland Energy Agency activities include promoting action by householders and not-for-profit organisations on energy efficiency, renewable energy, low carbon transport, water and waste. These organisations provide valuable advice and support however there seems to be considerable overlap in their provision. Such a disjointed approach has potential to reduce the consistency and impact of the message on energy in general and on renewable energy in particular and is unlikely to be the best use of valuable resources. DETI should, as a priority, review the structures and mechanisms which have been established to provide advice and support on energy with a view to establishing a single organisation providing consistent, efficient, easily accessible advice and support to business and the public on all energy issues. This organisation should have a section dedicated to developing policy on the dissemination of support, advice and information to the public and business on renewable energy and its importance to the future of Northern Ireland (Recommendation 8).

Incentives for Renewable Energy Production

245. There is still some degree of uncertainty in relation to the long-term future of ROCs. The Department echoed the views of a number of respondents to the Inquiry by acknowledging that investors need more long-term certainty in relation to incentives for renewable energy. However, the Department informed the Committee that, should the need arise, it would not preclude moving away from the NIRO. The Committee understands the need to review any policy and to make changes to policy as and when this is required. However, it is difficult to fully reconcile this with the need for more certainty to encourage developers to invest now. In order to encourage investment now developers must have the certainty of knowing that they will not be in a worse situation in the future than they would have been had they held off for a number of years until incentives improve. The situation with early stage small-scale wind energy producers is a case in point where they receive only 2 ROCs for the energy they produce whilst anybody who waited until April 2010 receives 4 ROCs. It will almost certainly inhibit future development if investors believe that incentives will improve in the future but that they may be tied into a lower level of support were they to invest now. To provide certainty for developers and to encourage and incentivise them to invest now, assurances should be provided that no investor will be worse off by investing now than they would be had they waited. This will require assurances that the incentives provided to future developers will be mirrored for existing developers (Recommendation 9). DETI provided the Committee with assurances in this regard in its answer to a Committee follow-up question on the issue where it stated that, "it is important that any future changes protect those who have already made investments by grandfathering support."[277]

246. In relation to whether ROCs are better than FITs for incentivising renewable energy production, members are content that ROCs are the preferred mechanism for incentivising large-scale renewable energy development. It is clear however that, for small-scale generation, FITs are a better mechanism for securing finance from banks. This is due to the fact that payments are guaranteed and inflation-proofed for up to 20 years. However, DETI's assurances to the Committee in relation to the security of the ROC system and in particular its explanation of the "headroom mechanism" do not seem to be widely known. It is important that DETI educate the financial sector and provide some level of assurances on the long term security of Renewable Energy Certificates so as reassure lenders and stimulate lending to renewable energy investors (Recommendation 10).

247. Members are aware that FITs, if introduced, would be paid for by Northern Ireland consumers whilst ROCs are paid through a UK wide scheme. However it has been recognised in GB, with the introduction of the FIT for small-scale generation, that the Feed-in Tariff

mechanism is the preferred mechanism for incentivising small-scale generation. The Committee does however believe it is essential that the most appropriate opportunities are taken to incentivise small-scale generation. For this reason, DETI should undertake an analysis to determine the costs and benefits to the Northern Ireland economy, business and renewable energy developers of introducing a FIT for small-scale generation along the lines of what has been introduced in GB (Recommendation 11).

248. The Committee considered with interest the various arguments put forward for energy from biomass. Northern Ireland has a considerable indigenous biomass resource however members are of the view that, should policy on energy from biomass concentrate on electricity in the short-term, the result would be a shortage of indigenous biomass resulting in the need for imports. Members believe that, not only would this defeat the purpose of securing our indigenous energy future, it may result in shortages of indigenous biomass to meet the needs of a future Renewable Heat Incentive. This may, in turn, result in difficulties in meeting the target of 10% heat from renewable sources by 2020. This is all the more likely given the current absence of supply chains for indigenous biomass. For this reason, the Committee believes that in the short-term, Government policy on biomass should concentrate on renewable heat to assist in meeting the Strategic Energy Framework target of 10% of heat from renewable sources by 2020. DETI should also give favourable consideration to the Treasury offer of £25 million for a Renewable Heat Incentive for Northern Ireland (Recommendation 12). In making this recommendation the Committee does however recognise that any proposals for a Renewable Heat Incentive will be subject to a full economic appraisal.

Support for the Development of Technologies

249. It is apparent that those countries that are at the forefront of renewable energy generation and production have had early public acceptance of the benefits of renewable energy. Additional drivers for research and development in those countries were security of supply of energy sources and ensuring self sufficiency for energy; the same issues that Northern Ireland is currently facing. The Committee was disappointed in the low level of uptake in Northern Ireland of research and development opportunities under EU Framework Programme 7 and is concerned that, if there is not a change in focus, significant opportunities under EU Framework Programme 8 may also be missed. Government may benefit from looking at the models used for encouraging development, generation and use of renewable energy technologies in other countries such as Denmark, Finland or Germany. DETI must explore the opportunities for enhancing the research funding system in Northern Ireland by benchmarking against leading European regions so as to ensure that Northern Ireland is in a position to take full advantage of opportunities for funding for research and development under EU Framework Programme 8 (Recommendation 13).

Support for Business

250. Most SMEs in the renewable energy sector are not exporting, but if these businesses fail to gain the appropriate levels of support to help them grow and meet the needs of local users of renewable energy products and services, imports may be the result. There should be technical support available in Invest NI, as it would be useful to have that knowledge base to support businesses in the renewable energy sector. The nature of Invest NI support should be reviewed to realise the net benefits that indigenous SMEs can bring to the overall Northern Ireland economy (Recommendation 14).

251. Northern Ireland may benefit if more focus is put on developing skills for the renewable energy sector. This will ensure that the right workforce is in place to fill the jobs created in the sector. As Invest NI continues to identify companies with renewable energy development potential and assists them to develop indigenous renewable energy businesses more emphasis

will have to be put on building internal renewable energy markets and associated skills bases. Key areas include anaerobic digestion, biomass and geothermal energy where Invest NI can help to ensure that incentives do not result in imports of renewable energy products and services in the short-term and that export markets can be developed in the longer-term. In order to achieve this Invest NI should review the technical knowledge and skills available within the organisation so as to ensure that it has the appropriate resources available to support the indigenous renewable energy sector (Recommendation 15).

252. The experience in other European countries has demonstrated that there are benefits to both the public and the economy of making certain renewable technologies mandatory for new builds. The German model seems particularly beneficial in relation to obligation on owners of new buildings in Germany to use renewable energies for heat. The Department of Finance & Personnel should review the costs and benefits of making certain renewable energy technologies mandatory for new builds with a view to bringing forward proposals if feasible (Recommendation 16). This recommendation is reflected in the 2008 Report of the Assembly Committee for Finance & Personnel on the Buildings Regulations (Amendment) Bill.[278] The Committee recommended that the Department for Finance & Personnel keep under review the option of using building regulations to require that a proportion of energy needs of new builds is provided from low/zero carbon systems. The recommendation is also reflected in the Assembly Committee for Agriculture & Rural Development's Inquiry Report (2008) where it recommends that building regulations should be revised to promote the use of renewable energy technologies in all buildings.

253. The Committee believes that the proposals for a Green New Deal Housing Fund will provide a clear and immediate opportunity to give support to both the renewable energy sector and the construction sector here. This view is supported by DETI. The Executive should, as a priority, consider the proposals for a Green New Deal Housing Fund with a view to agreeing how this can be taken forward including the nature and level of Government support required (Recommendation 17).

Grid Infrastructure

254. There is consensus that the current electricity grid needs major reinforcement to meet the 40% target for renewable electricity by 2020. It is apparent that the existing grid will not be able to support the level of renewable electricity which is planned between now and 2020. An upgraded grid is therefore essential for Northern Ireland's energy security, economic development and future potential for energy exports. There is however no published grid infrastructure development plan in place. The Committee considers the absence of a structured approach to grid development to be an obstacle to meeting our future energy needs. A plan for infrastructure development must be prepared and implemented, with all key stakeholders having input into the plan. The timescales for infrastructure development must be included and must plan for the appropriate infrastructure to be in place in time to meet the 40% target for renewable electricity (Recommendation 18).

255. Evidence to the Inquiry has demonstrated that the North-South Interconnector is a vitally important element of infrastructure both from an energy perspective and from an economic perspective. The Denmark experience of electricity interconnection has demonstrated the benefits that it can bring. The Committee is concerned about the Utility Regulator's assertion that the delay in building the Interconnector is costing the Northern Ireland economy approximately £20million per year. It is essential that a decision on the Interconnector is made with the utmost urgency. If the Interconnector is to be built work must commence in time to meet the 2020 target. If the present proposal for an Interconnector is rejected alternatives must be considered at the earliest opportunity. Therefore the Department of the Environment and the Planning Appeals Commission should prioritise the Public Inquiry process so as to ensure that

high priority, key infrastructure projects such as the North-South Interconnector are dealt with as a top priority (Recommendation 19).

Grid Connection

256. It is apparent that grid connection costs for small scale generation are exorbitant and indeed prohibitive for many individuals and businesses. Concerns were also expressed about the lack of clarity on connection costs prior to applicants seeking planning permission for installations. The time taken to connect generators to the grid was also raised as a concern by many respondents however. This is inhibiting small scale generation because the capital costs are considered too high and, in some cases are unknown. If Northern Ireland is to fully meet its potential for developing its renewable electricity resources grid connection fees must be lowered for small scale generators and there must be more clarity around the level of fees that will be charged. The Utility Regulator should review the process for grid connection to ensure that it is fully transparent and costs are fully explained. Connections for installations should be made in a timely fashion, with both parties aware of how long the process is going to take (Recommendation 20).

Planning and Consents

257. The impact that the planning system could have on renewable energy projects and ultimately the impact on the economy must be taken into account when planning applications are considered. There must be consistency in the implementation of policy both on a regional and local level. The Department of the Environment and the Planning Service should ensure that planning policy for renewable energy (PPS 18) is implemented and applied in a consistent manner (Recommendation 21).

258. The Committee recognises that PPS18 and the associated guidance should provide clarity for renewable energy developers and should assist developers in understanding what is required of them in the planning process and help them to deliver accurate planning applications. The Committee believes that given the complexity of some renewable energy installations and the perceptions of third parties, there is a requirement for Planning Service staff to be fully aware of the benefits, the problems and the myths surrounding some emerging renewable energy technologies. In order to inform planning decisions relating to emerging technologies, DETI, DoE and DARD should work with Planning Service to fully inform Planners and to provide clear guidance and advice on the impact of these technologies (Recommendation 22).

259. Other regions have allowed permitted development for domestic renewable energy installations. Such a move in Northern Ireland may create more uptake of small-scale generation for domestic households. Despite DoE having conducted a consultation exercise on permitted development for domestic installations in January 2010, more than a year later, the Committee considers such a delay to be unacceptable. Therefore the Department of the Environment should publish the results of its consultation on permitted development for domestic installations at the earliest opportunity and bring forward proposals as soon as possible (Recommendation 23).

260. The Committee can see no reason why permitted development for renewable energy installations should apply only to domestic users. The Republic of Ireland allows permitted development for business and agriculture installations. The Committee believes that the Department of the Environment should commence a consultation exercise on permitted development for business and agricultural installations with a view to bringing forward proposals for permitted development in these sectors (Recommendation 24).

Public Buildings and Renewable Energy

261. The Committee fully supports the views of some respondents that Government needs to take a more active role in the promotion of renewable energy. The report from Carbon Masters on the impacts of the coalition Government's Carbon Reduction Commitment legislation on organisations in Northern Ireland[279] applies equally to public buildings as it does to business. In order to avoid doubling public sector energy costs over the next five years it is essential that the Executive have a strategy in place to reduce the dependence of public buildings on carbon intensive energy sources.

262. The Committee believes that Government must lead by example and actively consider ways in which public buildings can take advantage of opportunities to for generating heat and electricity from renewable sources. The Executive must bring forward a programme to develop the renewable energy potential of public buildings. This should include targets and time-scales for substantially increasing the deployment of renewable energy right across the public sector (Recommendation 25). The Assembly Committee for the Environment went further than this in its Inquiry into Climate Change. The Committee recommended that the Northern Ireland Government should urgently prepare an action plan with targets for its delivery that will achieve a carbon neutral Government estate by 2015.

[1] www.carbonmasters.co.uk

[2] www.detini.gov.uk/strateic_energy_framework_sef_2010_-3.pdf

[3] Appendix 3. DETI, Written Submission No.1

[4] Appendix 3, DETI, Written Submission No.1

[5] www.planningni.gov.uk/index/policy/policy_publications/planning_statements/pps18/pps18_annex1.htm

[6] Appendix 3, DoE, Written Submission

[7] Appendix 3, DARD, Written Submission No.1: DARD Renewable Energy Action Plan 2010

[8] Appendix 3, DARD, Written Submission No.1: DARD Renewable Energy Action Plan 2010

[9] Appendix 3, DARD, Written Submission No.1: DARD Renewable Energy Action Plan 2010

[10] www.delni.gov.uk/es/key-external-strategies-sustainable-energy

[11] Appendix 3, DEL, Written Submission No.1

[12] www.ofmdfmni.gov.uk/sustainable-development-strategy-lowres__2_.pdf

[13] Appendix 3, DRD, Written Submission

[14] Appendix 3, DETI, Written Submsiion No.1

[15] Appendix 3, DETI, Written Submission No.1

[16] Appendix 3, DETI, Written Submission No.1

[17] Appendix 3, Energy Saving Trust, Written Submission

[18] www.energysavingtrust.org.uk/About-us/What-we-do

[19] Appendix 2, Action Renewables Oral Evidence

[20] www.actionrenewables.org/site/default.asp?catid=4905&parentid=4876

[21] www.nao.org.uk/publications/0708/the_carbon_trust_accelerating.aspx

[22] www.carbontrust.co.uk/about-carbon-trust/who-we-are/pages/default.aspx

[23] www.carbontrust.co.uk/publications/pages/publicationdetail.aspx?id=CTC763

[24] www.nienergyagency.org

[25] www.nienvironmentlink

[26] www.nienvironmentlink.org

[27] www.smartgridireland.org/

[28] www.smartgridireland.org/index.php?option=com_content&view=article&id=8&Itemid=10

[29] www.biomassenergyni.com/index.php?option=com_content&view=article&id=141&Itemid=94

[30] www.biomassenergyni.com/index.php?option=com_content&view=article&id=141&Itemid=94

[31] www.biomassenergyni.com/index.php?option=com_content&view=article&id=141&Itemid=94

[32] www.greennewdealni.org

[33] www.greennewdealni.org

[34] Appendix 3, Invest NI, Written Submission

[35] Appendix 3, Invest NI, Written Submission

[36] Appendix 2, Invest NI Oral Evidence

[37] Appendix 3, NPP, Written Submission

[38] Appendix 2, NPP Oral Evidence

[39] Appendix 2, Invest NI Oral Evidence

[40] Appendix 2, University of Ulster Oral Evidence

[41] Appendix 3, DARD Written Submission No.1: DARD Renewable Energy Action Plan 2010

[42] www.ofgem.gov.uk/Media/PressRel/Documents1/RO_Buy-Out_price_2010_11_FINAL_FINAL.pdf

[43] Appendix 4, Assembly Research Paper, "Incentivising renewable electricity – a comparison of Renewable Obligation Certificates and Feed-in tariffs"

[44] Appendix 4, Assembly Research Paper, "Renewable generation data and policy eithin selected EU countries"

[45] Appendix 4, Assembly Research Paper, "Incentivising renewable electricity – a comparison of Renewable Obligation Certificates and Feed-in tariffs"

[46] Appendix 4, Assembly Research Paper, "Incentivising renewable electricity – a comparison of Renewable Obligation Certificates and Feed-in tariffs"

[47] Appendix 4, Assembly Research Paper, "Incentivising renewable electricity – a comparison of Renewable Obligation Certificates and Feed-in tariffs"

[48] www.tem.fi/?89521_m=100632&l=en&s=2471

[49] www.dcenr.gov.ie/Energy/Sustainable+and+Renewable+Energy+Division/Electricity+from+Renewables+inc+REFIT+and+AER.htm

[50] www.rhincentive.co.uk

[51] Appendix 2, DETI Oral Evidence, 2nd December 2010

[52] Appendix 4, Assembly Research Paper, "Renewable Energy: Planning"

[53] Appendix 4, Assembly Research Paper, "Renewable Energy: Planning"

[54] Appendix 4, Assembly Research Paper, "Renewable Energy – Grid Connection"

[55] Appendix 4, Assembly Research Paper, "Renewable Energy – Grid Connection"

[56] Appendix 4, Assembly Research Paper, "Renewable Energy – Grid Connection"

[57] Appendix 4, Assembly Research Paper, "Renewable Energy – Governance Structures"

[58] Appendix 4, Assembly Research Paper, "Renewable Energy – Governance Structures"

[59] Appendix 4, Assembly Research Paper, "Renewable Energy – Governance Structures"

[60] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[61] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[62] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[63] Appendix 4, Assembly Research Paper, "Incentivising renewable electricity – a comparison of Renewable Obligation Certificates and Feed-in tariffs"

[64] Appendix 3, WWF NI, Written Submission

[65] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[66] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[67] www.greenenergyact.ca/Page.asp?PageID=122&ContentID=1025&SiteNodeID=228

[68] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[69] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[70] Appendix 3, Green Energy 4U, Written Submission

[71] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[72] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[73] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[74] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[75] Appendix 3, NIE Energy Supply, Written Submission

[76] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[77] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[78] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[79] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[80] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[81] Appendix 4, Assembly Research Paper, "Incentivising renewable electricity – a comparison of Renewable Obligation Certificates and Feed-in tariffs"

[82] Appendix 3, Ulster Farmers Union, Written Submission

[83] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[84] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[85] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[86] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[87] Appendix 4, Assembly Research Paper, "Renewable Energy – Governance Structures"

[88] Appendix 4, Assembly Research Paper, "Renewable Energy – Governance Structures"

[89] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[90] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[91] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[92] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[93] www.tem.fi/?89521_m=100632&l=en&s=2471

[94] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[95] Appendix 4, Assembly Research Paper, "Renewable generation data and policy within selected EU countries"

[96] Appendix 2, Action Renewables Oral Evidence

[97] Appendix 3, University of Ulster, Written Submission

[98] Appendix 2, Joint Business Council Oral Evidence

[99] Appendix 2, Action Renewables Oral Evidence

[100] Appendix 2, Ulster Farmers Union Oral Evidence

[101] Appendix 2, DETI Oral Evidence, 2nd December 2010

[102] Appendix 3, NPP, Written Submission

[103] Appendix 3, John Simpson, Written Submission

[104] Appendix 3, DETI, Written Submission No.1

[105] Appendix 3, NIM, Written Submission

[106] Appendix 3, DETI, Written Submission No.1

[107] Report on the Independent Review of Economic Policy, page 72, paragraph 3.93

[108] Appendix 3, University of Ulster, written Submission

[109] Appendix 2, University of Ulster Oral Evidence

[110] Appendix 3, Green Energy 4U, Written Submission

[111] Appendix 3, NPP, Written Submission

[112] Appendix 2, JBC Oral Evidence

[113] Appendix 3, Rural Generation Ltd, Written Submission

[114] Appendix 2, University of Ulster Oral Evidence

[115] Appendix 2, Action Renewables Oral Evidence

[116] Appendix 3, Belfast City Council, Written Submission

[117] Appendix 3, NIAUR, Written Submission No.1

[118] Appendix 3, Rural Generation Ltd, Written Submission

[119] Appendix 2, Action Renewables Oral Evidence

[120] Appendix 3, Northern Ireland Renewables Industry Group, Written Submission

[121] Appendix 3, NIE Energy Supply, Written Evidence

[122] Appendix 2, NPP Oral Evidence

[123] Appendix 3, Green Energy 4U, Written Submission

[124] Appendix 3, DETI Written Submission No.1

[125] Appendix 2, JBC Oral Evidence

[126] Appendix 2, DETI Oral Evidence, 2nd December 2010

[127] Appendix 3, University of Ulster, Written Submission

[128] Appendix 3, Lisburn City Council, Written Submission

[129] Appendix 3, NIE Energy, Written Submission

[130] Appendix 3, GT Energy, Written Submission

[131] Appendix 2, DETI Oral Evidence, 2nd December 2010

[132] Appendix 3, Rural Generation Ltd, Written Evidence

[133] Appendix 3, NIEL, Written Evidence

[134] Appendix 2, DETI Oral Evidence, 2nd December 2010

[135] Appendix 3, University of Ulster, Written Evidence

[136] Appendix 2, Ulster Farmers Union Oral Evidence

[137] Appendix 3, Carbon Trust, Written Submission

[138] Appendix 3, Michael Coyle, Written Submission

[139] Appendix 3, NIE Energy, Written Submission

[140] Appendix 2, Ulster Farmers Union Oral Evidence

[141] Appendix 2, Biogas Alliance Oral Evidence

[142] Appendix 3, Northern Ireland Energy Agency, Written Submission

[143] Appendix 2, Action Renewables Oral Evidence

[144] Appendix 3, DETI, Written Submission No.2

[145] Appendix 3, JBC, Written Submission

[146] Appendix 2, JBC Oral Evidence

[147] Appendix 2, DETI Oral Evidence 2nd December 2010

[148] Appendix 3, ESB Wind, Written Submission

[149] Appendix 3, B9 Energy, Written Submission

[150] Appendix 3, GT Energy, Written Submission

[151] Appendix 2, Ulster Farmers Union Oral Evidence

[152] Appendix 2, Biogas Alliance Oral Evidence

[153] Appendix 3, DETI, Written Submission No.1

[154] Appendix 3, DARD, Written Submission No.1: DARD Renewable Energy Action Plan

[155] Appendix 3, DETI, Written Submission No.1

[156] Appendix 3, DARD Oral Evidence

[157] Appendix 2, DETI Oral Evidence, 9th December 2010

[158] Appendix 3, Michael Coyle, Written Submission

[159] Appendix 3, Green Party, Written Submission

[160] Appendix 2, DETI Oral Evidence, 9th December 2010

[161] Appendix 3, RSPB, Written Submission

[162] Appendix 3, Farm Woodland, Written Submission

[163] Appendix 3, Ulster Farmers Union, Written Submission

[164] Appendix 2, Ulster Farmers Union Oral Evidence

[165] Appendix 2, GT Energy Oral Evidence

[166] Appendix 2, University of Ulster Oral Evidence

[167] Appendix 2, JBC Oral Evidence

[168] Appendix 3, RSPB, Written Submission

[169] Appendix 3, NIEL, Written Submission

[170] Appendix 2, DETI Oral Evidence, 2nd December 2010

[171] www.arc21.org.uk

[172] Appendix 2, DETI Oral Evidence, 2nd December 2010

[173] Appendix 2, GT Energy Oral Evidence

[174] Appendix 3, DETI, Written Evidence No.1

[175] Appendix 2, DETI Oral Evidence, 9th December 2010

[176] Appendix 3, Ulster Farmers Union, Written Submission

[177] Appendix 3, Biomass Energy Northern Ireland, Written Submission

[178] Appendix 3, Glen Dimplex, Written Submission

[179] Appendix 3, Omagh District Council, Written Submission

[180] Appendix 3, ESB International, Written Submission

[181] Appendix 3, NIEA, Written Submission

[182] Appendix 3, NPP, Written Submission

[183] Appendix 3, NIE Energy, Written Submission

[184] Appendix 3, RSPB, Written Submission

[185] Appendix 3, Lisburn City Council, Written Submission

[186] Appendix 3, Rural Generation Ltd, Written Submission

[187] Appendix 3, NIAUR, Written Submission

[188] Appendix 3, JBC, Written Submission

[189] Appendix 3, NIM, Written Submission

[190] Appendix 3, NIAUR, Written Submission

[191] Appendix 3, JBC, Written Submission

[192] Appendix 2, Action Renewables Oral Evidence

[193] Appendix 3, WWF NI, Written Submission

[194] Appendix 3, ESB International, Written Submission

[195] archive.niassembly.gov.uk/environment/2007mandate/reports/2009/report_24_09_10r_vol1.htm

[196] Appendix 2, Action Renewables Oral Evidence

[197] Appendix 3, Green Party, Written Submission

[198] Appendix 2, NIE Oral Evidence

[199] Appendix 3, Lisburn City Council, Written Submission

[200] Appendix 3, DETI, Written Submission No.1

[201] Appendix 2, DETI, Written Submission No.2

[202] Appendix 3, NIE Energy, Written Submission

[203] Appendix 3, JBC, Written Submission

[204] Appendix 3, ESB International, Written Submission

[205] Appendix 3, Ulster Farmers Union, Written Submission

[206] Appendix 3, NIEA, Written Submission

[207] Appendix 3, JBC, Written Submission

[208] Appendix 2, NIE Oral Evidence

[209] Appendix 2, NIE Oral Evidence

[210] Appendix 2, NIAUR Oral Evidence

[211] Appendix 2, DETI Oral Evidence, 2nd December 2010

[212] Appendix 2 DOE, Written Submission

[213] Appendix 3, NI Renewables Industry Group, Written Submission

[214] Appendix 3, Ulster Farmers Union Written Submission

[215] Appendix 3, NPP, Written Submission

[216] Appendix 2, NIE Oral Evidence

[217] Appendix 2, NIE Oral Evidence

[218] Appendix 3, NIAUR, Written Submission No.2

[219] www.nie.co.uk/suppliers/pdfs/Distribution_Code_1_May_2010.pdf

[220] Appendix 4, Assembly Research Paper, "NIE Distribution Code"

[221] Appendix 3, NPP, Written Submission

[222] Appendix 2, NIE Oral Evidence

[223] Appendix 3, NIAUR, Written Submission No.1

[224] Appendix 3, NI Renewables Industry Group, Written Submission

[225] Appendix 3, JBC, Written Submission

[226] Appendix 3, John Simpson, Written Submission

[227] Appendix 3, University of Ulster, Written Submission

[228] Appendix 2, GT Energy Oral Evidence

[229] Appendix 3, ESB Wind, Written Submission

[230] Appendix 3, RSPB, Written Submission

[231] Appendix 3, NI Renewables Industry Group, Written Submission

[232] Appendix 3, NIEL, Written Submission

[233] Appendix 3, Green Energy 4U, Written Submission

[234] Appendix 3, Green Energy 4U, Written Submission

[235] Appendix 3, Ulster Farmers Union, Written Submission

[236] Appendix 3, Lisburn City Council, Written Submission

[237] Appendix 3, Belfast City Council, Written Submission

[238] Appendix 3, NI Assembly Committee for Regional Development, Written Submission

[239] Appendix 2, DOE Oral Evidence

[240] Appendix 2, DOE, Written Submission

[241] Appendix 3, NIE Energy, Written Submission

[242] Appendix 3, Carbon Trust, Written Submission

[243] Appendix 3, JBC, Written Submission

[244] Appendix 3, DRD, Written Submission

[245] Appendix 3, Belfast City Council, Written Submission

[246] Appendix 3, NIEA, Written Submission

[247] Appendix 2, DoE Oral Evidence

[248] Appendix 3, WWF NI, Written Submission

[249] Appendix 3, NIM, Written Submission

[250] Appendix 3, Glen Dimplex, Written Submission

[251] Appendix 3, Green Party, Written Submission

[252] Appendix 3, Green Energy 4U, Written Submission

[253] Appendix 2, DoE Oral Evidence

[254] Appendix 3, Written Submission

[255] Appendix 3, University of Ulster, Written Submission

[256] Appendix Carbon Trust, Written Submission

[257] Appendix 2, JBC Oral Evidence

[258] Appendix 3, JBC, Written Submission

[259] Appendix 2, NIM Oral Evidence

[260] Appendix 2, NIM Oral Evidence

[261] Appendix 2, NPP Oral Evidence

[262] Appendix 2, Action Renewables Oral Evidence

[263] Appendix 3, Glen Dimplex, Written Submission

[264] Appendix 3, NIAUR, Written Submission No.1

[265] Appendix 3, NIM Written Submission

[266] Appendix 3, Omagh District Council, Written Submission

[267] Appendix 2, JBC Oral Evidence

[268] Appendix 2, DETI Oral Evidence, 2nd December 2010

[269] www.greennewdealgroup.org

[270] Appendix 3, JBC, Written Submission

[271] Appendix 3, Glen Dimplex, Written Submission

[272] Appendix 3, Farm Woodlands, Written Submission

[273] Appendix 3, NIEL, Written Submission

[274] Appendix 2, Biogas Alliance Oral Evidence

[275]www.masdar.ae/masdar2010/en/Brochures/Index.aspx?Type=BR&MenuID=55&CatID=94&SubcatID=68&mnu=SubCat

[276] archive.niassembly.gov.uk/agriculture/2007mandate/reports/390708R.htm

[277] Appendix 3, DETI, Written Submission No.2

[278] archive.niassembly.gov.uk/finance/2007mandate/reports/report23_07_08r.htm

[279] www.carbonmasters.co.uk

Appendix 1

Minutes of Proceedings Relating to the Report

Appendix 1 – Minutes of Proceedings (Extracts)

3 June 2010

10 June 2010

17 June 2010

24 June 2010

1 July 2010

16 September 2010

23 September 2010

30 September 2010

7 October 2010

14 October 2010

21 October 2010

4 November 2010

11 November 2010

18 November 2010

25 November 2010

2 December 2010

9 December 2010

16 December 2010

13 January 2011

20 January 2011

27 January 2011

Thursday, 3 June 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Ms Jennifer McCann
Mr Daithí McKay
Mr Gregory Campbell MP
Mr Sean Neeson
Mr Gerry McHugh

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr Jim Nulty (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies: Mr Stephen Moutray
Dr Alasdair McDonnell MP
Mr Leslie Cree

10.49am The meeting began in closed session.

4. Matters arising from 20 May meeting

Members discussed papers and notes from the Committee's meetings and visits in Europe as well as copies of the presentations received from the Blue Tower Project and the Soultz Geothermal Plant.

Agreed: Members agreed to an inquiry into renewable energy.

Agreed: Clerk to draft the terms of reference and members to consider at next week's meeting.

[EXTRACT]

Thursday, 10 June 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Dr Alasdair McDonnell MP
Mr Gregory Campbell MP
Mr Stephen Moutray
Mr Leslie Cree
Mr Sean Neeson
Mr Gerry McHugh

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr Jim Nulty (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies: Ms Jennifer McCann

10.33am The meeting began in closed session.

4. Matters arising from 3 June 2010 meeting

Members discussed the draft terms of reference for the Committee's renewable energy inquiry.

Agreed: Content with the terms of reference.

Agreed: To consider a draft public notice for a call for evidence at next week's meeting.

Agreed: Clerk to draft a pro forma for stakeholders to complete when sending evidence the Committee.

[EXTRACT]

Thursday, 17 June 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Daithí McKay
Dr Alasdair McDonnell MP
Mr Gregory Campbell MP
Mr Stephen Moutray
Mr Leslie Cree
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr Jim Nulty (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies: Ms Jennifer McCann

10.39am The meeting began in public session.

Members discussed the pro- forma, letter and public notice for the renewable energy inquiry pro-forma and public notice.

Agreed: To send the pro-forma to business stakeholders for response to the inquiry.

Agreed: To send the letter to non-business stakeholders for response to the inquiry.

Agreed: Content with the public notice and the 6-week consultation period.

[EXTRACT]

Thursday, 24 June 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Ms Jennifer McCann
Dr Alasdair McDonnell MP
Mr Gregory Campbell MP
Mr Gerry McHugh
Mr Leslie Cree
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)

Mr Jim Nulty (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies: Mr David Simpson MP
Mr Stephen Moutray

10.03am The meeting began in public session.

5. Renewable Energy Inquiry: Written briefing

Members discussed the written briefing, including an Assembly Research Paper following the Committee's renewable energy event in May, an extract from the scoping report for a strategic environmental assessment for the Strategic Action Plan for Onshore Renewable Electricity Generation and press articles relating to renewable energy.

Agreed: To post the Assembly Research Paper on the Committee website and email the link to the organisations that participated in the Committee's Renewable Energy Seminar.

12.18pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 1 July 2010
Room 144, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Gregory Campbell MP
Mr Paul Frew
Mr Sean Neeson
Mr Gerry McHugh

In Attendance: Mr Jim McManus (Assembly Clerk)
Mr Jim Nulty (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)
Ms Alison Ferguson (Clerical Officer)

Apologies: Mr Paul Butler (Deputy Chairperson)
Ms Jennifer McCann
Mr Leslie Cree

10.37am The meeting began in public session.

3. Matters arising from meeting on the 24 June 2010.

Members discussed an Assembly Research Paper regarding the Committee's visit to Europe.

Agreed: To post the paper to the ETI Committee website and include in the Inquiry report into Renewable Energy.

Members discussed papers from KEDCO Energy detailing the potential for anaerobic digestion in Northern Ireland.

Agreed: To note and consider this information during consideration of evidence for the Committee's renewable energy inquiry.

Members discussed a press article stating the Ulster Farmers' Union welcomes the announcement of the Renewable Energy Action Plan.

Agreed: To invite DARD and DoE to provide oral evidence to the Committee as part of the renewable energy inquiry.

12.08pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 16 September 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Ms Claire McGill
Mr Gerry McHugh
Dr Alasdair McDonnell
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr Michael Greer (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

10.35am The meeting began in public session.

9. Renewable Energy Inquiry: Written briefing

Members discussed the written briefing.

Agreed: To invite the Department, Invest NI and the Utility Regulator to provide oral evidence on the Inquiry.

Agreed: To invite the Department of Environment (DoE) and the Department for Agriculture and Rural Development (DARD) to provide oral evidence on the Inquiry.

Agreed: Members to take time to analyse responses before deciding which additional issues to consider as key issues for the Inquiry and which other organisations to invite to provide oral evidence to the Committee.

Agreed: To request relevant information from the Committee for ARD from its Renewable Energy Inquiry and from the Committee for Environment from its Climate Change Inquiry.

Agreed: To invite GT Energy to provide oral evidence to the Committee regarding deep geothermal energy as part of the Inquiry.

1.07pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 23 September 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Ms Claire McGill
Mr Gerry McHugh
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Ms Tara McKee (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

10.35am The meeting began in public session.

5. Matters arising from meeting on 16 September 2010

Members discussed a letter from the Minister regarding a renewable heat incentive (RHI).

Agreed: That the Department address renewable heat during its oral evidence to the Committee on the Renewable Energy Inquiry.

Members discussed the Renewable Energy Inquiry.

Agreed: To decide which organisations to invite to the Committee for oral evidence at next week's meeting.

12.32pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 30 September 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Leslie Cree
Mr Paul Frew

Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Ms Claire McGill
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Ms Tara McKee (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

10.35am The meeting began in public session.

8. Renewable Energy Inquiry: Written briefing

1.06pm Paul Frew rejoined the meeting.

Members discussed the written briefing.

Agreed: To invite the organisations listed in the briefing paper to provide oral evidence to the Committee on the Inquiry.

1.19pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 7 October 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mr Gerry McHugh
Ms Claire McGill
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Ms Tara McKee (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies: Mr Leslie Cree

10.35am The meeting began in public session.

6. Renewable Energy Inquiry – Research Paper: Research briefing from Assembly Research

11.33am Sean Neeson left the meeting.

11.35 The Assembly Research Officer joined the meeting.

Members received a research briefing from the Assembly Research Officer. Key issues included Renewable Obligation Certificates (ROCs) and Feed-in Tariffs (FITs).

11.45am William Irwin rejoined the meeting.

11.48am Paul Frew rejoined the meeting.

12.06pm Paul Givan left the meeting.

12.07pm The Assembly Research Officer left the meeting.

Agreed: Committee Office to organise an informal meeting for members and Departmental officials regarding the Strategic Energy Framework.

Agreed: To receive the organisational structure of the DETI Energy Branch in advance of the meeting.

12.08pm Paul Frew left the meeting.

1.00pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 14 October 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mr Gerry McHugh
Ms Claire McGill
Mr Sean Neeson
Mr Leslie Cree

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Ms Tara McKee (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

10.40am The meeting began in public session.

4. Renewable Energy Inquiry – Oral evidence from Action Renewables

10.46am Michael Doran joined the meeting.

Members received an oral briefing from Michael Doran, Director, Action Renewables. Key issues discussed included Government's policies on renewable energy, incentives for renewable energy, electricity grid infrastructure requirements in Northern Ireland and planning issues for renewable energy.

10.47am Jennifer McCann joined the meeting.

10.56am Sean Neeson joined the meeting.

10.58am William Irwin joined the meeting.

11.27am Alasdair McDonnell joined the meeting.

11.40am Paul Givan left the meeting.

11.45am Michael Doran left the meeting.

Agreed: To commission Assembly Research regarding:

- Comparisons of planning application costs and timing between NI, GB and Republic of Ireland (RoI).
- Comparisons of grid connection costs between Germany, Denmark, NI, GB and RoI including rationale of costs and details of subsidies (if available).

5. Renewable Energy Inquiry – Oral evidence from Ulster Farmer's Union (UFU)

11.50am Officials joined the meeting.

Members received an oral briefing from David McElrea, Chairman, UFU Rural Enterprise Committee, Wesley Aston, UFU Policy Director and Chris Osborne, UFU Policy Officer. Key issues discussed included Government's policies on renewable energy, planning issues for renewable energy and anaerobic digestion.

1.22pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 21 October 2010
Room 30, Parliament Buildings

Present: Mr Paul Butler (Deputy Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan

Ms Claire McGill
Mr Gerry McHugh
Mr Sean Neeson

In Attendance: Dr Kevin Pelan (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Ms Michelle McDowell (Clerical Officer)
Mr Dominic O'Farrell (Clerical Officer)

Apologies: Mr Alban Maginness (Chairperson)
Mr William Irwin
Ms Jennifer McCann

10.33pm The meeting began in closed session.

5. Renewable Energy Inquiry – Oral evidence from GT Energy

10.58am GT Energy officials joined the meeting.

Members received an oral briefing from Michael Doran, Executive Director, Action Renewables and Padraig Hanly, Executive Director of GT Energy. Key issues discussed included geothermal energy, renewable heat incentives and renewable obligation certificates (ROCs) vs. Feed-In Tariffs (FITs).

11.25am Paul Givan joined the meeting.

11.27am GT Energy officials left the meeting.

6. Renewable Energy Inquiry – Oral evidence from IBEC-CBI Joint Business Council

11.29am IBEC-CBI Joint Business Council officials joined the meeting.

Members received an oral briefing from Nigel Smyth, Director and Kirsty McManus, Programme Manager, CBI Northern Ireland. Key issues discussed included renewable energy incentives, micro-generation and planning issues.

12.06pm IBEC-CBI Joint Business Council officials left the meeting.

Agreed: To receive, from the Department, a summary of the progress and organisations represented on the sustainable energy working group.

7. Economic Appraisal of New Export Initiative: Written briefing

12.20pm The Deputy Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 4 November 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mr Gerry McHugh
Ms Claire McGill
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Ashleigh Mitford (Assistant Clerk)
Ms Pauline Devlin (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies: Mr Leslie Cree

10.12am The meeting began in public session.

5. Renewable Energy Inquiry – Oral evidence from NPP MicrE and NPP SMALLEST projects

10.25am Officials joined the meeting.

Members received an oral briefing from David Hanna, Derek Bond, The University of Ulster (Department of Business, Retail &Financial Services in Coleraine), Leanne Rice, Action Renewables and Nick Lyth, International Resources and Recycling Institute. Key issues discussed included knowledge and skills of those providing expert advice on renewable energy; government support for the renewable energy sector; and planning delays and connection costs for renewable energy installations.

10.35am Mr McHugh and Mr Givan joined the meeting.

10.45am Ms McCann joined the meeting

Agreed: Mr Lyth agreed to provide a copy of a research paper to the Committee.

11.14am Dr McDonnell joined the meeting

Agreed: Officials agreed to provide written responses to further questions.

11.25am Officials left the meeting.

6. Renewable Energy Inquiry – Oral evidence from University of Ulster Centre for Sustainable Technologies

11.25am Professor Hewitt joined the meeting.

Members received an oral briefing from Professor Hewitt, University of Ulster Centre for Sustainable Technologies. Key issues discussed included a strategic approach to renewable

energy from government; the possibility of "zoning" for renewable energy installations; and incentives for renewable energy.

11.55am Professor Hewitt left the meeting.

1.15pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 11 November 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mr Gerry McHugh
Ms Claire McGill

In Attendance: Mr Jim McManus (Assembly Clerk)
Miss Karen Jardine (Assistant Clerk)
Ms Michelle McDowell (Clerical Officer)
Ms Dagmar Walgraeve (Clerical Officer)

Apologies: Mr Paul Butler (Deputy Chairperson)
Mr Sean Neeson
Mr Leslie Cree

10.07am The meeting began in public session.

2. Renewable Energy Inquiry – Oral evidence from Invest NI

10.10am Officials joined the meeting.

Members received an oral briefing from Olive Hill and Nigel McClelland, Invest NI. The evidence session was recorded by Hansard. Key issues discussed included the active approach of Invest NI in the development of a renewable sector; key areas of development opportunity; challenges to growth in the sector; potential for employment and the prospects for foreign direct investment.

10.26am Dr McDonnell joined the meeting.

10.32am Mr Givan left the meeting.

10.36am Mr Givan returned to the meeting.

Agreed: Officials agreed to provide written responses to further questions.

10.38am Officials left the meeting.

10.38am Ms McGill left the meeting.

5. Renewable Energy Inquiry – Oral evidence from Department of Environment

11.44am Officials joined the meeting.

Members received an oral briefing from Tom Clarke, Stephen Hamilton, and Brendan Forde, DoE. The evidence session was recorded by Hansard. Key issues discussed included planning policy guidance; timing of planning decisions and rates of approval; climate change; and the connection of renewable energy sources to the National Grid.

11.53am Mr Irwin left the meeting.

12.56pm Mr Frew left the meeting.

Agreed: Officials agreed to provide written responses to any further questions.

12.57pm Officials left the meeting.

12.58pm The Chairperson suspended the meeting.

12.59pm The Chairperson resumed the meeting.

12.59pm Mr Irwin returned to the meeting.

1.05pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 18 November 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mr Gerry McHugh
Ms Claire McGill
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Ms Alison Ferguson (Clerical Officer)
Ms Michelle McDowell (Clerical Officer)

Apologies: Mr Paul Butler (Deputy Chairperson)

10.35am The meeting began in public session.

4. Renewable Energy Inquiry - Oral evidence from Northern Ireland Electricity (NIE)

10.46am NIE officials joined the meeting.

11.01am Dr Alasdair McDonnell joined the meeting.

11.05am Jennifer McCann left the meeting.

Members received an oral briefing from Billy Graham, Chief Operating Officer, NIE, David de Casseres, Director, Transmission Projects and Bronagh Lunney, Generation Connections Manager. Key issues discussed included grid connections costs, the planning process required for connections and renewable energy installations and the investment required in the grid infrastructure.

11.43am NIE officials left the meeting.

11.43am Paul Givan left the meeting.

5. Renewable Energy Inquiry - Oral evidence from NI Manufacturing (NIM)

11.45am NIM officials joined the meeting.

12.10pm Sean Neeson left the meeting.

Members received an oral briefing from Richard Hogg, Managing Director, Limavady Gear Co., Joe Donaldson, Managing Director, Environmental Fabrications and Bryan Gray, Chief Executive, NI Manufacturing. Key issues discussed included incentives for renewable energy, possibilities for attracting foreign-direct investment in relation to renewable energy and barriers to growth in the SME sector in relation to renewable energy.

Agreed: To commission Assembly Research on the local/national government structures in those countries that lead on renewable energy development and use.

12.27pm Paul Frew left the meeting.

12.27pm Officials left the meeting.

The Committee agreed to consider agenda item 7 next.

1.26pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 25 November 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Ms Claire McGill
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr David McKee (Clerical Supervisor)
Ms Alison Ferguson (Clerical Officer)

Apologies: Mr Paul Butler (Deputy Chairperson)
Mr Gerry McHugh

10.37am The meeting began in closed session.

1. Renewable Energy Inquiry

Members discussed the renewable energy inquiry.

10.50am Sean Neeson joined the meeting.

10.57am Jennifer McCann left the meeting.

10.59am Dr Alasdair McDonnell joined the meeting.

Agreed: To begin next week's meeting at 10am.

11.19am The meeting moved into public session.

5. Renewable Energy Inquiry: Oral Evidence from NI Authority for Utility Regulation

12.00pm NIAUR officials joined the meeting.

Members received an oral briefing from Iain Osborne, Sarah Brady and Tanya Wishart, NIAUR. Key issues discussed included interconnection needs, Renewable Obligation Certificates (ROCs) vs. Feed-in Tariffs (FITs) and benefits of small scale vs. large scale generation.

12.39pm Dr Alasdair McDonnell left the meeting.

12.43pm NIAUR Officials left the meeting.

12.45pm Claire McGill left the meeting.

12.54pm The Chairperson adjourned the meeting.

[Extract]

Thursday, 2 December 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Ms Claire McGill
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr David McKee (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies: Mr Leslie Cree
Mr Paul Butler (Deputy Chairperson)

10.23am The meeting began in public session.

4. Renewable Energy Inquiry - Oral evidence from the Department for Agriculture and Rural Development

10.55am DARD officials joined the meeting.

Members received an oral briefing from Liam McKibben, Assistant Secretary, Director of Fisheries and Climate Change Division and Joyce Rutherford, Deputy Principal, Climate Change and Renewable Energy Branch. Key issues discussed included support available to renewable energy developments, cross-departmental communication regarding renewable energy and anaerobic digestion.

11.14am Paul Frew left the meeting.

Agreed: To receive an indicative list of those farms/forestry enterprises meeting their own energy needs.

Agreed: To receive a list of any biomass schemes that are currently operational in Northern Ireland.

Agreed: To receive a list of those individuals/organisations that have received grants to develop an anaerobic digestion installation.

11.35am DARD officials left the meeting.

5. Renewable Energy Inquiry - Oral evidence from the Department for Enterprise, Trade and Investment

11.37am DETI officials joined the meeting.

Members received an oral briefing from Olivia Martin and Alison Clydesdale, Energy Division, Fiona Hepper, Assistant Secretary, Head of DETI Energy Division and David Thomson, Deputy Secretary of DETI Policy Group. Key issues discussed included the Strategic Energy Framework, financing of renewable energy (incentives), the grid infrastructure and renewable heat.

11.59am Sean Neeson left the meeting.

12.35pm Paul Givan left the meeting.

Agreed: DETI officials to continue oral evidence on the inquiry at next week's meeting.

12.40pm DETI officials left the meeting.

12.49pm The Chairperson adjourned the meeting.

[Extract]

Thursday, 9 December 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Ms Claire McGill
Mr Gerry McHugh
Mr Sean Neeson
Mr Leslie Cree

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr David McKee (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies: Mr Paul Butler (Deputy Chairperson)
Dr Alasdair McDonnell

10.39am The meeting began in closed session.

1. Renewable Energy Inquiry - Consideration of Recommendations

Members discussed the draft report of the Renewable Energy Inquiry with the key issues and findings from the written and oral evidence received thus far.

10.44am William Irwin joined the meeting.

11.00am Jennifer McCann joined the meeting.

11.05am Paul Givan joined the meeting.

11.18am William Irwin left the meeting.

11.25am Paul Frew left the meeting.

Agreed: To write to those organisations that gave evidence to the Committee to obtain the required additional information for the report.

6. Renewable Energy Inquiry - Oral evidence from the Department for Enterprise, Trade and Investment

12.28pm DETI Officials joined the meeting.

Members received an oral briefing from Olivia Martin, Alison Clydesdale and Fiona Hepper, DETI Energy Division and David Thomson, Deputy Secretary of DETI Policy Group. Key issues discussed included the grid infrastructure, a renewable heat incentive in NI and planning.

12.34pm Paul Givan rejoined the meeting.

1.05pm DETI officials left the meeting.

Members agreed to return to agenda item 5 next.

1.12pm The Chairperson adjourned the meeting.

[Extract]

Thursday, 16 December 2010
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Mr Leslie Cree
Dr Alasdair McDonnell
Ms Claire McGill
Mr Gerry McHugh

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr David McKee (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies: Mr Paul Butler (Deputy Chairperson)
Ms Jennifer McCann
Mr Sean Neeson

10.41am The meeting began in public session.

12.15pm The meeting went into closed session to allow consideration of the renewable energy inquiry.

9. Renewable Energy Inquiry: Written briefing

Members discussed the Renewable Energy Inquiry.

Agreed: Content with the proposed timeline for completion of the Inquiry.

Agreed: Content with follow-up questions to organisations that gave evidence to the Committee.

Agreed: Content to host en event in the Long Gallery to launch the inquiry report to the public.

12.20pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 13 January 2011
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Ms Claire McGill
Mr Gerry McHugh
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr David McKee (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies:

10.37am The meeting began in public session.

12. Renewable Energy Inquiry: Draft Report

Members discussed the Renewable Energy Inquiry.

Agreed: To consider a further draft of the report at next week meeting with the amendments to the paragraphs under the conclusions and recommendations.

12.34pm Sean Neeson left the meeting.

1.26pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 20 January 2011
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Ms Claire McGill
Mr Gerry McHugh

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr David McKee (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

10.45am The meeting began in public session.

12.26pm The meeting went into closed session to allow consideration of the Hydrocarbons Licensing Directive – Outcome of Petroleum License Applications and the renewable energy inquiry.

13. Renewable Energy Inquiry: Draft Report

Members discussed the Renewable Energy Inquiry.

Agreed: To agree the final version of the report at next week's meeting.

Agreed: Content with the motion on the debate of the report in the Assembly.

Agreed: Content with the proposed speakers for the Inquiry report launch event on 17 February.

12.57pm The Chairperson adjourned the meeting.

[EXTRACT]

Thursday, 27 January 2011
Room 30, Parliament Buildings

Present: Mr Alban Maginness (Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Dr Alasdair McDonnell
Ms Claire McGill

Mr Gerry McHugh
Mr Sean Neeson

In Attendance: Mr Jim McManus (Assembly Clerk)
Ms Sohui Yim (Assistant Clerk)
Mr David McKee (Clerical Supervisor)
Ms Michelle McDowell (Clerical Officer)

Apologies: Mr Paul Butler (Deputy Chairperson)
Ms Jennifer McCann

10.05am The meeting began in closed session.

11. Renewable Energy Inquiry: Final report

Members considered the final report of the Renewable Energy Inquiry along with the appendices.

Agreed: That the list of abbreviations and table of content stands part of the report.

Agreed: That the executive summary, paragraphs 1-39 stands part of the report.

Agreed: That the summary of recommendations, paragraphs 1-25 stands part of the report.

Agreed: That the introduction, paragraphs 1-17 stands part of the report.

Agreed: That the Key Issues and Findings, paragraphs 18-230 stands part of the report.

Agreed: That the Conclusions and Recommendations, paragraphs 231-262 stands part of the report.

Agreed: That the clause-by-clause consideration of the Bill, paragraphs 147-156 stands part of the report?

Agreed: That the extract of the minutes of proceedings, appendix 1 stands part of the report.

Agreed: That the extract of the minutes of evidence (Hansards), appendix 2 stands part of the report.

Agreed: That the written submissions, appendix 3 stands part of the report.

Agreed: That the Assembly Research papers, appendix 4 stands part of the report.

Agreed: For the Chair to approve an extract from today's minutes which reflect the read-through of the Report and appendices for inclusion in appendix 1, minutes of proceedings.

Agreed: That Appendices 1-4 of the report will be included in the CD ROM in the public version of the report.

Agreed: To order 150 reports with a CD ROM and 30 full reports for printing.

12.30pm The Chairperson adjourned the meeting.

[EXTRACT]

Appendix 2

Minutes of Evidence

Appendix 2 – Minutes of Evidence

17 June 2010
Biogas Alliance

14 October 2010
Action Renewables

14 October 2010
Ulster Farmers Union

21 October 2010
GT Energy
Action Renewables

21 October 2010
IBEC-CBI Joint Business Council

4 November 2010
Northern Periphery Programme MicrE and SMALLEST Projects

4 November 2010
University of Ulster

11 November 2010
Department of the Environment

11 November 2010
Invest Northern Ireland

18 November 2010
Northern Ireland Electricity
Northern Ireland Manufacturing

25 November 2010
Northern Ireland Authority for Utility Regulation

2 December 2010
Department of Agriculture and Rural Development

2 December 2010
Department of Enterprise, Trade and Investment

9 December 2010
Department of Enterprise, Trade and Investment

17 June 2010

Members present for all or part of the proceedings:
Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Gregory Campbell
Mr Leslie Cree
Dr Alasdair McDonnell
Mr Daithí McKay
Mr Stephen Moutray
Mr Sean Neeson

Witnesses:

Mr Victor Christie Mr Robert Brennan Mr Reuben McFarland Mr John McLenaghan	Biogas Alliance

1. The Chairperson (Mr A Maginness): We now move to an oral briefing from Biogas Alliance. I advise the Committee that the relevant papers, including various documents from Biogas Alliance, are in members' packs. The Committee Clerk has provided a briefing paper with a summary of contents. The witnesses who will brief the Committee today on behalf of Biogas Alliance are Victor Christie, Robert Brennan, Reuben McFarland and John McLenaghan. Gentlemen, you are very welcome to the Committee. We received the papers from your group and had an opportunity to read them, so we know the outline, at least, and some of the detail of your position. You may wish to make an opening statement, after which we will move to members' questions.

2. Mr Robert Brennan (Biogas Alliance): Good morning, ladies and gentlemen. I am conscious that the Committee has received some briefings on the issue, but I just not sure how much members have been told. We want to get across two main points today. We are not here to beat up on people. Rather, we are here to highlight the opportunity that is being missed.

3. The local chairman of the Royal Institution of Chartered Surveyors said:

"NI (Northern Ireland) has an 18 million tonnes reserve (annually) of good quality biomass (otherwise described as biodegradable waste) that when digested in the absence of air (Anaerobic Digestion) in a biogas plant can yield in excess of 30 of its vehicle fuel demand, or 16 of its heat and power consumption. As yet this ubiquitous resource is virtually unexploited."

4. We concur that that resource is totally unexploited, and to get the biogas industry up and running here, it will need a bit of a kick-start.

5. Biomass has the ability to be good for NI plc. At the moment, energy flow in Northern Ireland is worth about £1 billion annually. However, because our power production and the grid system are not vested locally but in the Middle East, all that profit flows out of here. Every time a local renewable company makes a megawatt of electricity, it generates about £1 million of revenue that stays here. However, ninety-something per cent of revenue is flowing out of here. For financial reasons, we want to begin to turn that around.

6. I will now deal with security. We are at the end of the pipeline. A few weeks ago, I was in Scotland doing some research work for the Scottish Government, because they have recognised

the opportunity that renewables offer. One of the first slides that came up showed the gas fields that are all over Europe in plentiful supply. We then saw a similar picture that projected what the situation is likely to be 10 years from now when the only gas field left will be in Russia. The question was asked: what are we doing about our energy security? Therefore, for security reasons, but particularly for financial reasons, we must tap into the tremendous opportunities that biomass offers.

7. The Chairperson: Thank you very much. Does anyone else wish to make any opening remarks?

8. Mr John McLenaghan (Biogas Alliance): As Robert explained, the opportunity for Northern Ireland plc is immense. We see an opportunity for farms to use, as Robert mentioned, the existing waste streams that are available. However, that does not take account of the other waste streams that come from agriculture. For example, manure that is produced on farms is ideal for the biomass process, and it is being used all over the rest of Europe for that purpose.

9. We have a number of legislative issues with the agricultural production systems in Northern Ireland. We have a fairly intensive agricultural system. Unlike other parts of Europe, we do not have large areas of arable spread lands that do not have livestock enterprises on them, which limits our disposal methods for lots of that manure. We have issues with methane being 23 times more dangerous to the ozone layer than CO2. Very soon, we will have issues with how to mitigate our methane production.

10. The water framework directive will affect our phosphorous use, and the nitrates directive is already in operation. Those pieces of legislation will cause — and are causing — real damage. Recently, we heard how Northern Ireland farming and food production has been one of the mainstays of our economy over the past few recessionary years. That is good, but my concern, from a wider agricultural perspective, is about pieces of legislation that will start to pull that back. That does not have to happen, because what we produce creates the potential for waste, which could be a valuable resource if used with the right technology. Anaerobic digestion (AD) is one such technology.

11. To that we can add our great natural advantage in growing grass in our wet and humid climate. We do that better than anywhere else in Europe, do it as well as anywhere else in the world and it is what we do best. We still have reasonably good temperatures through the growing months. We have a long growing season and good grass-growing potential. Those conditions are being underutilised on our farms. We can combine the use of existing waste streams with that potential grass production, which could really kick-start our agricultural economy and allow it to meet future legislative requirements.

12. From looking at policy across Europe, we have recognised that, to kick-start renewable energy, there is a need to subsidise it. Unfortunately, the level of subsidy that is available in Northern Ireland is not sufficient. The will is there from industry, including the farming industry, but, unfortunately, nothing will happen until we get the policy right.

13. Victor was in Europe recently, and he might be able to tell you a little bit about what he found there.

14. Mr Victor Christie (Biogas Alliance): Last week, I was in Brussels to talk to representatives from the European Energy Commission. They were stunned to hear that we do not have AD in Northern Ireland. In Europe, about 40% of renewables come from AD. Our potential is the envy of the world, but we are at the bottom of the league for what we have achieved. The representatives told me that they would be in favour of an AD industry here. With the right incentives, 400 or 500 jobs could be created in the first four or five months.

15. Unfortunately, the Department of Enterprise, Trade and Investment (DETI) has not co-operated at all. I have had no meetings with DETI representatives. The problem is that they do not understand the technology and how it could benefit us. The commission representatives in Brussels told me that it has no objections to measures being put in place to kick-start the industry here. Everybody knows what AONB stands for, but if we get the wrong policies, it could also stand for area of outstanding natural bankruptcy rather than area of outstanding natural beauty.

16. Ireland could be an engine house for the UK, which will have severe energy shortages within the next two or three years. We should be putting the foot to the floor to exploit what we have. At the minute, 98% of the energy companies that operate in Northern Ireland are controlled from outside the Province. Those companies are making massive profits here.

17. We have had three consultancy periods with DETI. Apparently, there is going to be another one. The Department has to get it right this time, because our farmers do not want anymore dithering. They could be building biogas plants right now, but, unfortunately, once again, we are sitting waiting for DETI to make up its mind. I was told that a decision would be made at the beginning of July; now it is going to be the end of July. Farmers will not be able to build anything this year, and it is extremely frustrating to say the least. We have given the Department all the evidence that it needs, and if we are sitting at the bottom of the league in respect of support in Europe, we need the best renewables obligation certificates (ROCs) available, with other countries, such Germany and Italy having five ROCs. We need to be level with them so that we can start to catch up.

18. I have the House of Commons Energy Committee's recommendations from 1991, which state that regulators should be given a specific duty toward combined heat and power (CHP) sources. However, we have had four regulators, we have had 19 years, and nothing has been done. It is time that something is done.

19. The Chairperson: Mr McFarland, do you want to say anything? You do not have to.

20. Mr Reuben McFarland: I will say a little. From a farming background, we became interested in anaerobic digestion. We went out and visited plants in Europe and were very impressed.

21. The Chairperson: Where did you go?

22. Mr R McFarland: We went to Austria and Germany, and we were very impressed with the whole system and the way that was run and the link-ups that it had with communities.

23. The Chairperson: I am sorry to interrupt you, but were those individual farms or were they a collection of farms?

24. Mr R McFarland: They were a collection of farms. Each farmer brings in his extra produce, and they get paid for it. It works on a community basis.

25. The Chairperson: So, the farmers feed into one central digester, and they come from a couple of miles around?

26. Mr R McFarland: Yes. They come from the immediate neighbourhood. Some have bigger farms, with two farmers running one anaerobic digestion plant. However, it just depends on the size of the farms around the area.

27. The Chairperson: I want to get this right. Would you need a digester in a central area, so that people could come from different farms with different produce, and they could share the benefits of the production?

28. Mr R McFarland: That is right. Also, they have a heating circuit around the local community that heats the local homes.

29. The Chairperson: Is the heat also used to generate electricity?

30. Mr R McFarland: In some cases, but using heat to generate more electricity is not that efficient. It is used more for heating homes or local schools, for example. Therefore, 50% of the electricity produced for homes was from the combined heat and power plant.

31. We came home from those trips more than two years ago. We submitted plans, but we keep meeting one hurdle after another. At the moment, the problem is with Northern Ireland Electricity (NIE) and the connection. In Germany, there is a fixed price for connection, and connection takes six weeks. We have been waiting for more than three months, and we have not received a reply from NIE. However, it has said that it will be a further nine or 10 months before we are connected.

32. The Chairperson: Has NIE agreed a price with you?

33. Mr R McFarland: Not yet. Until we have that, we cannot go to the banks. There are no guarantees. To sell our electric, we need a start-up date to be able to negotiate with them, and then we can go to the banks. Therefore, we are at a loose end. There are no real guarantees at the moment around what price we will get for the electric. In the future, we hope to create more jobs by growing vegetables or fruit, for example, using the heat in tunnels. However, it takes so long to get from A to B to C to D, and it is very frustrating at times.

34. The Chairperson: Who is the main obstacle? Is it NIE?

35. Mr R McFarland: At the moment NIE is holding it up, as it is taking a long time. Understandably, it has received a lot of applications for wind turbines because of the four ROCs that are allocated for that. NIE is probably experiencing a logjam from that. It is taking so long to get the whole thing off the ground. We would have loved to have been up and running this year, but that is impossible now.

36. Mr McLenaghan: The Chairperson asked what the biggest, single obstacle is, and I have to say that the grid connection is certainly a massive issue. Like Reuben, I have had planning approval for my biomass plant for two years, but the biggest single obstacle that I have met is trying to get finance for it. The difficulty with finance comes from the fact that there is no consistency in DETI policy. As we know, the banks are naturally cautious. They want certainties. They do not want me telling them that although this is what we plan to do at the minute, the consultation exercise might change things. That is where I see the biggest difficulty. We cannot do anything without help from the banks. These projects are capital intensive. They can work on individual or collective farms, depending on the particular set-ups, but they require finance. As I say, the biggest problem with finance comes from not having a consistent policy. As Victor said, we have had three consultations on AD in the past six months.

37. The Chairperson: At the moment, the limit is two ROCs, but you want that to be increased to at least four or five ROCS.

38. Mr McLenaghan: We need to be on a par with Europe. In Europe, the price is roughly 20p. However, two ROCs here come in at around 11p.

39. The Chairperson: If you went along to a bank and said that you had two ROCs, would it say that that is not a good enough return to finance a project?

40. Mr Brennan: It is actually worse than that, because a feed-in tariff, which is a guaranteed sum, has been introduced in England, Wales and the rest of the UK. That tariff is much more bankable than the ROC system, because a ROC is a tradable instrument that can go up as well as down in value. Indeed, the value that DETI put on ROCs earlier this year is considerably higher than they are trading for in the marketplace. Therefore, given that only about 25% or 30% of the value of a ROC is bankable, we are, right now, at a disadvantage to the rest of the UK.

41. The Chairperson: Is that because we do not have a feed-in tariff?

42. Mr Brennan: Yes.

43. The Chairperson: The Minister has explained that she tried to amend the legislation that went through the House of Lords, but it was too late.

44. Mr Brennan: We are happy with that. We are simply saying that that is the reality in the marketplace. Therefore, the funding that could flow to Northern Ireland projects is instead going to projects in England and Wales. In fact, the financial institutions in England and Wales are saying that the feed-in tariff in the rest of the UK is too low. We now have the opportunity — we do not need to piggyback on the tails of somebody else — to take the bull by the horns, set a precedent and get our industry up and running. We can also learn from all the mistakes that were made on the Continent.

45. The Chairperson: Does your organisation prefer ROCs or feed-in tariffs? Is there a consensus, or are there different views about the best way to incentivise the market?

46. Mr McLenaghan: Robert summed it up fairly well. From a bankability point of view, the banks prefer the feed-in tariff because of the certainty that comes from a tariff and because it is linked to an inflationary increase each year for 20 years. Banks love that.

47. The Chairperson: The feed-in tariff will, therefore, give the banks a guaranteed, inflation-proof return for 20 years.

48. Mr McLenaghan: Yes. The banks like that. Therefore, whether or not we have a personal preference for a ROC system or a feed-in tariff is largely irrelevant because, probably, the only thing that the banks will go with is the feed-in tariff.

49. As the Chairperson explained, we do not have the primary legislation to set up a feed-in tariff. However, we need to be certain, because they have been asking us about this, that we can persuade the banks that we can make our projects work if either a feed-in tariff is introduced or the ROC system is maintained but re-branded, and that any existing projects will automatically move into the new system and not get left behind, which has happened in other renewable industries. That is another critical factor for the banks. A very bad precedent was set in that area, and it created uncertainties.

50. Mr McLenaghan: I might be prepared to take a bit of a risk in getting the projects up and running on two ROCs, in the knowledge and belief that either the subsidy will improve in the

future or a feed-in tariff will be introduced. However, we cannot do that if we feel that we are going to be left stuck at the level that we go in at, rather than having the same as new people who come in.

51. Mr Butler: Thank you very much for your presentation. You talk about renewable energy primarily coming from wind, and your vision is for biogas plants all over the country connected with the farming industry. What set-up costs are involved?

52. Mr Christie: A biogas plant costs between £4,000 and £5,000 per kilowatt to install and £1,000 per kilowatt to run. However, it is labour intensive and it will create jobs. Also, biogas plants do away with diseases such as brucellosis.

53. Mr Butler: I understand that, but you are asking DETI or the Government to invest in it and to put in financial incentives.

54. Mr Brennan: We need to be clear about it.

55. Mr Butler: What is the actual cost of it all?

56. Mr Brennan: There is a hardware cost to build the asset.

57. Mr Butler: I do not see that in here.

58. Mr Brennan: I do not know what information you have, but the same arguments were labelled for wind 15 or 16 years ago. I am from B9 Energy, and the banks would not lend us money to build the first wind farm, so we got involved in a joint venture with a large English company to build the first one. Now we can build wind farms anywhere and can compete head on. There are a lot of other benefits associated with anaerobic digesters, which you could almost describe as social benefits. There is protection of the waterways and reduced smell, but those things are not accountable on balance sheets. To achieve that, we have to put in a certain level of capital per kilowatt hour.

59. At the moment, land and wind has been maxed out. All the best sites are done. There will be a few individual ones, but it will not significantly impact the renewables output. Northern Ireland Electricity does not want any more wind because it is intermittent. The beauty of biogas is that it is 24/7 or you can turn it on or off at peak power. Therefore, a lot of other attributes are not being accounted for. Wind power generation has been with us for a long time: it is very stable, understood and clear. We have to repeat that learning curve with biogas.

60. Mr Butler: That does not really tell me what it is going to cost.

61. Mr Brennan: The Government do not pay for ROCs. The industry pays for them.

62. Mr Butler: I understand that. We went to Europe and looked at geothermal energy, which is very much work in progress at the minute. We still depend very much on gas and oil. What I am trying to get at is that it takes investment from the Government, so there will obviously be a cost to the consumer.

63. Mr Brennan: Could I point out that fossil fuel has [Inaudible] in five years.

64. Mr Butler: You have still not told me what it will cost in financial incentives.

65. Mr Christie: I have a quote here from an article on feed-in tariffs. It is to do with Germany. In the four years since their introduction in Germany, the tariffs have created 300,000 jobs and they have driven down unit costs per kilowatt. Far from being a waste of money, they have become the most powerful engine of German economic regeneration. Instead of having energy bills that pay for the import of non-renewable fossil fuels, Germany is paying its citizens to produce, install and maintain their own renewable energy systems. Therefore, it is self-financing. It will not cost anything if you do it right. It is completely self-financing. Germany has saved €5 billion from not having to import oil, and that money has been used to kick start and run all the renewable energy plants. They have 5,000 anaerobic digesters or biogas systems. In a lifetime, they will create €50 billion for the local economy.

66. Mr Butler: I am not disputing the financial side.

67. Mr R McFarland: For example, a 350 kilowatt plant would cost around £1·5 to £1·6 million, and that would run around 200 homes.

68. Mr Butler: Would that require a subsidy?

69. Mr McLenaghan: All that cost is paid for by the developer or the farmer. In the example that Reuben was talking about, the farmer invests that £1·5 million and the return comes from selling a product. The main product that he sells is electricity, and he also sells the ROC, which is the way it is set up. For every unit of electricity he sells, he also sells two ROCs. That is the subsidy element. There is no subsidy for the installation of the equipment and there is no cost to Government at all, because it is paid for by the electrical industry.

70. As Victor said, the experience in Germany is that it is a benefit to the economy, because it saves on imported energy. We are now in an even worse situation than Germany because we have to import virtually all our energy. There is no cost to the Government as such. We are not saying that we should put a pot of £50 million into the biogas industry for Northern Ireland. We are saying that the policy should be comparable with that for other renewables in Northern Ireland — the main one being wind — and comparable with other parts of Europe.

71. Mr Christie: In relation to gas, probably the most expensive renewable facility is at Strangford Lough, which has cost £30 million for just one megawatt. If we spent £30 million here, we would have 50 megawatts of power from anaerobic digestion. One question that the European Energy Commission asked me was what our plan B was. If there is an energy crisis and we do not get gas from the UK, what are we going to do? The answer is that we do not have a plan B. We do not even have a plan A. We have wasted so much time. OK, I know that there was no devolved Government, but we should have been having this conversation a dozen years ago. We are falling further and further behind. We have now had a third consultation, and within six months, we have arrived at all the answers, and it will cost nothing if it is done right. The Germans say that they have saved €9·4 billion in fossil fuel, which left a huge profit. It is profitable to go down that route.

72. The Chairperson: I want to bring somebody else in. I think we have to move on.

73. Mr Neeson: I share your frustrations. I know about the Fivemiletown project, for example, and I know the position of Rose Energy. I think there is a misconception about what this is all about. After recess, the Committee will embark on a study into renewables in Northern Ireland, and you will obviously have a valuable contribution to make. What is the end product? Am I right in saying that, in the Republic, there will be a major project on using biogas for fuel for cars? It is not just a question of producing electricity and gas. There are other potential products.

74. Mr Christie: There are councils in Spain that run all their council vehicles on biogas made from sewage. We have no ambition. There seem to be closed minds. I was at an event in the Waterfront Hall last year with 400 delegates, including a lot of people from Europe, but there were no high-ranking officials from DETI. I was at another event down South where there was a similar situation. There does not seem to be any interest from the people who matter. I have a photograph of a biogas plant beside a hotel in Germany, which supplies the heat to the hotel. The hotel would rather have a biogas plant beside it than have to rely on pipelined gas from Russia. It is as simple as that.

75. Mr McLenaghan: You are quite right, Mr Neeson. It is not just electricity. I said that the main product is electricity, but biogas is, potentially, a stepping stone to many other technologies. It is recognised as a stepping stone towards hydrogen technology. As methane (NH4) is the main part of biogas, its main constituent is hydrogen. Work is already being done on splitting that down to hydrogen and using it for fuel cell technology. It is frustrating for some of us who have been working on the issue. I have been working on biogas for around six years.

76. Over that time, I have seen how other parts of Europe have developed it and how they have gone from using the initial point of biogas production, whether it has been from waste or agricultural produce, to fuel cell technology and using the digestate and the fibre content to make plastic wood for furniture and similar uses. Biogas can also be a substitute for chemically made fertiliser. So many other things can come from biogas, but, unfortunately, we have to try to focus on getting the industry started.

77. Reuben mentioned how he could utilise the heat. Those uses will all flow from biogas. Vehicle fuel is a great example, because biogas is the most efficient means of producing an alternative renewable vehicle fuel. It is much more efficient than growing oil seed or any of the other products that are being used. We want to be part of that, but, unfortunately, we are not even at the starting gate.

78. Dr McDonnell: I am sorry that I missed the beginning of your presentation. I am delighted by what I have heard and agree totally with what you have said. On another Committee 10 years ago, Sean Neeson and I looked at the issue. Why has it taken you guys so long to start harassing us? That is my only question.

79. It is crystal clear that the use of biogas has to happen. A lot of emphasis was put on wind, which was no bad thing. We need you to come to us with the skeleton of a business plan. You mentioned that it costs between £1·5 million and £1·6 million to produce 350 kilowatts, so we are beginning to get some of it. We need those simple facts.

80. You have told us about finance and about good connections, which are things that we should be able act on. However, I am trying to get my head around how many housed cattle it takes to feed a plant that costs £1·5 million or £1·6 million?

81. Mr Christie: One kilowatt would be produced for each acre.

82. Mr R McFarland: There is not an awful lot of gas from slurry. There is 10 times more gas from grass silage than there is from slurry.

83. Mr McLenaghan: The cow is a very efficient digester. She is very good at her job.

84. Mr Cree: She produces her own methane.

85. Mr R McFarland: Yes, she does. It takes approximately one acre of grass to produce one kilowatt of electricity all year round.

86. Dr McDonnell: You were talking about the safety of slurry. If you had some quotas on slurry —

87. Mr R McFarland: You would put the slurry into it as well.

88. Mr Brennan: The issue is not so much about one cow. It is about the sheer tonnage of biomass that we have in Northern Ireland, which is a reflection of the good quality grassland that we have. The biomass from housed livestock here, of which 80% are cattle, is measured at 10 million tons per annum.

89. Dr McDonnell: With all due respect, you are not going to be getting a lot of grass in December.

90. Mr McLenaghan: You would use the silage. When we talk about grass, we really mean silage. We are harvesting grass at this time of year, putting it through the fermentation process and using it throughout the year.

91. Dr McDonnell: Surely you lose some of the methane by doing that.

92. Mr McLenaghan: No. There is some evidence to suggest that well-fermented and well-made silage of the right quality has a better gas yield than grass would have, because the fermentation process has started.

93. The Chairperson: Would you have enough silage to feed cattle and to produce gas?

94. Mr McLenaghan: We cannot hide from the fact that there is a debate on renewable energy. We cannot run away from that.

95. In Germany, the operation started off being agriculture based, with maybe 30% or 40% of the input being slurry, and gradually moved away from that to push towards 100% of the inputs being energy crops. In that case, the German farmers were growing maize silage. What we are now seeing is that they are taking that back a bit again because they are realising that the system works better with a certain amount of slurry in it, so that should cut that ratio back. That is partly because every time the slurry is put in, it repopulates the bacteria needed for the process. There are lessons that we could learn as we develop the industry about, perhaps, incentivising that. That is now happening in Germany, where people are given a top up on their feed-in tariff if they use a certain percentage of animal manure.

96. The Chairperson: As opposed to silage?

97. Mr McLenaghan: No, as opposed to 100% energy crops. In most cases in Northern Ireland, it would be a mixture of the two, because that has been shown to work best. We have quite a lot of surplus grass. I am a farmer, and I cannot graze my grass quickly enough because it is growing so well. If I had a biogas plant, I would be making extra silage, which I do not need for my livestock and which I cannot use.

98. Dr McDonnell: Is it economically more effective to do that than it is to feed cattle?

99. Mr Brennan: An acre of grass going in to an anaerobic digestion plant is fairly close to what a cow would deliver. Obviously, the price of milk varies considerably. I think that it was 17p a litre

last year, and around 20p at the moment. People from the dairy industry have approached us and said that they are getting a bit fed up with working 24/7 to keep everybody else running around in nice cars, and that they would like to take it a bit easier and, perhaps, just put the grass into an energy plant. The simple reason is that they would not have to work 24/7 to earn something similar. The problem is that the banks are not willing to support that investment because the income from power via the ROCs or feed-in tariffs is relatively low.

100. Dr McDonnell: Can you not use the gas instead of the electricity?

101. Mr Brennan: Yes, you could. Methane gas is the same as gas that comes in from the North Sea. It comes from the same source — organic material that broke down in the North Sea a long time ago. We can do it very fast now. That gas could be utilised in, for example, engines. That is quite common around the Mediterranean area — Italy and Spain have lots of gas vehicles — and increasingly in Scandinavia, but there is a cost in infrastructure to convert vehicles to run on that gas fuel instead of a liquid fuel. We proposed that to some local authorities three years ago and, although they were very interested, they wanted to know who was going to pay for the capital cost of converting vehicles. It is a chicken-and-egg situation. The gas has many uses. Power is the one that we have focused on because, at the moment, that is the only one that is bankable.

102. Dr McDonnell: Sean and I were in Denmark 10 years ago, when we looked at a plant, the main output of which was gas to the local village or town consisting of 300 or 400 houses. That plant only converted the surplus electricity, because the gas was twice as profitable.

103. Mr McLenaghan: It depends on the economics. One of the infrastructures that we have in Northern Ireland is the good gas pipeline across the Province. One of the things that we envisage in the future is that a farm or factory could have a biogas plant built adjacent to the pipeline and that could directly feed the pipeline. The advantages of that are that it takes away some of the infrastructure costs for the farmer, he does not have the combined heat and power unit on the farm, and the gas can be pumped to a larger combined heat and power unit where there may be more opportunity to utilise the heat energy from it. That is a brilliant model, and we would love to see it developing, but we do not —

104. Dr McDonnell: You have not reached first base.

105. Mr McLenaghan: That is exactly it.

106. Mr Brennan: That model is just not bankable in this country.

107. Mr Christie: I have a statement from one of the guys behind me that contains some figures that members might be interested in. Buying gas from grass is an opportunity to create cohesion in our economy by bringing together the energy, agricultural, structural engineering, research, education and tourism sectors. If 5% of Northern Ireland's grass were used for biogas, it would create enough renewable electricity for 120,000 homes, 400 gigawatts of renewable heat, £30 million per year to farmers for providing food stock, £80 million to the construction industry, a new local market for the engineering sector worth £80 million, up to 1,000 new jobs in the operational phase alone, infrastructure development and integration with wind, wave and waste renewables to achieve energy independence and export potential. That is just 5% of our gas.

108. Each region must have a plan B in place by the end of this month. Countries that want to invest in a region will look for the plan B on the website. If there is no plan B, there will be no investment, but they will choose a country that is thinking way ahead. There is an Organization of the Petroleum Exporting Countries (OPEC) table that contains the countries that have underdeveloped renewables and are in the worst trouble, and they include the UK and Ireland.

Countries that are in the safe zone include Finland, Sweden, Australia, Canada and Norway. There are all very advanced in renewables, and that is the way that we should be thinking.

109. Mr Campbell: I want to try to get more information on the cost. I am getting conflicting messages, and I want to be clear in my own mind. I am not playing devil's advocate, but I see in Mr Christie's paper, and in answer to some other questions, that facilities for biogas are nine times more expensive to install than those for wind. In view of those facts, it is baffling to the European Energy Commission, as well as to us, how DETI announced in March that it can only award 50% of the value that it gave to wind. You explained some of that.

110. Mr Christie: I am talking about second-hand wind turbines. A one megawatt wind turbine will cost about £1 million, and a 350 kilowatt biogas plant will probably cost a bit more, but it will produce a little less energy. There are running costs involved and there is labour, and the thing has to be fed using the exact same principle as you would when you feed a cow.

111. In Germany, dairy farmers are reducing their herd numbers because they have two checks, whereas dairy farmers here have only one check. Dairy farmers here must continue to expand because their profit margins are always shrinking. That causes more costs to be incurred because they have to put up more sheds and more slurry tanks, and that is not sustainable. In Germany, it was found that biogas makes the size of a farm shrink, so there is less pollution and everybody has a better way of life.

112. Mr Campbell: In the course of some of your answers, we have heard that you see anaerobic digesters as being self-financing.

113. Mr Brennan: I would like to clarify a point. The ROC mechanism is funded through fossil fuel power stations. It is a fine on producers of fossil fuels, but the feed-in tariff (FIT) system costs the Government. I just want to be clear on that point.

114. Mr Campbell: What is the comparable cost? If there are significant benefits — and from what I have read and from what I have understood previously, there are significant benefits from anaerobic digesters — and if there is an argument that says that, in the longer run, it will be not only beneficial in respect of side effects but at negligible cost, why on earth would the Department not proceed? We are going to have conversations with the Department, but it will not say what the Biogas Alliance is saying. Therefore, I want to hear the facts, and I want to hear the comparable costs to get the benefits, so that, if we go down that route, we will know what the benefits are and what it will cost. If that is complementary to A, B, C, D and E, that is fine, but I would prefer to get all those things out there. If there is a significant additional cost, and we take account of the benefits, the end product will surely bear some comparison to the initial cost. What will the end product be for power?

115. Mr Brennan: Do you mean the quantity of power or the end value of power?

116. Mr Campbell: Value.

117. Mr Brennan: I am not quite sure what you want to quantify. Our total power demand in Northern Ireland during the winter is about 1,800 megawatts. At the moment, we are not producing one megawatt with biogas, and if we accelerate the development, I do not think that we will get 10 biogas facilities through the planning process in the next two years. That is another issue that has not even been on the table today. The scale of what they can deliver is massive, but practical barriers will probably keep the lid on biogas at something like 10-15 megawatts within the next three to five years.

118. Mr Campbell: If there is negligible additional cost to the public purse and there are additional benefits, why do you think the Department will not proceed?

119. Mr McLenaghan: We think it has not had the vision; it is as simple as that.

120. Mr Brennan: We think it has just not recognised the opportunity or the scale of that opportunity.

121. Mr Campbell: It seems from what you said that it does not need to, but that it just needs to give approval.

122. Mr Christie: I spoke to guys in DETI who are in charge of issuing ROCs and they told me that they did not know anything about biogas. The man knew nothing about biogas, yet there he was, sitting in a chair, wanting to decide what ROCs we should get. I think that it is mad.

123. Mr Brennan: When the support for renewables was issued earlier in the year, anaerobic digestion was not even on the list. That is a damning indictment.

124. Mr McLenaghan: Your point is very good, Mr Campbell, and I could not agree with you more. Why have we not been doing this? In the last consultation process, which started last October, submissions were made on anaerobic digestion, and we expected that we would get increased support for anaerobic digestion at least to bring it into line with the feed-in tariff in England. That did not happen. We do not know why it did not happen — you would need to ask DETI why it did not happen — but we can only surmise that it was because of the Department's lack of vision. All the information was given to the Department. It subsequently asked us for the information again. We gave the information again and still nothing happened. We submitted the most recent information before the end of May and, once again, we are waiting for the Department to come back to us on that.

125. We would love it if there were no need for the subsidy in the system, meaning that we could go ahead with our plans, but, unfortunately, once a subsidy is created in a market, it has to be consistent across the marketplace. At the moment, we do not have that consistency. We have double the support for one technology in Northern Ireland — wind. If compared with Europe, we have around 50% of the support levels that exist in Germany. That is our problem. If we had consistency in policy, we could start digging. It is as simple as that.

126. Mr Cree: I am sitting here thinking about how I could develop a business plan from what I have heard this morning. You obviously have the enthusiasm and exasperation to do something, but there are still questions that need to be answered. For example, it seems to me, from what you have said, that most of the revenue will come from the generation of electricity. Is that a fair comment?

127. Mr Brennan: May I qualify that? I am from B9, and we are the party that will, hopefully, be responsible for the construction of the first large commercial anaerobic digestion plant in Dungannon. That will be a 50,000 tonne a year waste treatment facility, with no slurries or feed crops, all derived entirely from income from gate fees of commercial waste, some of which is being exported out of Northern Ireland because there are no facilities here to treat it. It has taken us four years to get to this stage of that business model. It will simply replicate dozens of facilities in Denmark and Scandinavia, and there is a timescale.

128. That is a commercial point. That is not even crops, so there is no argument about food or energy. I think that that is a bit of a non-entity anyway. My father reminded me that, when he was brought home from school during the war to work on the farm because they had to grow more crops, one acre in every five was used for energy crops to feed the horses. Today we are

nowhere near that. I think that we can get lost a little bit there. That project at Dungannon is only bankable because of the gate fees, but that totally removes the entire agricultural opportunity, because they do not have the gate fees. They have to rely on the value of the power and those grid connections.

129. Mr Cree: It is going to get to that stage. I will deal with electricity first. There are major problems with electricity. The grid cannot take it unless somebody spends £1 million. The price of electricity is regulated, and the profit is regulated. There is a difficulty there. There is also the connection charge and the geographical issue of where you happen to be on the grid. All those issues need to be addressed.

130. You mentioned the question of other waste streams, which is key to the whole thing. Given the geographical situation, particularly on farms, where are you going to get rid of your waste heat? There are no housing schemes near most farms.

131. Mr R McFarland: Did you see the photograph that I sent round the Committee?

132. Mr Cree: It shows a farm near houses.

133. Mr R McFarland: That image was just across the road from the hotel.

134. Mr Cree: You need a big load to take the waste heat.

135. Mr McLenaghan: One of the challenges is to utilise the heat effectively. Remember, about 20% of the heat goes back into the process, which relies on heat. That comes from the CHP system. One of the challenges is to better use the heat. We are involved in actively trying to work projects, so we are going through all those challenges. You are right about the business model. It has been hard to stack up. If we can utilise our heat, we can make the model stack up better.

136. The difficulty with utilising heat is that it requires extra investment. We are looking at using the heat for grain drying or, as Reuben mentioned, horticulture or vegetable production. Those are all options. The difficulty that we have when we go to start those projects — we are not at base one yet — is that we have to get the banks to lend us the money. The only thing that the banks see money in is the sale of the electricity.

137. We want to use the heat. Do you know a farmer who likes to have something that, although it is of value to him, he cannot get that value? If we have the heat, I cannot wait until the day when I have my plant up and running and am looking for the best use for excess heat, because I have a string of things that I am going to start doing with it. So, the uses for the heat will follow, but we are still trying to get the bank to support those ventures.

138. Mr Cree: It is vital that all those uses are part of the business model and contribute to the revenue stream. The gas is arguably the most important aspect. Someone mentioned connecting the gas to a transmission grid. There is not a snowball's chance of that happening. You need to have compressors and a high volume for that. For car use, compressors are also needed, which is one reason why natural gas has not really been accepted seriously as an alternative fuel for vehicles. There is potential, but you have to quantify it, and it comes at a cost. That all goes back to my question about the business model. You need to get all that into the mix.

139. Mr Christie: You have to understand that it costs money to produce slurry: you have to grow the grass and feed it to the cow. Biogas would provide a second income for a farmer. Farmers are hard pressed.

140. In Denmark, 40% of farms have biogas plants. Now the target is for 80% of farms to have them. In Germany, there are 5,000 AD plants. If the operators of those plants were not making money, they would not be in the business. We have to take one step at a time.

141. Reuben mentioned the connection charges, which have doubled in three months. NIE has several hundred farmers applying to erect wind turbines and it decided to double the connection charge to put some of them off. The fossil fuel energy companies determine policy, and they do not want to see a farmer who is paying them £20,000 a year for electricity being self-sufficient or exporting electricity. So, there is a conflict of interest.

142. The Chairperson: I am not so sure that that is true. They have to reach a certain target, and the electricity companies have to be involved in that and are penalised —

143. Mr Christie: I understand that, but biogas makes farms much more viable.

144. The Chairperson: Your message is coming across loud and clear. It is the detail that the Committee is concerned about. We have to iron that out. Mr Cree raises a very valid point: you are producing biogas, which is largely being used to produce electricity. The gas is not going to be used as gas. That is the point that Mr Cree is making.

145. Mr Christie: It goes through a gas engine.

146. The Chairperson: I understand that, but he is asking whether there is any way of using the gas?

147. Mr Christie: It can be piped.

148. The Chairperson: Does it need compressors to pump it into the network?

149. Mr Christie: It does not necessarily go into the network, but it can be piped to a building or hotel. We are not allowed to get what the UK is getting, but if we get over the first hurdle and get the same as the rest of Europe, which should have happened long ago, we would sort out all the other problems. We would have a viable business, but DETI seems to be very worried in case a farmer might make a profit.

150. Mr Brennan: I will come back to Mr Cree's observations because they were very accurate. They were a very sound business model, and we have already built that model. We track everything against barrel of oil price, and some of the things that were on that model are now feasible, but they were not feasible two years ago. We guarantee you that some of the things on that model that are not feasible today will be feasible within the next five years.

151. As a renewable energy company, we are genuinely concerned that people forget that the price of electricity has gone up. In fact, it has doubled in five years. We believe that it will double again in five years' time, and we are not prepared for that.

152. I spoke earlier about security. We are dependent on third parties for our power when we could be generating that power here, substituting those third parties and retaining the income here. The business option is phenomenal. I cannot think of another industry that can retain more value and money in NI plc than producing more renewables with local companies.

153. The Chairperson: It has been a fascinating presentation and a very good debate. Obviously there are a lot of issues that we need to address as a Committee, but I hope that, in a small way, this has heightened the issue and brought it publicly to the attention of everyone in the

Assembly and in the Department. After the summer, the Committee will begin an inquiry into renewable energy, and I hope that you can make a contribution to that. It has been a good session. Thank you very much for coming along. We wish you well.

14 October 2010

Members present for all or part of the proceedings:

Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mrs Claire McGill
Mr Gerry McHugh
Mr Sean Neeson

Witnesses:

Mr Michael Doran Action Renewables

154. The Chairperson (Mr A Maginness): I welcome to the Committee Mr Michael Doran from Action Renewables. Mr Doran, we have already received your useful response to the Committee's request for submissions to its inquiry. However, I am sure that you want to make some opening remarks.

155. Mr Michael Doran (Action Renewables): Thank you, Chairman, for the opportunity to present to the Committee. My oral presentation will last about five minutes; as you said, I have already submitted a written presentation. I want to highlight what I believe to be significant barriers to renewable energy and, more important, how they can be overcome. I want to find a positive way forward rather than to complain or lay blame.

156. First, I want to discuss feed-in tariffs and renewables obligation. It is unfortunate that feed-in tariffs have not been introduced in Northern Ireland as in GB. I understand that it is not possible to introduce them because the Energy Act 2008 has not been adopted here; therefore, we have to make do with the renewables obligation. The way in which DETI has delivered that is a positive way forward.

157. Secondly, the interdepartmental working group on sustainable energy, which has been positive, could be more effective if it had industry representation. It can be compared to an initiative that the Department of Agriculture took a couple of years ago. It set up a group called the Agricultural Stakeholder Forum on Renewable Energy, which not only included departmental movers and shakers but also people in the industry. It worked quite effectively.

158. The strategic energy framework has been criticised for not having a long enough timescale. At present, although some targets go to 2020, it is really only a five-year development plan. We need a long-term strategy for the issue; it is not going to go away. There has been much criticism of planning, and, although I appreciate that that is not within the Committee's remit, there is an issue with the time that it takes and the cumbersome procedures involved in making planning applications for renewable energy projects. Typically, it takes two to three years to get

a relatively large-scale renewable energy project through planning. I suspect that that will deteriorate because there has been a change in the divisional and central planning units over the past few weeks. That means that there is now decentralised intelligence in the Department; therefore things could get worse.

159. My biggest complaint is about communications strategy. There is, generally, a very low level of awareness among the population in Northern Ireland about the implications of energy security and climate change. Our submission contains a report by the Energy Saving Trust in February 2010 showing that of 500 householders in Northern Ireland, 41% were completely unaware of or unable to name any renewable energy technology. If I had not seen that statistic, I would have said that that figure was ridiculous. However, most people in Northern Ireland do not have an appreciation of renewable energy or its implications. They think that there are other, far more pressing, issues.

160. Grid infrastructure is an issue of which the Committee is probably aware. The grid needs an investment of about £450 million over the next 12 years to allow renewable energy projects to move forward, particularly those that try to put electricity on to the grid. Our system was designed from three or four primary energy sources, namely the power stations. The further from the power source, the smaller the capability of the line to handle additional load: if additional load is put on the end of the line, it will not cope unless it is reinforced. Therefore, unless investment in the grid infrastructure continues, there will be no further development with renewable energy, particularly with electricity.

161. I have concerns about how the green investment bank may operate in Northern Ireland; I do not think that anybody has an answer to that at the moment because the coalition Government have not made it clear how they will deliver. However, my understanding is that it will operate from London and that it will probably go after the big-hit, large-win projects, which are not likely to be in Northern Ireland. Therefore, I am not sure how that investment will continue. I appreciate that we are in stringent financial territory at the moment, and, therefore, I do not expect capital investment or capital grants to come forward from government as a way to move the situation forward. However, if the green investment bank issue is not managed adequately, we will have a problem in Northern Ireland.

162. The final issue that I want to highlight — again, it is possibly beyond the remit of the Committee — is that one third of all energy consumed in Northern Ireland is consumed through transport fuels, and, to date, the Department for Regional Development (DRD) has done little to address that issue. Given that we still import 93% of our primary energy requirement, if we do not address the transport issue, we will sideline one third of the problem in trying to address all the other problems.

163. The Chairperson: Thank you for being so succinct and for your written presentation. You highlighted the establishment of a centre of excellence for renewable energy in Scotland. How do you envisage that being replicated in Northern Ireland?

164. Mr Doran: One small element is already in place in Hillsborough; it was put in by the Agri-Food and Biosciences Institute (AFBI) and looks at energy for farms. That leads me to another point, which is the lack of co-ordination between Invest NI, the universities and industry; there does not seem to be an umbrella body pulling them together. The considerable expertise in Queen's University and in the University of Ulster gives us an opportunity to move forward, and there is a centre for sustainable technologies in the University of Ulster on which we could build.

165. To date, there has been very little engagement with the industry. One of the largest lobbying bodies for the renewable energy industry in the UK, the Renewable Energy Association based in London, is not very active in Northern Ireland. Since Action Renewables is not a trade

association, one of the problems in Northern Ireland is that there is no one to represent the trade. We need collaboration between the universities, the Departments and the industry.

166. The Chairperson: Where are we with renewable energy here?

167. Mr Doran: In football terms, we are at the bottom of division 2 in everything. We are third worst of the EU 27 for importing renewable energy; only Malta and Luxembourg are worse. Biomass, which is our natural resource —

168. The Chairperson: May I interrupt? Are you talking about the UK or about Northern Ireland as a region?

169. Mr Doran: Actually, Northern Ireland is even worse than the UK. The UK is third from the bottom; if Northern Ireland were isolated, we would be second from the bottom — having said, that, we are not one of the EU 27 — so we are actually worse off than the UK. The only thing at which we are better than the UK is producing renewable electricity from wind. We produce a higher proportion because we have more wind resource and it is likely that we will also have more tide and wave energy resource. However, if that is restricted by the planning process, we will not be able to move it forward. We are a very poor renewable energy performer. If Northern Ireland were isolated, we would be the second worst area in the entire EU 27 for biomass production. Only Malta is worse.

170. The Chairperson: You said that the interdepartmental energy group works reasonably well.

171. Mr Doran: Yes.

172. The Chairperson: Have you evidence to substantiate that? I do not detect that; what I detect in government is a lack of focus on renewable energy. I do not see any Department or Minister championing renewable energy in the Executive, and each Department seems to have its own focus on renewable energy. I do not detect a coherent, central, focused government approach.

173. Mr Doran: I agree to a large extent. I think that Minister Foster has done a relatively good job in pulling that group together. I am not completely sure how effective it has been, because I am not part of it. The feedback that I get from the members of the group is that they believe it to be quite useful.

174. The Chairperson: Are the members of the group departmental officials?

175. Mr Doran: Yes; they are civil servants who work for Departments. Most of those with whom I interact — I will not mention names — feel that it is quite effective. However, some of them say that they feel that it could be more effective if it had industry input.

176. Mr Butler: Thank you for your presentation. You spoke about a target of 40% renewable energy by 2020. How realistic is that objective, given the state of renewable energy in the North of Ireland?

177. Mr Doran: We have to remember that the target is to source 40% of electricity from renewable sources by 2020, not 40% of energy. Electricity is about 35% of total energy consumption in Northern Ireland. We are going after 40% of 35%, which is realistic if two problems can be sorted out. We have the resource, and it is possible to get the finance to drive it forward, because the projects are economically viable. The two barriers are grid connection and planning. On average, it takes between two and a half to three years to get through the

planning process, and that is a disincentive. If an investor can get their return faster by investing in a Scottish rather than a Northern Irish wind farm, they will do that. It is an ambitious target, but it is definitely achievable.

178. Mr Butler: We have debated the renewables obligation certificate (ROC) versus the feed-in tariff. It centres on small-scale renewable-energy projects that feed-in tariffs support. How many of those small-scale projects will contribute to achieving the overall renewable energy target?

179. Mr Doran: The percentage —

180. Mr Butler: ROCs are still used here, but it seems that feed-in tariffs are used in the South.

181. Mr Doran: The proposal is that the ROC system will cope with anything up to two megawatts here. The feed-in tariffs in England work at a slightly lower level, but you are quite right: they are not only for domestic use, but they do not work at a very large scale. If you do not get the buy-in of the population and you do not give them the opportunity to engage in renewable energy development, you will get nowhere. Putting one-kilowatt wind turbines on individual houses will not solve the problem; they are not cost-effective. There are tables to show which technologies at which scales are most effective and which give the faster payback of return on investment over time. The very small renewables make little economic sense, but renewables make financial sense at about 100, 200 or 300 kilowatts.

182. Mr Butler: What would a renewable of that size be?

183. Mr Doran: That is a large wind turbine on a farm; it is not something that you would put in your back garden in Belfast.

184. Mr Frew: Thank you for your presentation. You gave us a startling figure about awareness of renewable energy. What can the Government do to raise the awareness of small businesses, individuals and households? How can Departments communicate better with one another to cut down the confusion on renewable energy? What can the Government here do to obtain grant funding from the European Union?

185. Mr Doran: As far as I am aware, there is now no direct communication on renewable energy between government in Northern Ireland and the population. There were some programmes in the past; however, unless people understand the extent of the problem, they will not buy into it. That problem will not go away, and oil and gas prices will go back up substantially. My opinion is that, by November 2011, the price of oil will be back at $100 a barrel and that by 2013, it will be back at $150 a barrel. The pressure will be back on, so, unless we do something in the meantime, we will not be able to respond. Joe public does not see that as an issue; it is only when oil prices go up that he starts shouting.

186. Most people do not understand the implications of energy security, where energy comes from and energy price for Northern Ireland in the short, medium and long term. For various reasons, many people in Northern Ireland do not believe in climate change. I am happy to park that and focus on energy security and the cost of energy, but the Government need a communication strategy to inform Joe public.

187. The second question was about information sharing among Departments, and the Chairman mentioned that. Various Departments have an interest in renewable energy. I did some work with councils yesterday to find out the level of interest in renewable energy among local councils in Northern Ireland and what assistance they want from DETI. They think that councillors need information. Councillors are residents like everyone else, and, generally, the energy managers in councils feel that many councillors do not see this as an issue. Therefore, when it is put to

councillors that the boiler in a swimming pool needs to be changed at a cost of £200,000 with a three-year payback, they ask why they are wasting £200,000. They do not understand the issue.

188. Similarly, when I was out yesterday conducting a survey that we have been carrying out over the past couple of weeks, most council energy managers said that they continually feed information on renewable energy into different Departments. I said surely the information goes only to DETI, and they said no, because DFP has responsibility for the government estate and is continually looking for statistics and information. Even the councils send some information to DRD, DETI, DFP and OFMDFM; there is no co-ordination. It cuts across different Departments.

189. Mr Frew: Thank you for your answers. You made the point about cost very well. We can talk about the planet and climate change but, to focus people's minds, it will come down to the price of energy. That is the primary concern. When oil prices rise, individuals and businesses sit up and take notice. Cost-effectiveness must be driven home; we must get that information out. There is confusion about the upfront costs of renewable energy and how long it takes to pay back. However, there is a payback. Furthermore, people are scared because nobody really knows the cost of maintaining the equipment. We should emphasise that more.

190. Mr McHugh: You are welcome, Michael. This is a difficult subject for councils, the public and for all of us. We have concentrated on this, and, therefore, you can imagine that it is not a priority for those who encounter the issue only the very odd time. I have two questions, one about the grid and one about planning.

191. Is enough work being done with planners so that they are engaged with the future needs of the planning system, for example, the grid and the placement of renewables technology? Are they up to speed or are they just fiddling away as normal? Perhaps planners do not consider renewable energy a priority, although I could be wrong.

192. The other question is about the grid, and there is, at the moment, an end time of 2014 for us to move forward. That is the lockdown for the grid. In other words, there is no point in putting up any more wind farms because there is nowhere for them to go. They will have to be switched off. That seems to be where we are at. The order books of the two companies in Germany involved in the production of cable are filled with five years of orders. That will cause a blockage for us. How will we overcome those obstacles?

193. Mr Doran: Most planners do not have an understanding of renewable energy. For example, approximately three months ago, there was a DOE consultation on permitted development for renewable energy and what small renewable energy projects would be allowable under planning legislation without a planning application being made. We, along with many other organisations, responded to that consultation. In places, the proposed legislation was ridiculous because the Department did not understand what it was proposing. One example is that the legislation proposed that a certain scale of wind turbine should be permitted development; however, nobody in the market manufactures wind turbines the size permitted. Although, on the face of it, that proposal is great and means that people would not have to put in planning applications to put wind turbines up in their back gardens, nobody makes that size of turbine. Therefore, there was a lack of understanding.

194. Planners are not technical experts in renewable energy; however, there is some lack of understanding. That said, the Planning Service was developing expertise. The way in which planners managed large-scale applications in the past is different from how it has been done recently. Recently, a central planning division has looked after the larger planning applications, depending on whether the energy produced goes into the grid or is retained for one's own use. However, my understanding is that, at the moment, because of cost cutting, the Planning

Service is removing that expertise from the central planning unit and devolving the authority for it to the local planning units, which do not have the expertise. That is a step backwards.

195. Does that adequately address your first question?

196. Mr McHugh: Yes.

197. Mr Doran: You are quite right that there are constrictions on how much wind can be taken onto the grid. At present, there is about 450 MW of renewable wind energy on the system. However, if someone wanted to put up a wind farm tomorrow morning in certain places, they could not because the energy could not be fed back into the grid. In the planning system, there is about 1,200 MW of wind energy. Therefore, three times more energy is going through the planning process than is on the ground. More than half of that cannot come to fruition without investment in the grid.

198. To return to Mr Frew's question, unless Joe public understands the implications, there will be more issues similar to those in south Armagh around bringing in the grid interconnector. The general groundswell of opinion is that people do not want overhead pylons. I can understand that; I may not want a pylon in my yard either. However, there are three choices: either no grid reinforcement is put in, in which case we cannot have renewable energy; if grid reinforcement is put in, it is done above or below ground; and, if reinforcement is put in below ground, it will be 10 or 15 times more expensive. If people want to make the third decision, let them make an informed decision knowing that their rates or taxes will go up to pay for it. I understand why people do not want more pylons in their area; however, that view was taken because people did not understand the implications. If people knew that it would cost 15 times more to bury the cables, they might have thought twice before voting against the pylons.

199. Mr McHugh: Since there will be a hold-up for a few years with the grid, farmers could get involved in biomass. Seemingly, some of the CAP reforms aim at using willows to add to the production of energy in certain areas.

200. Mr Doran: Even if that was done on a relatively large scale — up to two MW or three MW — the problem would remain.

201. We have an issue here, and I am not sure what the answer is. The average cost of grid connection in Northern Ireland is considerably more than it is in other parts of Europe. We did some research on that issue about six years ago. At that stage, the average price of grid connection quoted by NIE for a farm that was wishing to export electricity — I am not talking about a farm that was just connecting its dairy — was in the order of £50,000. In Germany, six years ago, the average grid connection cost for a farm in a similar situation was €8,000. Those two prices are not even comparable, so there is an issue with grid connection costs.

202. The Chairperson: Were the costs similar in Britain?

203. Mr Doran: The costs were lower in Britain but still substantially higher than those in Germany.

204. The Chairperson: You said that there are applications in the system that are potentially worth 1,200 megawatts. What would happen if all those applications were granted?

205. Mr Doran: Do you mean if they were granted tomorrow morning?

206. The Chairperson: Let us say if they were granted within the next year.

207. Mr Doran: They could not be built, because the grid would not be able to accommodate them. Most of the applications could not be accommodated within the current grid structure. So, at some stage, we will have to make a decision about whether we are going to invest in the grid. I am not sure of the exact figures involved, but they are in the order of £400 million to £500 million. We have to make a decision about whether we are going to incorporate renewable electricity and move it forward. If so, we will have to invest in the grid. We have to prioritise.

208. The Chairperson: You consider that the Planning Service is going backwards due to the decentralisation of decision-making.

209. Mr Doran: Yes, I do.

210. The Chairperson: Is there not a case for the Planning Service to have a specialised unit that deals with all those applications, moves them on, and concentrates on them so that they can be dealt with expeditiously?

211. Mr Doran: It did have such a unit, and it is in the process of taking it apart at the moment.

212. The Chairperson: Were all applications dealt with centrally?

213. Mr Doran: No; it was dependent on the scale of the project and whether the electricity was going into the grid or being generated for personal consumption. That was a slight anomaly that I was not terribly happy with, but my main concern is that that centre of knowledge is being taken apart and that those individual planners are being sent back to their divisional units.

214. The Chairperson: So, in other words, there was, effectively, a centralisation of those applications. That is being changed; the process is being decentralised, and there may well be a less efficient and less expert view at a local level.

215. Mr Doran: Yes, and that is unfortunate, because the planners were beginning to get a grip of the situation. I think that they are going to lose that grip.

216. Mr Frew: There will also be an inconsistent policy throughout the country.

217. Mr Givan: You are speculating that the process will become less efficient and that there will not be sufficient expertise locally. On what evidence are you basing that view?

218. Mr Doran: The situation was improving for the people who were putting in the planning applications to the central unit; they were finding an expertise there that was consistent and that understood the technical problems. Once that is taken apart, there will be, as Mr Frew said, an inconsistency, because one area will approve something that another area will not.

219. Mr Givan: What evidence is there for that? Planners implement planning policy statements. The expertise is put into developing a policy that is supposed to be applied consistently across the Department. The planners apply a policy. I know that councillors and other individuals have had experiences whereby they got approval for something in one area and not in another area. However, I am curious as to how you feel that you can allege that something will be approved in one area and not in another when the planners have to implement planning policy statements, which used expertise in their formulation.

220. Mr Doran: Because it goes back to visual amenity, which tends to be the grounds on which most of the large-scale applications fail. Those are subjective decisions.

221. Mr Givan: You are right. However, visual amenity is more an issue for the Northern Ireland Environment Agency (NIEA) than for planners because the agency is consulted on it. That is the case for the central division, as it is for local divisions: the NIEA will be consulted about visual amenity. Again, I am curious as to how you can say that that is a backward step.

222. Mr Doran: I say that because I think that a level of understanding of the technologies and implications is needed. Once that specialism is taken away and dispersed, it will be less effective.

223. Mr Givan: How quickly were those applications being turned around under the centralised system? In my experience, it was incredibly difficult to get approval for such planning applications. Planning applications have sat for years under the centralised system and have still not been approved.

224. Mr Doran: Minister Poots came in around September 2009. He had been in post for about two weeks when one of the first speeches that he gave was to the British Wind Energy Association conference, which was held in Belfast. He said that he was going to take the handcuffs off the planning process and that things were going to move forward. That did not actually happen. However, during the past three to five months, most people who were making large-scale wind-energy applications were finding that there was a level of understanding from the Planning Service that had not been there before. In my opinion, that level of understanding will drop when planners start to be put back into their own divisions.

225. The Chairperson: With regard to the point that Mr Givan has raised, planning policy applies throughout Northern Ireland. PPS 18 and the guidelines thereunder is the relevant advice. Mr Givan makes a fair point to counter your suggestion. The point is that, if PPS 18 and the guidelines are in place, there should be a consistency of approach across the Planning Service's regional offices. How do you counter that argument? I understand your point that the process has improved and that the service has been building up expertise centrally, and so forth. Would that not balance out?

226. Mr Doran: Although I have just been complaining about subjectivity, I will now give you a subjective answer. In my opinion, part of the problem is whether there is confidence. If there is a central planning division that is responsible for all of the larger-scale applications, it will have the confidence to issue or to reject applications. When that is devolved to local areas, offices are under more pressure locally to deal with issues. I am not sure that they will respond as quickly.

227. The Chairperson: That is a fair answer.

228. Mr Cree, I am sorry that Mr Givan jumped the queue. However, it was appropriate that he asked his question.

229. Mr Cree: It is all part of the same mix. Certainly, the Planning Service is notorious for its inconsistency, both between districts and even within districts. That is nothing new.

230. To return to the issue of the grid, it is fair to say that most thinking on renewable energy relates to wind generation. Most of the work and the expectation is emanating from that aspect.

231. Mr Doran: Yes; at the moment. Although the focus should be on renewable energy, there is a focus on renewable electricity in Northern Ireland, because we have the capability to deliver more on that in the short term. In the long term, the focus will also shift to renewable heat and transport. That is slightly further down the line.

232. Mr Cree: I accept that. However, let us stay with the issue of electricity generation. You have, quite rightly, identified the grid problem. How do you see that problem being overcome? Who will finance the necessary investment in infrastructure, transmission and distribution?

233. Mr Doran: The ratepayer will do that. It is either that or we do not move forward with renewable energy. There is constriction. The Assembly has to decide whether to make it a priority. There is a decision to be made.

234. Mr Cree: I suggest that the ratepayer does not expect to be doing that. If major energy companies are in the business or coming into the business, they should be prepared to invest for the sake of their own profits. I know that we have a regulated market, but this whole thing is going to fall flat on its face unless the grid is reinforced very quickly.

235. Mr Doran: That is correct.

236. Mr Cree: Are we just going to hope that, somewhere down the line, the Government will decide that they have to tax people in order to raise money to be given to the electricity distribution company?

237. Mr Doran: I am not an expert in how the money will be raised. I have to be honest and say that I do not know the answer to that question.

238. Mr Cree: I have a simpler question. Viridian was part of your organisation's original set-up. Action Renewables does not get any money from DETI now, but does it still get money from Viridian?

239. Mr Doran: We do not get any money from Viridian. We get approximately 15% of our turnover from DETI, but, by April 2011, that will be nil.

240. Mr Cree: Will you have to ask the ratepayers for money?

241. Mr Doran: We now contract commercially, so 85% of our income comes from commercial activity.

242. Ms J McCann: I have two questions: one is general, and one is about the generation of electricity through renewables. Your written response states that, with a population of 1·7 million, we are a small economic unit when it comes to energy. It also states that we should have an overall strategic policy with Britain. I am thinking about an all-island approach to energy and energy policy. We live on a small island of just over six million people, and we could generate electricity from wind and wave energy, though there would obviously have to be investment in the grid to enable that to happen. Committee members went to a place once where we were told that, if there were proper investment in the grid, we could not only use electricity generated from wind energy but we could export that in the future. I am sure that Action Renewables looks forward to the day that that happens.

243. Do you believe that the Government have any sort of vision for the use of wind and wave energy as well as other renewable energy on an all-island basis? I know that you said that part of the responsibility for renewables sits with the Department of Enterprise, Trade and Investment and other Departments all over the place. Therefore, do you think that the Government have the right vision for renewable energy at the moment? We have a single electricity market. Have there been any discussions about that vision and about looking at that on an all-island basis as well as with Britain? When we talk about renewable energy policy, I sometimes feel that there is no innovative thinking on the export of such energy. It would

become more economically viable if we could export that energy. Is there any movement towards that?

244. Mr Doran: You are putting pressure on me, Ms McCann, because to answer that question honestly, I will have to tread cautiously into the field of politics, which is not my area of expertise.

245. Ms J McCann: I understand that.

246. Mr Doran: Therefore, what I am about to say is a personal opinion, which may not be the opinion of Action Renewables. In my opinion, the way in which government operates in Northern Ireland and the way in which some of the Departments carry out their business are affected by the party that the Minister at the head of that Department belongs to. Therefore, it is my opinion that the Agriculture Department, which has a Sinn Féin Minister, is more comfortable doing business with the Republic of Ireland than Minister Foster, who comes from a DUP background, might be. Some members may completely disagree with that.

247. Mr Neeson: What you say is not true.

248. The Chairperson: Do you wish to challenge that, Mr Neeson?

249. Ms J McCann: Let him finish; he was answering the question.

250. Mr Doran: I am quite happy to let members come in on that point. It is not my area of expertise; that is just my perception. Therefore, although there is an all-island grid now, which benefits Northern Ireland and the Republic of Ireland, I think that DETI generally looks to London to partner rather than to Dublin. I think that there are opportunities. You are quite right; the wind, the waves and the crops do not know where they are in Ireland, so it makes more sense to move forward. There were difficulties with the way in which electricity is incentivised in Northern Ireland and the Republic; they are very different incentivisation schemes. They have not been co-ordinated, and I am not sure that is possible to do that with the current regulatory frameworks in both countries. But yes, it makes sense to have collaboration between North and South, because the same wind blows north and south.

251. Looking at a long-term vision, in my opinion, Ireland has the opportunity to export large amounts of electricity by 2025. It is likely that, by 2025, there will be a European grid. We have already got an interconnector coming in through Scotland, so we already export some electricity. It is possible that Ireland could be exporting 50% of its electricity production by 2050, so there is an opportunity. I am not sure that that vision is there at the moment, possibly because it has cost implications.

252. The Chairperson: Do you want to come in on that, Mr Neeson?

253. Mr Neeson: No; I have made my point.

254. Mr Irwin: Michael, you are very welcome. I apologise for not being here for your presentation. There are a number of issues, from planning to grid connection, of which we are all aware. I was speaking with someone last night who had just got grant approval for a biodigester, and the cost of connection to the grid was £84,000, which he thought was astronomical. There are targets relating to renewable energy, but do you agree with me that part of the problem is that there is no clear direction or joined-up approach from government? There needs to be clearer direction from the top down if we are to meet targets and to move forward on renewable energy. Do you accept that?

255. Mr Doran: I do. Mr Neeson may disagree with what I am about to say, but I think that part of the issue is the structure of government in Northern Ireland and the way in which it operates. When you say that there is no vision or joined-up government, you have to look at the size of the Departments and the number of people who are working in, for instance, the DETI energy division. There are six or seven employees in that division who are trying to manage all of those issues. The Department of Energy and Climate Change (DECC) has more than seven people in its energy policy division in London.

256. I think that we would have been better off importing the Energy Act 2008 en bloc and just delivering it here, rather than trying to reinvent the wheel. The people in the DETI energy division are doing the best job that they can with limited resources, but there are only six or seven of them working on an agenda that is increasing substantially every year. I am not suggesting that 25 or 30 people should be employed in that division, because it is not going to happen. However, to a certain extent, we are making a rod to beat our own backs by trying to reinvent legislation every time that it comes out, instead of just importing what GB is doing. I think that we could do it more easily if we just took what the rest of the UK is doing and delivered it, and, if 5% of it is not appropriate for here, well tough.

257. The fact that feed-in tariffs did not come in here has created a real problem for installers in the market here, because there has not been a demand at a domestic level, which there has been in the UK. Most of the installers have either shut up shop or have relocated to GB over the past six months because there is no buoyancy in the market here.

258. The Chairperson: There is a problem here. We are a devolved Assembly that is trying to work through legislation. Are you suggesting that the Energy Act 2008 should apply here?

259. Mr Doran: I think that it should have applied.

260. The Chairperson: What do you think of the situation now?

261. Mr Doran: DETI has coped with that, but it has taken two years to deliver on it. In the meantime, lots of renewable energy installation companies have gone to the wall or have relocated to GB.

262. The Chairperson: We now have a problem because Britain has feed-in tariffs and we do not, which causes dislocation in respect of incentives, and so forth.

263. Mr Doran: Yes. The feed-in tariffs remunerate at a slightly higher level than the new ROC system. DETI has done a good job to manage the situation. I am not saying that DETI created it. I am not sure who decided that we were not implementing the Energy Act 2008. I am not sure how that came about.

264. The Chairperson: The Minister explained that she tried to submit an amendment about the feed-in tariffs, I think, in the House of Lords. However, it was too late in the legislative process to get that extended to here.

265. Mr Doran: It created an unfortunate situation where we were disadvantaged for two years. We should not have to wait for two years every time there is an initiative in GB. If an investor is looking to put money into a project and can get returns now in GB that cannot be got in Northern Ireland because the policy is not clear, that investor will go to GB and not stay here.

266. The Chairperson: They will walk. Does the South have a different system of incentives?

267. Mr Doran: Yes; it is a completely different system.

268. The Chairperson: Is it a feed-in tariff?

269. Mr Doran: It is slightly different from that. The general opinion is that the system in the South is worse. Therefore, I do not suggest that we adopt that.

270. The Chairperson: It is not a feed-in tariff system?

271. Mr Doran: No.

272. The Chairperson: Does that cause problems in respect of exporting renewable energy from the South to the North or vice versa?

273. Mr Doran: No. That system has been managed. However, an installer who operates in the North and the South operates in two very different systems.

274. The Chairperson: So there is no real problem?

275. Mr Doran: No.

276. The Chairperson: OK. You say that there are six or seven people in the DETI energy division.

277. Mr Cree: We have a chart that shows that it has over 30 people.

278. The Chairperson: Let us examine this point. I assumed that six or seven people work on energy, as Mr Doran said. Energy does not simply mean renewable energy. Is that right?

279. Mr Doran: That is correct. There could be other people who are attached to Invest Northern Ireland working on energy. It is the actual energy division that we deal with. That may not be the entire energy division. I apologise if I have given incorrect information.

280. The Chairperson: What sort of complement would you see as being most effective for the energy division in the Department?

281. Mr Doran: I do not know; my expertise is not in running Departments.

282. The Chairperson: Do you think that, on balance, the unit is too small?

283. Mr Doran: To be honest, given the volume of work and what it is trying to manage at the moment, I am surprised that it has delivered as much as it has.

284. Dr McDonnell: I am sorry that I missed Michael's presentation. However, I heard it a couple of weeks ago and was very impressed. I will comment rather than ask a question as such. Nobody is criticising the people in the energy division. They work very hard. However, I think that there is a lack of focus and priority given in DETI to energy issues, particularly renewable energy issues. I would appreciate Michael's indicating whether he agrees or disagrees with me. It is not just a question of numbers. It may even be a question of, rather than using people with a general Civil Service approach, creating an expertise pool of a team of 10 or 15 people who are committed to energy and have a specialisation in that. Am I right in saying that?

285. Mr Doran: Yes, you are.

286. Dr McDonnell: I have talked to the Minister about it, and she is in full agreement that there is a need to put more resources into that division. It is a growing priority. It was not that significant 10 years ago but has now trebled or quadrupled in size.

287. I want to probe a bit into the feed-in tariffs and the ROCs. Am I right in my impression that ROCs suit the big off-shore wind farms and that feed-in tariffs are preferable and desirable for small on-shore producers?

288. Mr Doran: No, that is not correct. The way in which the ROCs are being delivered in Northern Ireland is an attempt to match the revenue that can be accrued from feed-in tariffs in GB. They fall slightly short, so people are getting slightly less money in Northern Ireland than they would be getting in GB, but the delivery of the ROCs has tried to address the situation. The main issue was that we were two years late in matching what the feed-in tariffs were going to be, so the companies that were trying to deliver here were looking at a buoyant market in GB and nothing happening here. The issue was the time delay. The ROCs have gone a long way towards addressing the amount of money that people can get out of feed-in tariffs.

289. The Chairperson: If you were an investor or were trying to set up your own business, would you find the ROC system or the feed-in tariff system preferable?

290. Mr Doran: The feed-in tariffs, because it would be the same as in GB. If I had come over from GB to here, I would be wondering why there was a different system. The initial reaction would be to question why the system was different and then to discover that I would be getting slightly less money here. Therefore, there is some reluctance. I think that DETI has done a good job, under the circumstances, to deliver the ROC system, but it would be —

291. The Chairperson: It has tried to tailor the ROC system to suit the fact that we do not have a feed-in tariff system. Unofficially, it is almost a hybrid system. Is that right?

292. Mr Doran: That is correct.

293. One other thing that I have not mentioned today, and nobody else has brought it up, is that one of the difficulties in the market here at the moment relates to what Invest Northern Ireland is doing. Invest Northern Ireland is being very active in promoting renewable energy development within companies in Northern Ireland, but its remit covers exporting, job creation and inward investment. Unless the companies here are exporting, they do not receive support. Therefore, Invest Northern Ireland does not really have — I am trying to avoid using the words "vested interest" — any interest in seeing an indigenous industry developing here. As long as we are making things and exporting them, it is fulfilling its remit. Again, that relates to the fact that there is no joined-up thinking, in that it is not part of Invest Northern Ireland's thinking to try to sell into the Irish market; it wants us to sell outside. If there is not a pull in the Northern Irish market, Invest Northern Ireland does not really care.

294. The Chairperson: If a generator is exporting to the South, is it really exporting into the same market as that in the North?

295. Mr Doran: Exporting to the South is recognised as exporting.

296. The Chairperson: Even though it is a single market?

297. Mr Doran: Yes.

298. Mr McHugh: If we have run out of grid or grid time, perhaps we should be developing some of the other things such as biomass, so that farmers could at least plan, over the next five years, to consider that as a possibility, along with CAP reform, because they are going to be asked to change tack. The other point is that we could have all the wind turbines we like, but there are times when there is no wind. There is hydroelectricity in Norway that could be fed back here if we had the grid to do it. Alternatively, we have a lot of small hydro positions throughout the island of Ireland. Is there a possibility of bringing those back into use? There were small mills, and so on, in the past.

299. Mr Doran: Small hydro will never make a significant impact in Ireland because of the topography. I am exaggerating now, but, basically, Norway is a plateau with lots of cliffs on the edge, and all the turbines are placed where the water falls off the plateau. Ireland is like a basin, with Athlone stuck down in the middle. We do not have lots of tidal runs, so we are never going to generate a lot of electricity. I agree that we could be generating a lot more electricity off-farm. Mr Irwin talked about anaerobic digestion. That is likely to become much more significant, and the Agriculture Department has an initiative in place. The person whom Mr Irwin talked about was probably involved in that initiative.

300. Mr McHugh: I was thinking that people could create their own dams or high water.

301. Mr Doran: There will be instances, but it will not be significant in terms of percentages or numbers.

302. The Chairperson: I think that everybody has asked their questions.

303. Mr Neeson: I would like to clarify for Michael's benefit why I made the comment that I did. Minister Arlene Foster saw the sale of NIE to the Electricity Supply Board (ESB) as a business matter; she did not consider it a political matter, as some other unionists did.

304. The Chairperson: Mr Doran was very careful not to get into any party politics.

305. Mr Doran: It is not my area of expertise, and I stand corrected.

306. The Chairperson: He was pushed on the points, and I think that he dealt with them as best he could in the circumstances.

307. Thank you, Mr Doran, for your very helpful submission to the Committee. If the Committee thinks of further questions, perhaps you would be willing to send in a written answer.

308. Mr Doran: That is great. Thank you very much.

14 October 2010

Members present for all or part of the proceedings:

Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell

Mrs Claire McGill
Mr Gerry McHugh
Mr Sean Neeson

Witnesses:

Mr Wesley Aston
Mr David McElrea Ulster Farmers' Union
Mr Christopher Osbourne

309. The Chairperson: I welcome Wesley Aston, David McElrea and Christopher Osborne from the Ulster Farmers' Union. We have received your written submission, which was helpful. An addendum to that has been tabled today. It would be helpful if colleagues looked at that addendum.

310. Gentlemen, you are welcome. Please provide a short introduction, and we will get into questions. We read your helpful document and the addendum to it.

311. Mr Wesley Aston (Ulster Farmers' Union): Thank you for the opportunity to speak to the Committee. I apologise on behalf of our deputy president, Harry Sinclair, who had a prior arrangement; we tried to rearrange that, but that could not be done. I am Wesley Aston, the UFU's policy director; David McElrea is the chairman of our rural enterprise committee; and Christopher Osborne is the policy officer of that committee. They are the experts on the issues that you wish to talk about.

312. Before we get into specifics, I will give a brief introduction on where the Ulster Farmers' Union sees itself. Mr Doran set the scene extremely well. As famers and landowners, we see tremendous opportunities for renewable energy. Mr Doran explained timescale and oil prices well. Imports into Northern Ireland will be an increasing issue for energy security, as will keeping money in the Northern Ireland economy: given the opportunities, why should we pay for that money to leave Northern Ireland, particularly under present conditions?

313. Different types of renewable technology exist, not solely wind. Everyone seems to talk about wind, but there are other sources. We have talked already about wave technology, but, equally, there is land-mass production through biomass and anaerobic digestion. Those technologies have huge potential. As farmers and landowners, we have been extremely frustrated by the lack of progress on the issue. Several years ago, we identified that as an area in which farmers could get involved, yet, to date, nothing has happened.

314. The other key issue is that, in the food-supply chain, which is where the vast majority of our activity takes place, we are price takers; we do not want to be price takers in the energy industry. We see opportunities for being price makers as well as retaining money in the Northern Ireland economy and creating jobs. That is a brief and broad introduction. I hand over to the chairman of our rural enterprise committee.

315. Mr David McElrea (Ulster Farmers' Union): Thank you for the invitation to present to you. We have a number of points for our oral submission, and I will detail those. On government support, we welcome the financial incentives for renewable energy; that is a better and more long-term route than capital grant schemes, which can add to the price of technology instead of cutting it. We welcome the longer term financial incentive on that front, whether on ROCs or feed-in tariffs. We do not have a clear opinion on what is the best option for the Northern Ireland economy. We may prefer a feed-in tariff because of its security of price for renewable energy; however, we do not have a defined policy on the whole system.

316. The Government should have a better energy policy — there is no primary legislation on renewable energy policy for Northern Ireland. Mr Doran said that we do not have the Energy Act 2008, which applies to GB.

317. The wind sector is probably of most interest to farmers because of the change in tariffs since April 2009. We find that planning applications for that sector go to local offices and that junior planners refuse them because they have no experience. They are getting a tide of applications, and they do not know why. They refuse applications on any grounds because they are afraid of making a decision or a wrong decision.

318. If an application is deferred, it goes to the senior planners, whose approach has been totally inconsistent. For instance, in our area, a senior planner in Omagh who deals with wind turbines said that if they are visible within a three-mile distance from a road he will refuse an application; less than three miles, he will grant it. In Fermanagh, they had never heard of a policy of refusing turbines because of visual impact. Planners asked whether turbines could be put in a hollow rather than on a height. That is not a sensible approach to wind-turbine technology. [Laughter.] I am sorry to be flippant, but that is what people come up against.

319. There is a different approach among some consultees. For instance, one section of the Northern Ireland Environment Agency (NIEA) released a policy on visual impact that allows only two areas of Northern Ireland that have a low-to-medium visual immunity impact to place wind turbines on the scale that we require. We are not looking at large, externally financed wind farms, the money from which leaves the country; we are looking at installations that are owned by people from here whose profits will go to the local economy.

320. I go back to the point on visual immunity. The agency reckons that only two out of 52 areas can accommodate turbines because the rest of them are high visual impact areas. That does not leave much scope for turbines.

321. Dr McDonnell: Where are the two areas?

322. Mr McElrea: I am not sure. That section of the agency wants to integrate the turbines, with buildings and trees to shade them. However, another section of NIEA says that wind turbines cannot be put near hedges because of bats. One section of the agency says that turbines should be put near hedges and trees; another says that they should not. Not knowing which section rules, they go for blanket refusal. It is a mess.

323. I want to discuss communications between government and the public. More information needs to be put out to the public on why we are choosing renewable energy and what it costs. For instance, some members of the public assume that anaerobic digestion is a smelly technology; in fact, it is completely the opposite: putting slurry through an anaerobic digester removes the smell. It is more of a benefit than a disincentive, but we need to get that across to the public. There is no real information about that. The College of Agriculture, Food and Rural Enterprise (CAFRE) has a role. However, in addressing farmers it, it is preaching to the converted. Nobody is putting that out to the wider public.

324. There needs to be investment in grid infrastructure. Much of the investment has been focused on bringing the larger-scale renewables, such as large wind farms, onto the grid rather than the smaller-scale projects. I am talking about plants that are under one megawatt rather than multi-megawatt wind farms. On that scale, an average grid connection below 50 kilowatts costs £20,000; above that, it is about £50,000 before the extra lines. That is the cost of the kit beside the renewable technology, never mind the strengthening of the lines. Evidence from Germany and other parts of the continent suggests that it costs between £5,000 and £15,000 for

the same grid connection. That is slightly subsidised by the public purse, and the regulator can have it installed to allow more renewables. The cost of grid infrastructure stifles development.

325. The time that NIE takes to grid-connect people is another factor: the quickest time in which renewable technology can be grid-connected is nine months, and that is without planning permission. Nine months is required to buy the bit and stick it on the line. It is a slow, cumbersome process. We are told that NIE has only four staff dealing with grid connections for renewable energy for Northern Ireland. Considering the interest, technology and projects coming forward, four staff is not enough. Pressure on NIE from the regulator, this Committee and government to ramp up its delivery and to get more done would be beneficial.

326. We know that there is pressure on budgets, but we hope that support is directed to indigenous opportunities for Northern Ireland. Rather than help large multinationals and banks to invest here and see their profits leave Northern Ireland, we have to invest in our indigenous supply so that the money stays in our economy. There is no point importing gas from Russia or the Middle East or bringing large companies here if Middle Eastern companies take the profits. We are back to square one and a trade deficit for Northern Ireland.

327. When talking about the planning perspective, I mentioned government environmental versus rural policy. With regard to environmental policy, we want to ensure that we are helping to produce indigenous biomass rather than importing. We do not want to get to the situation in which Europe has found itself: it has created a policy on having so much biofuel in diesel that it is importing palm oil from Indonesia and destroying rainforests. If we create a policy, it has to be sustainable here. If we build power stations at the docks to import material, we are back to square one.

328. We are concerned about local government's strategy on planning and environmental health policy. Since they do not have the expertise and do not know what they are doing and because they lack experience, they go for blanket refusal. That is not the way forward. In the previous presentation we heard that a central policy unit in planning is looking at larger projects. Smaller projects go to local planners and environmental health officers who do not have the knowledge or expertise to deal with what is coming at them. They need to be more clued up.

329. I move now to banks and financing. A couple of weeks ago, one of the local banks made a presentation on wind energy at Loughry campus. A practical on-farm renewable energy event will be held at CAFRE at Greenmount on 2 November, aimed at the rural community, particularly farmers. There has been a major focus on cluing the banks into the interest in renewables and the opportunities in them. In 2007, the Ulster Farmers' Union held an event on renewable energy in Limavady, which more than 300 people attended; 60 people attended an anaerobic digestion event at AFBI at Hillsborough earlier this month.

330. That same day 180 people attended an event at the CAFRE campus in Loughry. There is considerable interest in the agricultural community in being part of the solution of renewable energy. It is not happening at the moment; it is being held back by the planning process for grid connections, which is holding up finance, and by government support.

331. The Chairperson: Thank you for that succinct and comprehensive presentation. Gentlemen, if you want to answer questions, please feel free to do so. The jury seems to be out on ROCs versus feed-in tariffs. Have you not made up your minds which you prefer?

332. Mr McElrea: We understand the argument for ROCs versus feed-in tariffs; however, the benefit of a feed-in tariff is that it gives a guaranteed price for renewable energy over a fixed period. That helps banks and finance. We understand that feed-in tariffs have to be paid for in Northern Ireland, whereas the NIROCs go into the central pot, which comes from the whole of

the UK. We understand the argument for that. As long as they have financial parity, we are not too worried.

333. The Chairperson: Do you agree with Mr Doran that with the ROCs the Department has tried to shadow the effect of the feed-in tariffs in Britain?

334. Mr McElrea: We do not have as many bandings here as GB. I think that we may need more bandings in the ROCs. That may be related to the time available to introduce a policy, given the number of staff, so there are bigger bands. Last year, there was a change in the feed-in tariff for anaerobic digestion in the rest of the UK, but we did not get that here. The explanation was that the staff did not have time to make the change. I am not sure that that explanation is good enough.

335. There is a proposal in a consultation document to bring in a new tariff next April for anaerobic digestion. Hopefully, that will be introduced, as it would lead to a greater interest in anaerobic digestion in Northern Ireland. There is great potential for it here. Under-utilised land could be used to produce it. It could also be part of renewable transport and heating, which has not really been considered here. We are always looking at renewable electricity, but we could be part of the solution involving other sides of the renewables issue as well if the incentives were right. If the incentives are not right, the ideas will not come to fruition, no matter how good they are.

336. Germany has more than 4,300 anaerobic digesters; we have one. We expect a 700% increase in anaerobic digesters, as that number will rise to seven. We are starting off from a no base rather than a low base. The technology and the expertise are there. Farmers will know how to operate those things; they are not much different from operating on a cow. However, the incentives are not there to cover it.

337. The Chairperson: Therefore anaerobic digestion is the coming thing for farmers.

338. Mr Christopher Osborne (Ulster Farmers' Union): The UFU looks at it as part of the answer, not the whole solution. It is part of the overall scheme, and it needs to be given more consideration.

339. The Chairperson: Is there considerable potential on farms in Northern Ireland?

340. Mr Osborne: Definitely.

341. The Chairperson: If there is an anaerobic digester on one farm or in one area, do farms from round about feed waste into it?

342. Mr McElrea: There are many different examples of digesters; they range from small digesters on small farms to large, central digestion plants. There is any range of scales, but the incentives have to be right for them. The process does not have to be centralised.

343. The Chairperson: Are you saying that the incentive is not right at the moment?

344. Mr Aston: I spoke in my introduction about the concentration on wind power; however, the wind does not always blow. Wind is about electricity, not necessarily about heat. We see a need for a range of technologies to generate electricity and heat. There are opportunities across all technologies.

345. Mr Butler: Thank you, gentlemen, for your presentation. I am trying to quantify what your sector can contribute to renewable energy. You say that you do not favour one scheme over another, but wind turbines seem to feature a great deal on farms, as do anaerobic digestion and biomass. What will you deliver and what incentive will be required? Given the hurdles that it faces, how will the agriculture sector meet those objectives? Where does it fit in?

346. Mr Aston: The emphasis is on wind because the commercial sector is pushing wind. We are concerned that farmers are being led — and, in certain cases, misled — into those technologies. The figures need to stack up before you do that.

347. Mr Butler: That is what I am getting at. The Committee hears from many witnesses. The commercial sector says that it has to be wind and only wind; someone else will tell us that it has to be waves. Agriculture is such a big sector.

348. Mr McElrea: Exactly, and that is why we think that no one technology will be the winner. If you are on a hill, wind may be for you; if you are on flatter, more productive, ground, anaerobic digestion may be the way forward.

349. Let us get down to economics: on the anaerobic digestion front, 1·4 acres will produce one kilowatt of electricity and 1·2 kilowatts of heat. Many farms are less than 100 acres and could easily supply a great deal of heat and electricity to the grid without large-scale grid infrastructure.

350. We do not need a great deal of extra power lines and large-scale connectors. We are talking about grid connections of new transformers on poles and new, small ground-mounted substations. We do not need a large line infrastructure for those projects. That is why they are deliverable more quickly than large infrastructure projects that require large lines.

351. Mr Osborne: The dairy sector, which I represent, is an intensive user of electricity and heat on the farm. We also have huge potential to generate heat or electricity from what comes out of the other end of our dairy cows. We are in a unique and strong position.

352. The Chairperson: That makes sense.

353. Mr Cree: There is much talk about electricity. I am interested in the hemp experiment, which is a classic example of starting something without having everything else in place.

354. The witness in the previous evidence session talked about road energy, and the idea of using crops for biodiesel has got to make a lot of sense. Hemp is one, and rapeseed oil is another. In fact, I have seen plants that are used to produce diesel and to provide a feedstock for animals. What is the union's view on using a lot of land — you still have some set aside land — for those crops? On the other side of the coin, there are some fears that the food chain may be hit if a lot of ground is given over to fuel crops.

355. Mr McElrea: Hemp and rapeseed oil, which you talked about planting, are part of the mix. Unfortunately, the first go at hemp production in Northern Ireland failed, but that was more down to the business model than the agricultural part of it. Farmers were very willing to grow the product and to adapt to it, and they will do so. On the food versus fuel debate, there is an underutilisation of land here, due to the economic returns that we have been getting from food. We can produce a lot more from the land area that we have. We are a long way from having a food shortage debate here or changing over too much land for fuel to the detriment of the availability of land for food. We could produce a larger amount of energy here without affecting our output of food in any shape or form.

356. Mr Aston: Northern Ireland is a small player on a European scale, never mind a world scale. In the agriculture industry, we have seen the level of production fall in areas such as suckler cows and sheep. Under-grazing in hills is now a problem. We do not see energy production as a problem as regards the impact on food production; we see it as an opportunity to make use of the land. If food prices were to start to rise again, it would be up to each landowner to decide what to do economically on their farm. Anaerobic digestion, for example, does not necessarily entail the use of land in its own right anyway. Other technologies do require the use of land, but anaerobic digestion makes use of slurries and what is effectively known as wastes. Anaerobic digestion is additional to the technologies that involve the use of land.

357. Mrs McGill: David mentioned applying for planning permission in Fermanagh and Omagh, and Strabane is also part of that planning division. You are quite right to say that there are difficulties. I know that there was a laugh when you said that planners are now suggesting that windmills should go in hollows, but that is the reality. The hills, by and large, are in areas of outstanding natural beauty, and that is creating a problem. Obviously, there is a trend towards planning applications being made for individual wind turbines. Those applications, by and large, come from individual farmers. You said that farmers need to be careful about that, so do you have any views on what our approach should be when those applications come to us as councillors?

358. Mr McElrea: As I said, they should not be given a blanket approval. We do not want the bungalow blight that perhaps there was before, but not allowing any applications through does not help either. PPS 18 is intended to help renewables, and DETI's policy is to provide incentives through ROCs. However, there are planners who find any excuse to rule something out. It is not even that they are risk averse; it is easier to say no than it is to let an application through the net.

359. The Chairperson: Following on from what Mrs McGill said, is it the planners themselves or the Environment Agency that is the problem?

360. Mr McElrea: It is a mixture of both. The NIEA puts forward evidence of issues that need to be considered. If the planner thinks that anything needs to be considered, it will be a refusal. The agency puts it forward as something that should be considered, and the planner refuses it.

361. The Chairperson: Do you have any problems with PPS 18?

362. Mr McElrea: Not as such, only with the understanding and application of it.

363. Mrs McGill: You are absolutely right, David. Planners need to have a coherent and consistent approach to applications. I support you on that.

364. Mr McElrea: We have highlighted wind because that is relevant and case studies are under way on that at the moment. However, we are not focusing on wind only. The same will be true of anaerobic digestion.

365. Mr Osborne: It is worthwhile pointing out that it does not just extend to planning but goes further into local councils. We are hearing that environmental impact assessments are being carried out on smaller turbines and the targets that people must jump through, such as those on fees and visual impairment, are exactly the same as those for the larger wind turbines. Therefore, a bit more lateral thinking is called for on those matters.

366. Mr McHugh: You are welcome, gentlemen. I listened to the discussion on planning, and so on. I have certain sympathy with planners' reluctance to have single turbines dotted around the whole place. I know the height of them, and that can be doubled. We have a tourism product

here in the Mournes and in Fermanagh, and those turbines are not dotted all over the place in England and Scotland. Are you telling farmers that they should be pushing that door that will not open or should they invest in other areas such as anaerobic digestion or get together and invest in one larger farm? I do not expect some of those obstacles to be overcome. Why are there so many applications for single turbines? Surely that helps only the few. At least £400,000 is needed to invest in one. That will not help the larger number of farmers.

367. Some of the schemes in Europe are very heavily aimed towards the whole community, such as the biomass use of silage, municipal timber and mixes of that type in Sweden. For a continuation of farming here, given the need and dependence on heavy use of electricity, we will have to get to that competitive position in the future. If they have not planned for it, perhaps we will not be able to continue with the communities that we have in the future if we are still arguing with planners. Is discussion ongoing that maybe they should move towards working without waiting for incentives? How far on is that?

368. Mr Aston: From our broad perspective, Mr McHugh is right to ask why those things are happening elsewhere and not here. Our view is that the market has not created the conditions to pull it through. We are not necessarily seeking grant aid because things will happen if the market justifies it, as is already happening to certain level. Wind energy has been a case in point. However, we are not there yet. People are thinking about those ideas, and, as I mentioned at the outset, we have had a huge amount of frustration given that we started to think about this six years ago. It has not come though, and it is still not there. We are still talking about planning issues, and so on.

369. It has to happen at some stage. Our concern is that, if we, as farmers, do not start to get together, by the time we get our act moving when things start to happen, other big companies will have come in to do it for us. We will supply them with raw material, and the money will go back out again. That is why the indigenous aspect and the need to retain money in the economy seem to be important. It is frustrating, and I hope that the Committee has sensed the frustration on our side of the table about the fact that things are not happening.

370. The Chairperson: We certainly do.

371. Mr McHugh: Have you been able to work with local companies? The Quinn Group, for example, and other small clusters of industry and small businesses need quite a lot of power in localised areas. Is there a possibility of using anaerobic or biomass in those areas, as that would make use of the land? Food is not really paying at the moment, and it may pay even less in the future if the changes are brought in after 2020, so that seems to be the direction that you should consider. Have you been able to bring the farmers along those lines?

372. Mr Osborne: Our next committee meeting will take place in Cookstown Leisure Centre, where there is a biomass boiler. We are aware of the opportunities that exist in Northern Ireland. For example, I have spoken to representatives from Moore Concrete and the University of Ulster. Although it is early days, we are aware that there are opportunities for our members in that regard.

373. Mr Frew: I will be brief. Farms, generally, use single-phase electricity. Are milking parlours the same, or do they use three-phase electricity?

374. I know of a single wind turbine that was built 10 years ago but has never worked because of issues to do with single-phase and three-phase electrical connections. The people involved in its construction were misinformed and given the wrong advice. Although it has never worked and has produced absolutely nothing, it still had to be paid for. How much advice do you receive from government agencies and bodies such as Action Renewables, and how beneficial is that

advice to you and the people whom you represent? As I see it, we have a whole army of people who could produce electricity and the fuel to produce energy, but the infrastructure is not yet in place, and it is moving slowly. What is the advice like? How are you being assisted in that role?

375. Mr McElrea: The assistance that is given is very limited. From our perspective, we found that we were trying to answer a lot of the questions that farmers were asking when we were learning those answers ourselves. I am not sure what your question about single-phase versus three-phase electricity was.

376. Mr Frew: Is it correct that most of the farm buildings and businesses in the Province use single-phase electricity?

377. Mr Osborne: Many dairy farmers use three-phase electricity, due to their intensive use of electrical power.

378. Mr Frew: That means that they could produce more electricity and feed it back to the grid.

379. Mr Osborne: Yes.

380. Mr McElrea: The farm connection may be for single-phase electricity, but there may be three cables running on a pole near the farm, which is what gives them three-phase electricity. It is very simple for those farmers who are close to a line with three cables to upgrade to three-phase electricity, but the use of a transformer and the grid connection is very expensive in rural areas here compared to other areas.

381. Mr Frew: It is very expensive for anybody, whether a household or a business, to convert from single-phase to three-phase electricity. However, that may have to be done in order to become beneficial and cost effective by putting electricity back into the grid. That was the rationale behind my question.

382. Mr Irwin: I declare an interest as a member of the Ulster Farmers' Union. The representatives have made a number of good points.

383. I have been dealing with a case that involves the planning application for a wind farm, which has been in the system since 2006. Hopefully, we will get there in the end. In the eyes of the applicant and myself, the issues on which the application has been turned down are very minor, yet the process has been going on for four years.

384. You said that the average cost of grid connections in some parts of Europe was as low as €8,000, compared with an average of £50,000 here. Surely cost is a big impediment for people trying to connect to the grid, and it may turn people off going down that route?

385. I was involved with a couple of applications for biodigesters that were recently approved by planners. Therefore, planners seem to be working better on those, and perhaps that is because they do not have such a big impact on an area. In the main, biodigesters seem to be a very large investment of £1 million or more. Do you not accept that there will probably be only one or two in each county in Northern Ireland? There will not be a large number, because they are a very large investment.

386. Mr McElrea: It is a very large investment for those going forward under the current economics. Much smaller plants could operate if the financial incentive was changed. The £1 million plants probably produce half a megawatt. Anaerobic digesters can go down to 20

kilowatts. However, nobody is looking at those because they do not make financial sense here at the moment. If financial incentives changed, the whole outlook would change.

387. People may see financial incentives as a subsidy. However, the fossil fuel sector is also subsidised. If we put in the large grid infrastructure needed for large wind farms, it will be subsidised as well. We are not looking for anything that the other sectors are not getting.

388. Dr McDonnell: Is the grid connection cost the cost of the equipment to make the connection or an arbitrary fee charged by the grid owner?

389. Mr McElrea: They say that it is a price for the grid equipment. However, when we try to break down their cost of grid equipment, we find difficulty in their costs versus costs in other areas of Europe.

390. Dr McDonnell: Therefore, it is an inflated charge for grid equipment.

391. Mr McElrea: It is either an inflated charge or other areas have grid incentives. However, we do not know how their regulators work. The average person cannot buy or get prices for the sort of equipment that is required. Therefore, only they are in control of the prices for that equipment.

392. Dr McDonnell: If you were to be given a wish list, what three recommendations would you want the Committee to make in its report to overcome the obstacles, logjam or frustrations?

393. Mr Osborne: A new grid.

394. Mr Aston: We talked about the marketplace delivering, so there has to be a clear and coherent energy policy that co-ordinates across Government Departments in order that we all know exactly where we are going. It is piecemeal at present. We know that things are starting to move, but we are not there yet. We need a clear policy as to where we are going. The impediments to establishing a renewable energy infrastructure, including planning, would have to go into the mix. Initial equivalent treatment is needed across all technologies, and communication with the public about the need for such schemes for energy security. That would be a big help in moving us forward. Those are three initial wishes off the top of my head. My colleagues may like to add something else.

395. Mr Osborne: If money were no option, there should be a brand new grid. I would start again at the very beginning. If the Committee had a magic wand, it could give us a perfectly working supply chain. The hemp example would not have happened, and the production of biomass from the ground would move forward. Cross-departmental support is also required, with Departments working efficiently with one other. To get a sustainable, renewable industry in Northern Ireland, every Department that is involved needs to work together, including DETI, the Department of Finance and Personnel, the Department of Agriculture and Rural Development, of course, and the Office of the First Minister and deputy First Minister. I can think of those Departments off the top of my head. As I said, there is a certain element of fantasy and involvement of a magic wand, but that is where I am coming from.

396. Dr McDonnell: So, we need another quango.

397. Mr Osborne: No, that is not what we are saying.

398. Dr McDonnell: Do we need another quango? I pose that question constructively. We could have a magic roundabout with someone from each Department turning up to a monthly meeting

where they would have tea and buns and nice conversations but little output. How do we structure that? We need to tunnel down into that. Radical changes are needed and will be forced on us by economics and the absence of finance. We have to try to ensure that we do not end up with the wrong changes. In yours and the previous presentation, it has come through loudly that we will have to ensure that there is a robust energy strategy and team in spite of the fact that finances are going in the other direction. How do we achieve that? I know that I may be bouncing you, but how do we get a structure in DETI that drives renewable energy?

399. Mr Osborne: Our chairman can answer that.

400. Mr McElrea: We know of the example of what is happening in England, Scotland and Wales. A body called the National Non-Food Crops Centre has been set up. It was funded through the former Department of Trade and Industry (DTI) and the Department for Environment, Food and Rural Affairs (DEFRA). The National Non-Food Crops Centre provides the link between industry, agriculture and government, and it speaks to all three. For example, in the rest of the UK, it got together people who wanted to plant hemp with farmers and created an industry.

401. We have no such body here. We have no one who is talking to all levels of government. The National Non-Food Crops Centre is a quango, but it is impartial and can tell the Department of Energy and Climate Change (DECC) and DEFRA that there is an issue in the supply chain and ask what those Departments can do to sort it out. It meets them on a level basis. Here, we have even more Departments that are looking at renewable energy, and that has created even more confusion because no one knows who is in charge of what and who is doing what.

402. Dr McDonnell: They are all having grand thoughts with no product. How do we get a product?

403. Mr McElrea: It will take industry to create the product, but the policy and infrastructure is needed to allow the product to be developed. The agriculture industry is crying out to go ahead with that. We need the financial incentives and the cross-departmental co-operation to allow that to go ahead. As we said, there is no point in promoting wind energy if a planner suggests sticking a windmill down a hollow and hiding it. That does not make sense.

404. The Chairperson: I am going to call a halt to this session. I think that Dr McDonnell is finished, and I do not see any other questions. Thank you for your presentations, which have been extremely helpful to the Committee. You answered a lot of questions and stimulated a lot of interest. If you have any further ideas, particularly on the point that Dr McDonnell put about dealing at a governmental level with industry and on the whole issue of development, you could reflect on them and come back to us. That would be very helpful. Thank you for your submission, gentlemen; it has been extremely helpful.

405. Mr Aston: If I may, I will conclude from our end, Chairman. We will reflect on what Dr McDonnell said. I have a final message, which is that, although our frustration has come out, I hope that our willingness to play our role has come out clearly as well. There are opportunities there.

406. The Chairperson: That is very clear. Thank you very much, Mr Aston.

21 October 2010

Members present for all or part of the proceedings:

Mr Paul Butler (Deputy Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mrs Claire McGill
Mr Gerry McHugh
Mr Sean Neeson

Witnesses:

Mr Padraig Hanly GT Energy
Mr Michael Doran Action Renewables

408. The Deputy Chairperson (Mr Butler): We welcome Michael Doran and Padraig Hanly to the enquiry. Michael was here last week.

409. Mr Michael Doran (Action Renewables): I inflict myself on you again.

410. The Deputy Chairperson: Please give a presentation lasting five or 10 minutes. Keep it brief, and then we will throw the meeting open to questions from members.

411. Mr Padraig Hanly (GT Energy): Good morning. I thank the Committee for inviting us. I am the managing director of GT Energy and I am accompanied by Michael Doran whom you met last week. I will give a five minute recap on the presentation that we gave you. I will touch on some of the issues and discuss what is here, and what we need to get done in Northern Ireland, to develop this new industry.

412. The company was set up in 2007 to develop geothermal resources in Ireland and in the UK. You can see from our presentation that the company is well developed in GB, especially in Manchester, the Isle of Wight and Newcastle. We develop geothermal resources for generation of heat and electricity.

413. What is geothermal energy? It is heat energy stored beneath the earth's crust. The temperature at the centre of the earth is 6,000°C. For every kilometre one drills downwards, it gets 30°C hotter. That energy can be brought to the surface, harnessed and used for heat or for electricity generation. The benefit is that this is one of the few base-load renewable energies available. It is an abundant resource. The estimate is that, with the technology we have today, 4,000 times our energy demand is available. Another big advantage is that the visual impact is low. Geothermal plants can sit in town parks. They look like electricity plants or any other industrial unit; so, they do not have a large visual impact.

414. The history and use of geothermal energy across Europe is as follows. You may not be aware of it, but in Paris, 34 such plants have been built since the 1970s; in Germany, 69 have been built since 2001. Another 150 are in the developmental stage.

415. I turn to the targets in Northern Ireland. We want to obtain 10% of heat from renewable energy sources in Northern Ireland; we are currently at 1·3%. Geothermal energy is an abundant resource in Northern Ireland and has been identified as such by DETI's reports to date. This could help us meet our renewable target of 10%. We estimate that the projects that we are currently working on in Ballymena and Antrim could meet 7% of the target.

416. In Ballymena and Antrim, we have been working with the councils to develop the projects. We have received grant aid from the Department of Energy and Climate Change in GB to develop a pilot scheme in Ballymena that is at the moment going ahead.

417. Planning and consent seem to be among the big issues in the development of renewable energy projects in Northern Ireland. Those are not issues for geothermal energy plants, because they have low visual impact. We have met the Planning Service in Northern Ireland. It looked over our Ballymena plans and said that it had little issue with them. The proof is in the pudding. The file on a planning application that we submitted in Dublin contains only letters of support. As there are no letters of objection, the process is quite fast.

418. Grid infrastructure for renewable energy sources to connect to is also an issue in Northern Ireland. Given the nature of geothermal energy, we are seeking to develop such links in urban areas, where there is plenty of grid capacity and infrastructure to use electricity and the heat that its use generates. Also, once the right tariffs and support mechanisms are in place, plenty of private funding, equity and bank debt is available to fund such projects.

419. To get this new industry going in Northern Ireland, we first need to address how geothermal electricity projects in Northern Ireland are supported. Support is currently being provided under the renewables obligation certificate (ROC) provision. At present, there are two ROCs, which is not adequate. We requested the information that was used to provide that ROC support level. The Department of Enterprise, Trade and Investment provided that information, which was really just adapted from that of the Department of Energy and Climate Change (DECC). We then requested the information from DECC and found that the evidence used was not very substantive. It consisted of one paragraph taken from a 1980s report. So, we feel that there is a case for an emergency review.

420. Members are probably aware that the renewable heat incentive (RHI) was announced in Great Britain yesterday. We feel that that will push geothermal energy forward in the UK. We are already working on three sites there, and we have identified 100 sites on which it could work. If Northern Ireland wants to develop its renewable heat sector, it must implement an approach similar to RHI.

421. Although legislation is not needed in Northern Ireland or in GB at the moment to develop heat or geothermal electricity plants, if we want the industry to develop to its full potential, then, ideally, legislative and development frameworks should be put in place that will create security of tenure for investment and an orderly development structure. In Germany, a development framework was put in place in 2001. Before then, no geothermal plants had been built there. The industry is now worth €4 billion, and 150 plants are in the development stage. That is all I have to say for now. I am more than happy to answer questions.

422. The Deputy Chairperson: The Committee was impressed by a geothermal plant it visited at Soultz. What are the aims of the Antrim and Ballymena projects?

423. Mr Hanly: We are seeking to build a geothermal plant and to develop a heat network to supply heat to the towns. In Antrim, we are working with the Northern Ireland Housing Executive, which has 3,000 or 4,000 houses in the town that currently use oil or gas. The project is a big opportunity because geothermal heat is renewable and has zero emissions.

424. By its nature, geothermal energy enables us to give 20-year contracts for heat. We can tell customers what the price of heat will be for 20 years. Very few technologies can do that. It cannot be done for biomass, because the price of biomass next year, let alone the year after, is not known. We know our price, because all our capital costs are up front. The energy cost is built into the capital cost of developing the geothermal plant. In Germany, it is estimated that

such plants will last for at least 150-200 years. The up-front investment is high but good, because of the future benefits to be reaped.

425. Mr Neeson: Thanks for the presentation. The concept is fantastic. Will you tell me more about GT Energy and how the Committee can help the company to expand in Northern Ireland?

426. Mr Hanly: As regards expansion, we have been asked by many councils to come and look at their sites. Every council to which we have spoken wants to look at this. Some have visited projects, and the proof is in the pudding: they go and see it, they touch and feel it, and they all want one. The issue is not about getting support for developing geothermal energy; it is about the financial incentives to build a plant. To build one in Ballymena requires £30 million to be spent. If we could get bank debt to cover that amount for 30 years, the plant would pay for itself without any financial incentive whatsoever. However, because of commercial rates, and because private investors want to see a return in 15 years, we need that level of support up front to make sure that it is paid for.

427. There is also an opportunity here for DETI and for the Northern Ireland government— we have also made provision for this in the Republic — to charge a royalty for geothermal energy because it is state property and because it is so cheap after the plant is built and paid for.

428. Therefore, the current ROC level for geothermal electricity needs to be reviewed. At present, it is incorrect. No thought was put into setting it at the current level. We need to see the introduction of an RHI.

429. In Ballymena, the district heating network will be around 27 km. That is based on NIHE housing and council stock but also includes extra provision for anyone else who wants to connect to the network. District heating technology could last for a hundred years, no matter the energy source. One could change over the energy supply of an entire town with the flick of a switch. During the past 10 or 15 years in Northern Ireland, we have been investing in rolling out gas networks. We should have been investing in district heating networks, because any energy source can be plugged into them. That will safeguard and future-proof energy in Ballymena and Antrim.

430. Mr Neeson: You also talked about the possibility of generating electricity from the network. How will you achieve that?

431. Mr Hanly: To step back from that for a moment, I mentioned that a number of reports were produced by DETI and the Geological Survey of Northern Ireland (GSNI) on the potential for geothermal electricity in Northern Ireland. They have identified numerous places here where that potential exists, which means that one is able to drill to depths where heat is sufficient to generate electricity. We are looking for temperatures of about 100 degrees. We are using binary cycle technology, which uses lower temperatures to generate electricity. We are actually doing a small bit of work for AECOM, who are producing a report for DETI on that potential. We estimate, based on the information that we have at present, that we could probably build 20 geothermal electricity plants and still have waste heat left over; perhaps, five or six megawatts of heat that could supply 5,000 or 6,000 houses. The ideal thing to do would be to build those in urban areas and supply electricity to the grid. Waste heat that is left over could, then, be supplied to local buildings, housing or whatever is in the area. That would be the ideal situation.

432. In Germany, those plants are being built in towns and villages; for example, in Pullach, a small town with a population of 9,000 people around 12 miles south-west of Munich. The people there took the initiative to build a plant in their town park, around 50 metres from the school and 80 metres from their houses. The project involved a 13-month build. The plant now provides around 80% of the town's heat. It has had much higher uptake rates than were expected. In the

beginning, an uptake rate of around 40% was anticipated. Now, the rate is 80%. The town is actually considering developing a second system to meet future demand.

433. Mr McHugh: You are welcome, gentlemen. Geothermal energy is an interesting concept. It must rank alongside some of the renewable energy sources that we are pushing for, such as wind energy. A number of others have been discussed. How does geothermal energy compare as a future, sustainable method of heating that will replace energy sources that are already in use? In the North, some areas do not have the option of gas, such as the area that I come from, the west. Has an all-island approach been taken to geothermal energy? Money wise, and so on, how can we best move that forward?

434. Mr Hanly: Obviously, you will say that I am biased. However, if geothermal energy could be deployed in Northern Ireland, it would be by far the best option when compared with other renewable energy sources. First, as far as base load is concerned; if you compare it with wind, wind is available perhaps 30% or 40% of the time on the best sites, whereas geothermal energy is available all of the time. Whenever you want to use it, it is there to be used. As far as heating is concerned, we are still looking to import biomass because we do not have adequate supplies in Northern Ireland. Eventually, we will be importing biomass from Russia, as we do with oil. That is a volatile supply of an energy resource. Geothermal energy is available all of the time. It is indigenous. We are sitting on it anyway. It does not affect any other industry that we have at present. It only complements every existing industry.

435. There are, indeed, opportunities for an all-Ireland approach. For example, the GSNI has been involved in work on legislation that is currently being drafted in the Republic.

436. There is an opportunity for members to look at that to determine whether it is suitable for what you want to adopt here. I return to the German model: all you need to do is to put the framework in place and industry will introduce and develop it. It does not need to be mothered along; if the development framework is in place, along with the right incentives, it will result in a big industry. Germany has generated €4 billion since 2001, and that is where it is needed. I mentioned that there is 4,000 times the original demand, and that is with the current technology. We estimate that the cost of developing these technologies will drop, even in the first five or six years, by 40%, just by getting the first plant built. We have made provision in the Republic for putting a feed-in tariff in place, putting a cap on the number of plants that are built and reviewing the level again because the costs are expected to drop substantially in the first few years.

437. Mr McHugh: Where does geothermal energy rank in the Government's priorities? Should the Committee, in its inquiry for example, decide which projects should go forward or have money spent on them? Should the Committee invite industry to invest in them? A decision will have to be made to drive forward one area rather than another, or to proceed with a combination of two areas.

438. Mr Hanly: DETI has to drive it forward. To date, there has been only soft support. Geothermal energy is not well known, nor is it high on DETI's agenda. It needs to be pushed up the agenda. DETI has already spent some money on looking at the resource, and the reports have been positive. Those have indicated that there is a substantial resource and that there may be more. DETI can raise the level of awareness of that resource, start talking about it and put the development framework in place. Those things do not cost that much money to do.

439. The ROCs are in place; we just need to make sure that they are at the right level. There is no point in putting ROC support in place if it is not at the right level, because nothing will happen. The proof is there; the support was put in at two ROCs and nothing is happening. Nothing will happen. Until a renewable heat incentive is put in place, the heat plants will not

develop either. Unless DETI decides to put bank funding in place over a 35-year or 40-year period to pay for those plants, which, I believe, will not happen, the best way forward will be through private investment, which will allow development to happen a lot faster.

440. The Deputy Chairperson: You mentioned feed-in tariffs and said that there is no real incentive here for renewable heat.

441. Mr Hanly: There is absolutely no incentive whatsoever.

442. The Deputy Chairperson: Is that a barrier?

443. Mr Hanly: It is. We mentioned that to the council. We have spent quite a bit of money on feasibility studies and we are rolling out the pilot project to demonstrate the technology. Until the RHI or its equivalent is put in place, the technology will not go ahead because it would just not make sense. We still want to push the project forward. Ballymena and Antrim are still eager to do so; they want those projects to be developed in their towns because they have seen what is happening in Germany and they want to replicate it in Northern Ireland. Unless the RHIs are introduced, nothing will happen. Some people ask whether capital grants are required; I do not think so. I believe that if the incentive is in place, private equity investors can provide the money.

444. The Deputy Chairperson: What about feed-in tariffs versus ROCs?

445. Mr Hanly: I favour feed-in tariffs, because they provide more clarity and are a cheaper option. People are funding wind projects with ROCs, which are working; but I would like to see a feed-in tariff on a project. A ROC might be trading at £47 or £48 per megawatt hour, but to get long-term stability requires the participation of a utility, which will offer only £41 or £42, which is not the real market rate. It is not a true reflection of what you are getting support for. The feed-in tariff is the way to go. Germany, France and Portugal have feed-in tariffs and that is how the industry has developed.

446. Mrs McGill: The information pack is very helpful. I would like you to elaborate on the points that you make in your submission under the heading "Legislation and regulation".

447. Mr Hanly: We believe that the current legislation in Northern Ireland requires a definition of the ownership of geothermal energy resources in Northern Ireland. At present, development would be permitted through planning permission and, obviously, water extraction licences. That is an ideal; it gives enough comfort at the moment. In the Republic, we want the Government to take ownership of geothermal energy and the right to administer it. That provides security of tenure; once a new licence is granted, it creates an exclusion area of about five kilometres, giving the licence holder the sole right to develop in that area for a 25-year period with a right to renew for a further 25 years.

448. An investor will look at the framework proposed in the Republic and judge that it will give them a lot more security of tenure for their investment. There is a designed programme in place that covers exploration and development and gives an investor a security of tenure of 25 years, with a view to continuing for another 25 years.

449. If we look at Northern Ireland, it is about planning permission and water extraction processes, which were not designed for geothermal purposes. No one was thinking about geothermal development when they put development frameworks in place for planning, for water extraction and so on. We are trying to adopt those and make them work for what we are trying to do. That is not ideal. In time, if we want to see a proper, substantial industry with a lot of jobs develop, a proper framework needs to be put in place.

450. The Deputy Chairperson: Does GT Energy have planning permission for your current projects, or is that ongoing?

451. Mr Hanly: Planning permission for the Ballymena project will probably be sought in the next three to four months.

452. The Deputy Chairperson: OK.

453. Mr Hanly: In Dublin, planning permission appears to have gone through and we hope to get an announcement on that in the next two months: therefore, so far, so good.

454. Again, we can go ahead, but it is not ideal. If there is to be confidence in the investment community, a proper framework needs to be put into place. GSNI has been heavily involved in this in the Republic with respect to what has been pulled together on the template. A lot of that could easily be adopted in Northern Ireland. On a number of occasions, we have asked the Department what it plans to do about this. The response is that it is still looking at the matter. It must be done. Look at the industry that has been groomed in Germany since 2001, when its framework was put in place. In Australia, a development framework was put in place in 2004: £300 million has been invested in the industry since then in a small area of Australia alone. Therefore, that really needs to be looked at.

455. I have touched on the licensing system, and our submission pretty much explains what that is. In the Republic, the licensing system will be similar to that for mineral extraction. People will apply for a five-year licence to explore an area. Money must be committed to the project and must be spent in that area in that time. If there is a decision to develop, a development licence, valid for 25 years, must be sought for that area, which the Department will decide to grant or refuse. Such an approach is streamlined and pulls a lot of the development elements out of the planning framework because those involved in that framework do not know how to deal with such applications. Never before will we have had to deal with requests to drill three or four kilometres deep and extract water from such depths. There is no provision for that in current planning procedures, but there would be such provision in special legislation.

456. Mrs McGill: I am trying to understand what Mr Hanly said. Will GT Energy identify sites? Does GT Energy hope that the Department of Enterprise, Trade and Investment or the government will then take control of the process and have authority over it? How would that be done?

457. Mr Hanly: Northern Ireland will require legislation to provide that the Government will state that they own an interest in geothermal energy in Northern Ireland and that they have the right to administer the development of that energy source. After that, a development framework would be put in place. Until the Government decide that they own geothermal energy, planning regulations allow anybody to develop it. A Government decision stating that they own geothermal energy, and the putting in place of legislation for its development, will mean that the Government will control the orderly development of geothermal energy; they will decide where plants are built, and they will determine what is feasible.

458. Legislation may also provide for a future royalty, which has been done in the Republic. That is what we need to look at because renewable energy plants are costly. Government support would be an investment. We are looking at a long-time, secure supply of energy that can also be seen as an investment from which there will be a return. As I said, the price of electricity during the first 15 years, as the plant is built, is expensive, but, once the plant is built and paid for, the price of electricity is quite cheap. There is room to apply a Government royalty. That has been done in the US, where geothermal energy was developed in the 1970s and royalties are collected

on geothermal plants, rather similarly to the way in which royalties are collected for mineral or petroleum exploration.

459. Mr Cree: I am intrigued by the sites that you identified in Northern Ireland. Are there others that you have identified but yet followed up on?

460. I am particularly interested by the fact that you have no sites in the greater Belfast area. From what I remember of the Soultz visit, there had to be a certain type of rock to make this work, a type of hard rock. Are there other sites that are commercially feasible? I notice that your current projects vary considerably in capacity; why is that? Can you flesh out the renewable heat incentive? What are you talking by way of money? You mentioned capital costs of £30 million. How can we get all that down to a large, viable project operating quickly with a good rate of return and making itself viable within the 20 year period?

461. Mr Hanly: I will first address your question as to why we are looking at certain areas. The project you visited in Soultz was a different type of geothermal project. It was a HDR or a hot dry rock project, which is an R&D project. In Soultz, they are drilling into granite which has no water in it and they are pumping water down into the granite to create an artificial aquifer. In Northern Ireland, we are drilling into existing aquifers buried three or four kilometres deep because those are a lot less risky. There are a number of HDR projects but they are still in R&D and they are higher risk. We want to drill into existing aquifers which are, in essence, sponge layers of rock, buried three or four kilometres deep, which hold water. We see that as less risky. If we are very specific about aquifers at that depth, only certain sites will be suitable.

462. You referred to the HDR process: that can be done anywhere in the world. It does not necessarily have to be in granite, though granites give off a lot more heat. Any point in Northern Ireland can be a drilling site because there is heat everywhere and it is just a matter of how to harness that heat. We feel that it is five or 10 years too early for those projects and we want to harness existing geothermal potential at the moment. There were a number of oil and gas exploration programmes in Northern Ireland which drilled into formations and found water at those depths. They have shown that there is water there and that it is at a certain temperature. It shows the potential of those areas and we know that the risk is a lot less in those sites. That is why we have identified Ballymena and Antrim. We know that the geology is good in those areas and we do not have to do a considerable amount of exploration work.

463. You are right, though. I have looked at 20 sites for which I know that there is potential. We are not going for any more because we want to get one developed and from there we will move to the next. It takes resources just to maintain relationships, develop the projects and keep them going. There is no point in having 20 projects if the first is not going to get across the line.

464. The RHI scheme is a mechanism of support for a limited period. In Great Britain, we have worked with the Department of Energy and Climate Change to get the right level of support in RHI. We are looking at 4·5p per kilowatt/hour for that term; that is what it takes to develop this project. Once it is paid for, this is the cheapest energy you will get. How it is paid for is the biggest issue. Everyone must decide for himself what way he wants to do that. You could look at the renewable energy feed in tariff (REFIT) scheme, which takes a levy off electricity supply costs and uses that money to provide support. Or, it could be paid for like the ROC support, whereby all the providers of conventional energy must buy certificates, which creates a revenue line.

465. For Government, the best way must be cost neutral. Money cannot be taken from Government coffers at present; the money is not there. It must be something that is passing through. This is an investment for the people of Northern Ireland. They are the ones who will benefit in the long term. People need to stop thinking about the short term. I know that there is

a little extra cost to be absorbed while we build these plants, but, in the medium-to-long term, they will provide a secure supply of energy.

466. I do not think people put a high enough value on security of energy supplies. We are at the end of a very long pipeline. If someone turned it off, we would be in dire straits. Germany puts a lot more value on security of supply than on price, because Germany has been very volatile.

467. Stability of supply is also important. Here is an example. We are working on a project in Manchester, and we hope to finalise a commercial deal with Manchester University. Our proposition to the university is that we will build the project and fund it — the university will take absolutely no risk — and we will give it a price for its heat for the next 25 years. We will set that price here today. That is a good proposition. Very few technologies can do that. It helps the university because its budgets are cut back as well. I am competing with gas and I am still able to do that. That is what the proposition is, and that is the one I make to all the sites in Northern Ireland. I mentioned that I went to the board of NIHE (Northern Ireland Housing Executive). I made the same proposition to it, and that is what the Housing Executive liked about the deal.

468. Mr McHugh: Do you think that Governments, such as ours or, indeed, the Irish Government, are aware of the issue around security of energy? During the fight over oil prices, a lot of the ships that were bringing oil here turned round and went to China or wherever because they got a better price for it while at sea. We could leave the industry and ourselves open to great risk. I just wonder how that argument is going along. Are people happy with our present position?

469. Mr Hanly: That issue is not highlighted or taken seriously enough. A lot of the industries in Ireland and Northern Ireland are here because of the long-term price stability of energy. However, once that stability goes, because we do not know where our energy supplies are coming from, that situation will change. The Sustainable Energy Authority of Ireland produced a map that shows that all our gas will come from Russia and the Middle East by 2025. The North Sea supply will no longer exist, pretty much, at that stage. The year 2025 is not that far away. Therefore, now is the time to invest in geothermal energy. Mr McHugh is right to say that the bigger nations in central Europe such as France and Germany are taking a lot more consideration of the security of their fuel supply than we are, even though we actually are in a more volatile position than they are.

470. There are a number of issues here. If we sat down and analysed it, we would realise that this is a good news story for everybody. Geothermal energy will help us to plan for future demand, to provide a stable supply and price for our energy and to invest in the industry in Northern Ireland. Take the example of the plant in Ballymena. It will cost £27 million in capital spend to develop. About £13 million or £14 million of that is for building the plant; the rest is for distributing the network. All of the work involved — civil engineering, digging roads, trenching — can be done by firms in Northern Ireland. We have all the skills here to do that work. Geothermal energy is not competing with any other industry. I use the word "competing", because with biomass, there will be a need to start growing fuel groups, which will affect the food industry somewhere along the line and then the price of food. However, geothermal energy does not affect anything. It is simply another brand new industry created out of nothing, and it needs to be looked at.

471. The Deputy Chairperson: Thanks. Michael, do you want to add anything?

472. Mr Michael Doran (Action Renewables): We support GT Energy's project. I am here today to answer any questions about how geothermal energy relates to other energies. However, I think that Padraig has presented the position very well.

473. The Deputy Chairperson: Thank you for your presentation, Padraig. Before you both go, are you content to answer any questions that were unanswered today?

474. Mr Doran: We will answer any questions that you have.

21 October 2010

Members present for all or part of the proceedings:

Mr Paul Butler (Deputy Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mrs Claire McGill
Mr Gerry McHugh
Mr Sean Neeson

Witnesses:

Ms Kirsty McManus	IBEC-CBI
Mr Nigel Smyth	CBI Northern Ireland

475. The Deputy Chairperson (Mr Butler): With us today are Nigel Smyth and Kirsty McManus. Thank you very much for attending. We have your written response. I will throw open the session to you and then to members for questions.

476. Mr Nigel Smyth (CBI Northern Ireland): Thank you. I am the director of CBI Northern Ireland. I am joined by Kirsty McManus, who is the programme manager in the IBEC-CBI joint business council. I apologise on behalf of Reg McCabe, who is unable to join us because he came down with a throat infection and, so, did not come up from Dublin. I will make a short statement, then Kirsty will make some introductory remarks, after which we will be delighted to answer your questions.

477. We welcome the inquiry and the opportunity to provide evidence to the Committee. As the Committee is aware, energy policy is a key issue for our members in Northern Ireland. The development of the renewables market is of significant interest to us, and we believe that there are significant opportunities for the economy. The joint business council has been actively involved in that area of work and, hence, our submission has come through the council. Kirsty will make a few comments about that shortly.

478. CBI is keen a promoter of the need to reduce the carbon intensity of energy production. We have taken a leading role at a national level around the climate change agenda.

479. We recognise that there are significant wind resources, in particular, on the island of Ireland, which we are keen to tap into. However, it needs to be cost effective. Grid investment needs to proceed timely and at the lowest cost. We remain very worried about whether the planning system can facilitate the necessary investment in the appropriate timescale. We also see opportunities for biomass, anaerobic digestion and energy from waste.

480. Our members are concerned about competitiveness and about ensuring that energy costs are no higher than they need to be. Many argue strongly, and with strong supporting evidence, that prices in Northern Ireland are already too high. Policymakers must bear that in mind when considering supports and incentives that will be paid for by customers.

481. We believe that Government support by way of the renewable energy obligation is the best long-term policy instrument. Any modifications should be orderly and be signalled in advance so as not to undermine investment plans. The renewable heat incentive (RHI) is being taken forward in Great Britain, and we are keen to see it progress in Northern Ireland while recognising that there are tensions between maintaining competitor prices and using any form of customer levy to stimulate the market.

482. We do not see micro-generation as being a cost-effective technology at present. We do not believe that a case has been made for it to receive public subsidy. That is highlighted in our submission. We believe that cost effectiveness must be a key driver of policy.

483. We support the strategic energy framework as part of the overall energy policy. The final report, which was published a few weeks ago, is more specific and more focused than the draft document. We also recognise that it is only a framework. We agree with the report's four pillars: competitive markets; security of supply; sustainability; and the importance of infrastructure development. We support the renewable target that has been set; it will be particularly challenging in light of the demands of planning. The Government could and should do more to incentivise investment by companies, particularly in energy efficiency, but also in renewable energies, perhaps through some form of rating rebate. In our submission we have outlined a specific proposal on the achievement of the Carbon Trust standard. We also accept that the Government should lead by example, but their track record is not particularly good.

484. I will move on to planning. We are extremely worried that, without some radical changes, the target for renewables will not be met. Planning policy statement 18 has been welcomed and has helped those who have sought to build wind farms. However, without the necessary grid, there will be a problem. We are likely to get to within 50% to 60% of the renewable energy target, using existing infrastructure and with some modest strengthening and better use of technology, but that is going to leave a substantial gap, even if a major biomass plant is built in the next few years.

485. The delays with the North/South interconnector are a reflection of what we might face. Delays there are costing customers on the island of Ireland an estimated £20 million a year. We understand that a public inquiry on that matter will not take place until 2012. In the short-to medium term, investment is largely required in the west of the Province. In the longer term we may need further interconnection with Great Britain, but we do not believe that that is an issue or concern at present. From the CBI's perspective, a key task is to ensure that the Planning Appeals Commission can undertake more than one public inquiry at a time. To have to wait two years for an inquiry into the North/South interconnector is totally unacceptable.

486. We foresee significant economic opportunities in the renewable energy sector. Many companies are already operating in that space, and there are significant research capabilities on the island of Ireland. Kirsty will mention that, as well as potential opportunities for partnerships with Scotland. We have received concerns about the cost of connections to the grid, not just from renewable energy projects. We welcome the fact that the Regulator intends to consult on that matter in the near future.

487. The Committee is aware that access to credit for all types of business investment — including costs, conditions and processing time — is significantly more difficult now. We do not believe that funding for renewable energy is any worse; in many cases it is probably a little better, particularly in well-established technologies such as the wind sector. It is clear that costs will be higher now. It is important to have more clarity and certainty about Government policy and the nature of the support and the incentives that they can provide. More uncertainty leads to higher risks, which, in turn, creates more difficulties in accessing finance.

488. By way of providing additional evidence, the CBI has just completed a national policy document on energy from waste.

489. The report argues strongly that energy from waste will be vital in meeting our landfill, energy and climate change challenges. It is compatible with high levels of recycling and it is clean. It is economically viable on a wide scale. There are planning, financial and public procurement issues around that, and I am happy to provide the Committee with a copy of that.

490. Ms Kirsty McManus (IBEC-CBI Joint Business Council): I thank the Chairperson and the Committee for the opportunity to give evidence. As Nigel said, energy has been a key focus of the Joint Business Council, which is a partnership between IBEC, representing the Republic of Ireland, and CBI Northern Ireland. I will outline briefly some of the work that we are doing on energy, but, more specifically, in the renewable industry.

491. In 2009, the Joint Business Council held it's plenary in Edinburgh, facilitating the first tripartite energy forum for Northern Ireland, Ireland and Scotland. We brought together the three respective Ministers with the energy remit — Arlene Foster, Eamon Ryan and Jim Mather. On the day, 120 delegates from the energy sector and the wider business community attended, representing industry and government. One of the key outcomes from the summit was that the three regions should assess R&D capability in their respective universities' centres of excellence and work collectively on tripartite research projects; for example, renewables.

492. We are taking that agenda further. At the moment, we believe that the three regions have significant renewable energy resources. They share a common interest to optimise innovation, research and development in renewable energy technologies. Renewables research is ongoing in each region's third-level research centres, and a number of tripartite research projects have been established, most notably the INTERREG-funded initiatives of the Isles project and BioMara. Therefore, the Joint Business Council has been working closely with the Energy Technology Partnership (ETP), which we also refer to in our written evidence to the Committee. We are exploring renewables opportunities with ETP in Scotland on a tripartite approach that links industry, academia and research.

493. As I said, ETP is an alliance of Scottish universities engaged in world-class energy research, development and demonstration. It involves 250 academics and 600 researchers and is an example of best practice for Northern Ireland. ETP has been successful in securing the services of 100 PhD students who will focus on renewable energy. ETP has also secured more than £300 million in funding from Europe and beyond. We are taking that agenda further by looking at opportunities for us to work more closely with the Joint Business Council and ETP on renewables to make Northern Ireland, Scotland and the Republic an area of renewable energy technology best practice in Europe.

494. That outlines the work that is going on in the Joint Business Council. Nigel and I are happy to take the Committee's questions.

495. The Deputy Chairperson: Thanks for that presentation. The issue of ROCs versus feed-in tariffs has come up a lot in the debate. You seem to favour ROCs and I believe that you said that microgeneration was not feasible at the moment. The feed-in tariffs seem to be becoming more prevalent across Europe.

496. Mr Smyth: I am happy to comment. In our submission, we highlighted that we found microgeneration to be very expensive in relation to other technologies, and somebody will have to pay for that if it is to be subsidised. We favour the ROC system, which has been modified and we accept those modifications, provided that ROCs is implemented sensibly, in a way that does not interfere with investment but provides stability to encourage investment. That approach is

much more market-driven and one that, we believe, would deliver the most cost-effective renewables to achieve the targets.

497. The Committee will be aware that GB has introduced some significant incentives. A look at those must raise the question of their sustainability at the proposed levels and who will pay. There are arguments and there is tension between trying to stimulate the market and undermining competitiveness. If all customers have to pay, there will be a significant bill to be met by somebody else. Therefore, we prefer the ROCs because of the overall cost-effectiveness.

498. Mr Neeson: Thanks for the presentation, and I could not agree more with Nigel about the impediments that Planning Service places in the way of developing the Northern Ireland economy. However, as regards renewables, to what extent is the Joint Business Council collaborating in developing the green new deal?

499. Mr Smyth: Although the Joint Business Council has not been involved, the CBI has been actively involved in the green new deal, as has a range of stakeholders and social partners in Northern Ireland. On 2 November 2010, we will have a launch at Stormont.

500. As it features in the overall energy strategy, the most important and cost-effective action that people in Northern Ireland can take is to improve energy efficiency. If one looks at all of the graphs, one can see that the framework gets positive payback for money. The green new deal very much focuses on that. Certainly, we believe that it will provide economic, social and, indeed, environmental benefits. The challenge is to come up with innovative financing models. We hope that we will have done that, which will leverage significantly public sector money upfront with European investment loans and bank loans, and will also be paid in an innovative way through the pay-as-you-save scheme, which has also been tracked forward. We are working with one project manager. The Department of Energy and Climate Change DECC has 100 people working on it on a national level. We are very keen to see it happen and are enthusiastic about the opportunities it presents. There will be more news on that in the next few weeks.

501. Ms McManus: From a Joint Business Council perspective, we have brought together large energy users and providers on an all-island basis. We are operating in a single electricity market. In August 2010, we brought them together to look at key issues on which we can work on an all-island basis. The Joint Business Council's role is to facilitate that, lobby on issues, support businesses that operate in a single electricity market and support the competitive drive of that system.

502. Mr Cree: I must say that you have provided a good paper. I enjoyed reading it. Two issues stand out for me. The first is the grid, which you mentioned. What would it cost to reinforce the grid, make it fit for purpose to take all of that additional energy feed? You also highlight, dare I say it, the plight of Government in their communication strategy with so many Departments being involved. You put forward the idea of a renewables champion. Can you flesh that out a bit more?

503. Mr Smyth: We have not done any work on the grid and cost. However, the figure of £1 billion has been talked about, particularly in the energy strategy. I understand that work is under way at present. Indeed, I was a wee bit surprised. The regulator has just consulted on the start of his consultative review for next year. It indicates that it would be quite difficult to agree what the plan would be by January 2012. I know that the matter is complex. However, I hope that by January 2012 we will have a much better idea of what we need to do through the Systems Operator for Northern Ireland (SONI) or NIE. Indeed, as the Committee is aware, the energy strategy has indicated that the average cost per customer could be in the order of £45 to £80.

504. On the other hand, we must take into account energy prices globally; fossil fuel prices could well go up. Therefore, the price has to be considered in that regard. Also, there could be benefits from using wind on the single electricity market and the wholesale price could also be favourable. At times, it has come down. We expect it to come down again in the future, if energy is produced in that way.

505. We accept that there is a significant cost. We need to tie that cost down. We need to carry out planning. From our own engagement with NIE and others, we believe that a significant amount — perhaps, 60%, as we have suggested — could be achieved in a low-cost way using the existing high-voltage and low-voltage networks. However, to achieve the targets that have been set by the Government and agreed by the Executive will require significant investment. Most, if not all of that will be in the west of the Province. A significant cost comes with that. Figures that have been bandied around are in the order of £1 billion.

506. Ms McManus: As regards an energy champion, feedback that we have received from members is that the current structure is a maze of bureaucracy. Five Departments are involved in energy: DARD; DETI on the energy policy side; DRD on transport, water and regional development; DOE on the Planning Service, waste and climate change; and OFMDFM on the sustainability policy. We believe that there needs to a one-stop shop to make it as easy as possible for organisations to manoeuvre through the process. At present, they engage with five Departments depending on the industry to which they belong. Different processes are, perhaps, not strategically aligned. We advocate a one-stop shop for businesses, which could help to facilitate that process and ensure that the five Departments are singing from the same hymn sheet.

507. Mr Givan: Thank you for your report. You touched on the North/South interconnector and the Planning Appeals Commission. Your report goes into the concerns about the planning process, and recommends that an infrastructure planning commission be established. Do you think that the current planning system does not contain the skill or capacity to deal with business timely? How will an infrastructure planning commission operate better than the current system?

508. Mr Smyth: At least four public inquiries need to take place in Northern Ireland at the moment, and the inquiry on the North/South interconnector has been added to the bottom of the list. We have been told that that will take place in and around 2012. Our understanding is that the Planning Appeals Commission can run only one inquiry at a time. We think that that is totally insufficient. Two- hundred-and-seventy planners have just been redeployed. If it is a matter of the Planning Service providing an additional resource, it has got lots of commissioners with which to do so. If it needs an additional resource, it should make the decisions that are required to speed up that process. The current situation is unsatisfactory, and it will have an ongoing impact on not just the electricity grid but on some of the other inquires on the back of that.

509. To be fair to the Planning Service, it set up a strategic unit some years ago, and there have been some improvements since then. However, the process is far from perfect. There is still a view that the Planning Service is very risk averse and does not like taking decisions. In addition, the process is fairly elongated. However, some very good progress has been made on projects such as the Titanic Quarter and others. Therefore, there are some signs that it can work. Nevertheless, it seems that the service has a real problem dealing with contentious issues, and that that there are some failures in the process that make it unable to take those issues through. That is disappointing. We are just looking for an answer.

510. At the end of the day, the Planning Service may say that we cannot have whatever it is that we want, but the length of time that we have to wait for such a decision is unsatisfactory. Our understanding is that we will get a decision about the North/South interconnector in 2012 or

2013. It will then take three years to construct, so it will be 2016 before we get it. That will cost all the customers on the island of Ireland £20 million, and that is before we even look at the next stage. The issue is about whether we must go through the same process every time of looking at the health and environmental issues. Given that such a big investment is required, we need to look differently at the issue rather than simply repeating the same arguments.

511. Mr Givan: Some business organisations have made representations to the Minister about having some kind of oversight body, made up of various different stakeholders, including those from the business community, to ensure that the planning system, planners and the Planning Service are held to account. As regards your recommendation for an infrastructure planning commission, is there a role for the type of oversight body that involves stakeholders from the business community?

512. Mr Smyth: That is not something that we have suggested. Ultimately, it should be in the hands of the elected politicians who make those decisions. There are officials to go through that process. That is not something that the CBI has favoured or has come forward with. Kirsty, do you want to comment on the Planning Appeals Commission?

513. Ms McManus: In our document, we reference the Northern Ireland Audit Office report on the Planning Service, which highlighted that it consistently failed to meet self-set targets. The Audit Office estimated that the cost of a planning application increased by 59% from 2004-05 to 2008-09. On top of that, it estimated that the number of decisions a planner made fell 19% between 2007 and 2009. Serious issues need to be addressed.

514. At the moment, we estimate that it will cost £1 billion to upgrade the grid. However, if there are any delays in the process, it will cost substantially more. If one looks at the example of the North/South interconnector and the delays experienced with it, a figure such as £1 billion could easily turn into who knows what. Therefore, if the key issue of planning is not addressed, customers may have to pay more money at the end of the day.

515. Mr Givan: As regards the capital spend and the amount of money that you said needs to go into the grid, can we realistically meet the target of 40% renewables without having the money there to invest?

516. Mr Smyth: The encouraging thing about energy is that most of the investment will come from the private sector. From a recent briefing with ESB, the new owners, I understand that they are very keen. They have the money and are keen to invest. The problem is that they do not have the planning permissions to go ahead and invest. This is an area where the private sector will act. It must be done in a low-cost manner and there will be tendering processes and various things to achieve that. We are confident. The difficulty will be in getting through the rules and regulations. All of the uncertainty about this is unhelpful. As Kirsty said, the sooner we can come to some decisions on this matter, the better. Even with biomass and various other technologies, we are not going to meet the targets. Politically, or otherwise, we must try to facilitate the process of coming to agreement on this.

517. Mr McHugh: You are both very welcome. I will ask about planning. In local areas, do planners have difficulty in moving from what they were doing before in order to face all this change? Is this a new area of work for them? Are they being upskilled? Can they envisage what we are trying to do? This is quite new. Many people in that group would rather wait for 10 years to see what might happen rather than get actively involved. I found that attitude in planning on a number of fronts, including archaeology, and I wondered whether you had found that to be the case.

518. There must be serious obstacles to be overcome in planning before we can do anything useful with respect to upgrading the grid. I am from the west, and I know the importance of the grid and the fact that we have not, even in very small areas, received micro-upgrades. Planning causes difficulties in all that. What resistance in planning are we facing? What do they come back to you with? Do they come back with anything?

519. Mr Smyth: The Planning Service in Belfast has set up a sectoral specialism to deal with wind farms, as they have done in some other areas. That is welcome. It means that there are people with capabilities who understand the matter more fully. That was useful when PPS 18 came into play; before that, there had been a lot of confusion.

520. The member's second question was about the Planning Service's ability to implement agreed policies. However, the issue in the first place is about those policies. We now have a strong statement in the strategic energy framework, which says that a target is in place and that we need to act on it. That needs to be set within the policy framework, and then it will be a lot easier for the planners to follow it. The question is whether planning guidance is sufficiently strong for planners to say that they have received a strong acknowledgement and they need to support grid infrastructure. That will make it a lot easier for them to say that an application fits the criteria and take it through.

521. We will encounter the NIMBY aspect in all of this. People will not want to have transmission grids in their areas, and we will have to go through that process. As I said earlier, the health issue could well arise, and one would think that, once and for all, there is a lot of good evidence to the effect that transmission grids do not impact on health. However, rather than repeat this down the line, we need to try to overcome it or we will waste a lot of time, duplicate our efforts and delay the required investment. It will delay the arrival of jobs on the ground, the potential economic development that will come from this and the amount of money that goes into rural areas on the back of it. I do not think that it is a matter of capabilities, it is one of making sure that the policies are clear and supportive of what, strategically, the Executive has agreed needs to be done.

522. Mr McHugh: Kirsty mentioned communications with the public on the issue. We have become aware of the subject matter in the Committee, because it is our work. However, it is not well known on the ground and the terminologies are not understood. The public needs more knowledge of this. People are interested, but there have been a lot of obstacles from community groups to wind energy and to various other things that were imposed on their areas and for which they saw no feedback in money or in any great return. There must be some feedback to communities, not just at Government level. You need to reach local people.

523. Ms McManus: I agree. There must be engagement between business and communities and between Government and communities. That is the key issue, especially if we reach public inquiries.

524. In order to push those grid infrastructures through, especially in the west, where they will have the greatest impact, we will need to engage with the public and make them aware of the importance of the targets and the effect that they can have on the economy and on job creation. At the moment, there is a lot of misinformation, which is creating problems for potential investors, who are seeing delays.

525. Mr Smyth: Companies that want to build infrastructure, whether it is grid capacity or wind farms, have a key responsibility to engage locally. Most good developers will try to do that. On the other hand, there will be local objectors. There are significant issues around misinformation, and one party, which is opposed to development in its back yard, will be against the other,

which says that development is needed. That is where the role of government comes in. They need to point out where there has been a misrepresentation of the truth.

526. Mr Frew: Thank you very much for your report. In it, you talk about Scotland as being a model of good practice. According to the graphs in the report, the Scots seem to be only a couple of years behind England, which, I suppose, is a tremendous feat. I tend to think that it all comes down to money. Whatever one's line of work, whether one is a customer or a big business, it all comes down to the return within a number of years. The judgement will be made on how many years it will take to make a return. In the years leading up to the present, householders, customers and business people have not necessarily received the right advice on how to proceed. Could you comment on where we are now?

527. Some of the bigger renewable energy companies that have come into Northern Ireland have not wrapped themselves in glory in how they have treated landowners and worked with them. There seems to be a competitive streak between the companies that have come here. In your report, you mentioned the £10 million prize fund for marine and tidal technologies in Scotland which is due to be given out in July 2017. How big a difference has that fund made to projects in Scotland? Is it something that we should consider here, not only for tidal and wave energy but for all renewable energy sources? How can ordinary householders be incentivised to embrace renewable energy?

528. Ms McManus: I will address some of the issues relating to Scotland. We talked briefly about ETP. From our experience of working with Scotland, we know that it has a stronger practical partnership between industry and academia. It also has a skills base derived from the oil and gas industries, comprising people who are skilled in science, technology, engineering and mathematics. We have a potential skills gap in Northern Ireland.

529. I have spoken with some businesses who have decided to engage in Scotland. The Saltire Prize is not their primary goal; they had to know whether the skills were there, as well as the infrastructure, the level of ROCs that were available and the payback period. The Saltire Prize will be awarded to one project; it would be nice to have, but I do not think that it was the primary motivator for those businesses. The ETP were very successful in securing 100 people with PhDs, who will focus on renewable energy sources. Cost is certainly an issue, but there are multi-functional levels of impact, and skills are important. Do our universities have the required capacity and the ability to attract and retain that kind of talent in Northern Ireland?

530. Energy efficiency must be a primary focus for ordinary householders. The incentive for householders must be to reduce their energy bills. That message needs to be driven forward, especially in Northern Ireland, with 50% of households in fuel poverty and with additional costs to energy bills because of grid infrastructure upgrades and delays. We need to ensure that those delays do not get worse over time.

531. Mr Frew: There is also the fact that our housing stock is way below par on its energy rating.

532. Mr Smyth: There is a lot of resistance from householders. I will put my hand up: I installed cavity wall insulation three years ago and I should have had it done 15 years ago. The payback period is probably three years. The house is a lot more comfortable now, and my wife does not complain so much. So, folks, get out there and do it. I am a great proponent of that.

533. In Northern Ireland, 70,000 properties could have cavity wall insulation but do not, so the resistance is massive. We hope that the green new deal will engage local stakeholders and make a difference. In some cases, there will be some up-front capital. We are looking at different financing models around that.

534. I was at the Joint Business Council event in Scotland, and what is interesting about the model there is that it brings all the universities together. Scotland is getting a lot of synergies. By working together, Scotland is accessing European funding. We have to try to replicate that model in Northern Ireland by linking with our colleagues in universities in the South and in Scotland. There is some exciting stuff in there. Very good, but extremely fragmented, research is going on in all our universities. We would love to make that happen, and we are working on a project, for which we will seek funding, to develop those synergies while involving businesses to optimise the value.

535. Mrs McGill: On the great work that is being done in universities; you recommend that Northern Ireland should become a centre of excellence for renewable energies, which would marry academia and business. Is that realistic at this stage?

536. Secondly, Gerry and Nigel mentioned the situation in the west. I am from there. How will we engage with local communities to inform them, give them the right advice and raise the profile of renewable energy? I sit on Strabane District Council, which receives planning applications for individual wind turbines on farms. There are difficulties in how people and planners deal with such applications. Do you see a specific role for local government in that process and on that of creating the centre of excellence?

537. Ms McManus: As regards the centre of excellence, we will get to that point eventually. Projects that we advocate, such as tripartite industry/academia partnerships, will be precursors to the centre of excellence. We feel that we could easily engage more with the framework programme under EU funding. If Scotland, Northern Ireland and the Republic engage, we will have two member states involved. We are not yet at that point, but, with time, when we build up the skills base, we will have a case for applying for European funding. Framework 7 is very competitive. If we can come together and learn from examples such as Scotland's, we will get to the point of being a centre of excellence. We have the resources, it just a matter of leveraging.

538. Mr Smyth: When it comes to individual wind farms, we have some of the best wind assets in Europe and we should be trying to take advantage of that. Other countries do not have that. Wind is very cost-effective, and we need to maximise its use. Leadership is required at all levels, from the Executive down to local councils. We need good quality information. We need to highlight the challenges and risks associated with fossil fuel prices.

539. A few years ago, we saw what happened when the oil price rose. It is more likely to rise in the years ahead rather than come down, and we must plan for that. We need to change our culture and recognise the value of wind power. Many other countries have successfully exploited wind energy, but we need to change people's perceptions. Everybody has a role to play in that.

540. Mrs McGill: Do the witnesses have a view on individual wind turbines? I understand that they make no significant contribution to the grid. Is that the case?

541. Mr Smyth: Many years ago, we had B&Q putting turbines in windmills, and then I heard that it cost more carbon to create those than would ever be saved in a lifetime. There is a certain size at which an individual windmill, or whatever we want to call it, starts to make economic sense. Wind turbines on isolated farms are probably getting to that level. However, to achieve an economic advantage, a reasonably-sized windmill of a certain capacity is needed. I am sorry that I cannot provide the technical terms. Noise implications are unlikely, but a windmill of that size would certainly have visual implications locally. We are just going to have to start getting used to that.

542. Mrs McGill: Thanks.

543. The Deputy Chairperson: I thank Nigel and Kirsty for the presentation. The Committee will note it in its inquiry report. Are you happy to respond in writing to any unanswered questions?

544. Ms McManus: Yes; absolutely. Thank you very much.

4 November 2010

Members present for all or part of the proceedings:
Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mrs Claire McGill
Mr Gerry McHugh
Mr Sean Neeson

Witnesses:

Mr Nick Lyth	International Resources and Recycling Institute
Ms Leanne Rice	Action Renewables
Mr Derek Bond Mr David Hanna	University of Ulster

545. The Chairperson (Mr A Maginness): You are very welcome to the Committee, and we look forward to hearing what you have to say. I know that there are two separate projects. Who will kick off?

546. Mr Derek Bond (University of Ulster): I will.

547. The Chairperson: You are very welcome, Mr Bond. If any of your colleagues want to intervene at any stage, they are welcome to do so.

548. Mr Bond: I thank the Committee for inviting us here. We are a group of people from three separate organisations. I am accompanied by Nick Lyth from the International Resources and Recycling Institute in Scotland, Leanne Rice from Action Renewables — the Committee has already met that body's director, Michael Doran — and David Hanna, who, like me, is from the Ulster business school at the University of Ulster.

549. All of us are involved in various European regional development fund projects that are funded under INTERREG IVb in the area of renewable energies. In particular, David represents a project called MicrE, which looks at the use of renewable energies in small and medium-sized enterprises (SMEs). It looks at how they can use renewable energy to reduce their energy costs and at the economic opportunities for SMEs in peripheral regions to sell their technology and have expertise in that area.

550. Leanne is involved in the SMALLEST project and works for Action Renewables. SMALLEST — Solutions for Microgeneration to Allow Energy Saving Technology — is concerned with communities and renewable energies. Nick is the lead partner in the SMALLEST project, which, as it stands, is the northern periphery programme's (NPP) biggest strategic project and involves

all regions within the northern periphery programme area. I will hand over to Mr Lyth to talk about the projects.

551. Mr Nick Lyth (International Resources and Recycling Institute): I thank the Committee for inviting me today. I am the director of the International Resources and Recycling Institute, which is a charity in Scotland that is committed to advancing the theory and practice of resource use by linking the public and private sectors to the academic sector on an international basis. I am here in my role as lead partner for the northern periphery programme project called SMALLEST, which is concerned with accelerating the uptake of renewable energies and the conversion from traditional energies to renewable energies in remote rural communities in the northern periphery. The International Resources and Recycling Institute is the lead partner in that project, which includes two partners from Northern Ireland. When I heard that the Committee was looking at the barriers to renewable energy, I felt that it was a good opportunity to talk to members about that.

552. I want to make a couple of suggestions. The excellent written submission that you received from the University of Ulster gives all the background, so I do not want to go over it. However, I want to speak about a couple of issues that are not in the submission, including the outcomes in which I am most interested and which I wish to facilitate in Northern Ireland.

553. The first is the observation that you, as a Government, are responsible for investing in the SMALLEST programme. Northern Irish taxpayers' money is part of the northern periphery programme. Someone decided — possibly unbeknownst to you, although there is undoubtedly someone in the Northern Ireland Government who knows well — on the northern periphery programme's behalf, that the SMALLEST project should be what they call "strategic". It was their decision, not ours. It was not even our suggestion when we asked the northern periphery programme to fund the SMALLEST project. Someone in the Northern Irish Government decided to make the project strategic.

554. What they mean by strategic is that the SMALLEST project, into which they are putting €3 million, should cover the entire region of the northern periphery programme and that it should lead to policy change. The Committee could usefully ensure that the Northern Irish partners — Action Renewables and the University of Ulster — are not just called to this Committee as witnesses to talk about renewable energy in rural communities but are included as part of the process of policy change.

555. That has happened in Scotland. I am a member of the Scottish Government's community renewables implementation group, which is part of their policy advisory process for policy change on renewable energy. The group is making policy recommendations to Jim Mather and John Swinney, even though there will be Scottish elections next March. Those recommendations will be adopted, although whether they become approved policy is another matter. The SMALLEST project, which is funded by the European Union northern periphery programme, will have an instrumental voice in developing policy recommendations in Scotland.

556. That should happen in every region in the northern periphery. This is an opportune moment to suggest to the Northern Irish Government that a similar process should take place here. I know that the University of Ulster and Action Renewables are ready and willing to get involved.

557. The SMALLEST project enables the sharing of policy developments in community renewables in the various regions. That is the great virtue of the northern periphery programme: it allows us to bring together the policies of a bunch of disparate regions to encourage the uptake of renewable energies in rural communities. By doing that, you draw yourselves into a much wider stream of policy-making across the northern periphery; that would be a very virtuous process.

558. That leads me to my second point, which is about training and accreditation. I am not sure to what extent it relates to policy, but it undoubtedly relates to the subject of your investigation: the barriers to renewable energy in Northern Ireland. We are dealing with a very new subject, and the training and accreditation of those who work on the trades skills — plumbing, engineering, and electrics — and the professional skills — law, planning and accounting — have no specific training in renewable energy.

559. In Scotland, we are peddling hard to put that right. Work is being done on that by the Scottish Qualifications Authority (SQA), which is the main body for trades accreditation; the UK-wide Microgeneration Certification Scheme (MCS), which applies in Northern Ireland; and the National Occupational Standards (NOS), to which I have been introduced just this week as we try to tackle that issue right now. I believe that the NOS are UK-wide standards. However, I am not sure. If so, they apply in Northern Ireland. You can tell that it is not my field. As lead partner in SMALLEST, I champion the point that a fantastic opportunity exists.

560. In Scotland, we recognise that we need to standardise those different qualification routes. We need to bring them together into one route and accreditation process for anybody who wants to work in a renewable-energy field, particularly in communities. The same applies to every region in the northern periphery programme. I know that because I have talked to Action Renewables and the University of Ulster about what happens here. I understand that, in many ways, you have exactly the same problem: the quality of work is not adequate. At present, there is a relationship between work that is done and insurance. Therefore, there is a relationship between the Microgeneration Certification Scheme, which is required to be evidenced for someone's equipment to be insured and insurers. That is in place. However, it needs to be developed and standardised. Then, of course, training programmes need to be written in and embedded in training colleges in all regions.

561. I speak with a bigger mission that connects up with the strategic vision of the northern periphery programme. We can achieve an ideal because it is so new in all regions. We could achieve a common standard throughout the northern periphery. If we can do that, as part of the SMALLEST programme, by all working together, we will achieve something that will be adopted by all of Europe. It will be a terrific thing to have done.

562. I would be extremely pleased if you could consider that as part of your recommendations. I do not know whether it would then convert into policy. However, I am quite certain that you could facilitate it in the education processes. I think that I have probably said enough. I will shut up now. Thank you for listening.

563. The Chairperson: Do any of your colleagues want to say anything?

564. Mr Bond: We are happy enough.

565. The Chairperson: Thank you for your detailed paper. It is very helpful indeed. As politicians, we are trying to remove existing barriers to the development of renewable energy in Northern Ireland. We want to try to create a situation whereby it will be relatively easy for people, such as those who live in rural communities, which have been mentioned, to enter the marketplace. Mr Bond, what do you regard as the most significant barriers that prevent that transition?

566. Mr Bond: From our research, I think that the issue is one of knowledge transfer. People know about renewable energy, but they do not know who to go to for advice and information. That includes not only the people who are thinking of installing it but those who have traditionally given advice. At the University of Ulster, we are putting together a postgraduate course on managing renewable energies that is aimed very much at professionals, such as architects, surveyors and planners.

567. The Chairperson: That is similar to the point that Nick raised about qualifying or —

568. Mr Bond: It is different. There is a question about whether the people who install the equipment should be qualified to do so, because there is currently no agreed standard. A lot the first adopters were badly burned by the experience, as David and Leanne will tell you. There is a need for accreditation, such as the CORGI scheme for gas installations, so that people know that the individual concerned actually knows what he or she is doing.

569. The other problem is that, on the whole, the advisers do not really have a satisfactory knowledge of managing renewable energies. We floated the idea of the masters course with the local advisory panel for SMALLEST, which includes architects and other people, and some of them have said that they would like to do it. We have not, in fact, launched the degree yet; however, we have a waiting list of more than 20 professionals who would like to do it. Generally, people recognise that there is a need for more knowledge.

570. The Chairperson: Will that be done on a part-time basis?

571. Mr Bond: Yes, and some of it will be done through distance learning.

572. The Chairperson: Will that be done over one or two years?

573. Mr Bond: Our part-time masters courses normally run for two years. People will study two modules each semester. Professor Hewitt, who will give evidence here today, is from our sustainable technology group, and he will provide technology modules and to explain the technology. We, in the business school, will then provide the taught modules, because we find that those modules are better at showing people how to manage change.

574. One issue that has come across clearly in Mr Hanna's work is the lack of adequate business models for people, and I am sure that David will talk about that later. Obviously, most people nowadays do not know how to work out effectively how much they will save by using renewable energy and how long the payback period will be. That will also be part of our course, because it is important for professional people to understand those things.

575. The problem is really one of knowledge transfer. Nobody really knows who to go to. A lot of people got burned by early adoption. A couple of years ago, B&Q and other companies were selling small windmills from China, and people bought them without having any understanding of what they did. It nearly became a status symbol for people to have a windmill in their garden. However, most of those have now been taken down or failed to work properly.

576. In some instances, I liken the technology for renewables to the technology for TVs. When we were children, very few people bought TVs, because the technology was so unstable and the TVs kept breaking down, so people rented them instead. Renewable energy technology is at that stage, and that is one of the problems. However, we do not have a rental market for renewable energy technologies; everybody has to make the decision to buy. However, I know that some schemes are starting now. For example, in Scotland, people can rent the equipment rather than buy it.

577. The Chairperson: I will stop you there, Mr Bond, because I want to address a question to either Mr Hanna or Mr Lyth about the failures locally. Will you comment on the failures? Why did things fail? Is there any common denominator among those failures? As a postscript, what happened to the individuals who failed? Did they continue or did they simply drop out of the sector?

578. Mr Hanna (University of Ulster): There is a variety of reasons why the cases studies that we visited failed. One of the main reasons was that the experts gave poor advice. Another reason was that the installations did not generate enough electricity to actually produce payback. That issue can also be clouded by grants. A grant came up, people cobbled together a business plan, applied for and received the grant, installed the equipment, and then found that it was completely inadequate and did not produce what they wanted. The grant inspired them to go for it, but they were badly advised. They just installed the equipment, and it is now an expensive decoration.

579. The Chairperson: It seems that business failures were caused in part by the investment being grant led. People saw the opportunity to get a grant, and got into the sector with poor advice. Is that the case?

580. Mr Hanna: Yes. We find that installers are, essentially, sales people. They say that people will get a certain return from the investment. People go ahead, believing that expert, and find that they do not get that return. The grant issuer should check the business plan to make certain that it is thorough and that the equipment will generate the heat or electricity that it claims to do. There are no thorough checks, and people are getting grants without their business plans being thoroughly audited. They are getting the money, putting up the equipment and not getting what they have been told they would. That falls to the grant issuer, and, in some instances, the installers. As I said, however, they are sales people, and in most cases they put forward a best-case scenario.

581. The Chairperson: Naturally, they will do that.

582. Ms Leanne Rice (Action Renewables): David's points are very valid. I want to pick up on one or two of them. Having talked to community organisations, I have come across one or two that received grant funding. The problem is that the grants bodies told them specifically what technologies they should install. They gave them the make of equipment and the size. I know that people got advice from advisory services that said that that may not necessarily be the exact technology that they should go for. As David said, however, as grants were available, they felt they had to push forward.

583. Those technologies were not properly assessed and not suitable for Northern Ireland conditions. They subsequently broke down, and because they were originally grant-funded, the people do not have the money to fix them. Unfortunately, when they went back to funding organisations, the issue was not resolved, because nothing was written into the original grant fund to specify what would happen if something broke down and whether the installer or the person or community organisation was liable for fixing it.

584. If grant funds are being considered, they should be thoroughly researched to make sure that the technologies that people are being encouraged to install are appropriate and that a guarantee is built in if anything goes wrong, so that the matter is dealt with correctly.

585. Mr Butler: You spoke about difficulties with the technologies in both projects. Has there been any success to show that progress is being made, especially with micro-generators?

586. Mr Bond: Yes. There are many small, successful projects that succeed despite everything. Perhaps Mr Hanna would like to expand.

587. Mr Hanna: Some of the simplest technology seems to be the best. Biomass boilers are like a coal fire where the coal is replaced by wood or other biomass. They have few mechanical parts and operate very effectively. They can be used to distribute heat or to generate electricity, but they tend to be used for heat.

588. Those tend to be reliable, provided that there is an available supply of biomass. They are cost effective, provided that the right contractor can install it at a reasonable rather than extortionate price. That brings me back to the grant issue. Grants tend to have an application deadline, and, if they want to obtain the grant, people have to act quickly to gather the required information, make the application or prepare a business plan.

589. Mr Butler: Investing in renewable technology is often perceived to be costly, and there are questions about the return on it. It has often been said that the return on solar panels or wind turbines is not worth it. Is there much evidence that renewable technology is costly? It seems that it is talked about only when there is a crisis and electricity prices go up.

590. Ms Rice: As David mentioned, it is very important to make sure that the customer installs the right technology, thoroughly researches all the options and does all the groundwork before proceeding with the project. Last week, for example, I was talking to a member of staff at the Share Centre in Fermanagh, which has installed biomass boilers. The staff there could not be happier, because they are saving money. They are delighted that their project can be used as a demonstration model for anyone who is interested in going down the renewable energy route and that they can show that it works. However, they have also said that commitment to the cause is required; it is not necessarily always about cost savings for every installation. A lot of businesses, for example, are very interested in greening their corporate images and are finding that, when going for tenders, they are being asked more and more to prove themselves as green organisations, and they are looking at renewables from that standpoint.

591. Renewable technologies can work, but it is very important for the customer to work out which is the most suitable option and the level of payback and not just to regard it as a decoration.

592. Mr Lyth: Mr Butler has teased out an important question about where the barriers lie. Renewable energy technology is much misunderstood. Almost none of it is new; wind was first used to generate electricity in the United Kingdom in 1894. We have known how to do it for a very long time; we just have not bothered. The reason for that was that coal was cheap, so we developed coal-based energy systems. The technology has been there for a long time, and the same goes for tidal and wave power and solar energy.

593. There is an issue with technology, which is that of applied technology. The advances that we need are really in applied technology. Yesterday, I met representatives of QinetiQ, the privatised Government research body for the defence industry, which has developed some radical new technology for energy from waste. It is radical because QinetiQ has developed it to work down to a micro scale, and it now wants to commercialise it and bring it to the civilian population. It was developed for the Royal Navy's ships. Their energy from waste plant was put onto aircraft carriers — which is a vexed subject now — and it has been proved to work in the past couple of years. That is a genuinely an important technological breakthrough, and it is potentially useful.

594. The second part of Mr Butler's question, which is absolutely to the point, was about cost efficiency and about what works.

595. It is extraordinarily vexed, and, of course, the whole answer to that question is masked by the subsidy-led approach that has characterised our development of community renewable energy in the past 10 years. There have been an awful lot of uneconomic developments that have not been visible because of the subsidies. That is more difficult to engage with and more controversial because we are discovering things at a macro level that we had not known before.

596. A study that is now available in Scotland shows that the macro wind-farm developments in Scotland, of which there are many, but nothing like as many as are planned over the next few years, have been drastically ineffective. The success of the wind farms in Scotland is predicated on a 30% capacity rate. The later study shows that they operate at an average of 15% capacity. If that study is robust, it calls into question the whole of the UK wind-farm development. The interface of technology and cost-efficiency is, at all levels, the crux of the Committee's consideration of the barriers to renewable energy. If that research is robust, it means that wind is not yet working. Does that mean that we move away from wind on a UK-wide basis or does it mean that we have to work out what we are doing wrong and make sure that we do it better? There is no doubt that wind is a resource. How can we use it cost-efficiently? I wanted to make those two observations on the nature of the barrier, where the barrier exists and where we need to work collectively to try to sort out what to do.

597. The Chairperson: It would be helpful if we could have sight of that research report.

598. Mr Neeson: I am very fortunate in the sense that the University of Ulster at Jordanstown is in my constituency, and I have worked very closely with it over the years. In 2001-02, this Committee carried out a study into the development of energy in Northern Ireland, and that has been adopted as the strategic energy policy. I was interested in what Nick said about neighbouring EU states. What policies on renewable energy that have been adopted in other areas could be adopted here and could be included in the report that we hope to develop in the near future?

599. Mr Lyth: The exemplar that is leading the way in the northern periphery, and probably in the whole of Europe, is Sweden. I should stress that it is work in progress, and therefore my answer is based on partial understanding. The evidence that we are accumulating through SMALLEST shows that Sweden is leading the charge. The policies that characterise Sweden's effective engagement with renewable energy are dominated by two different factors, the first of which is the economic instruments. That was my answer to the Chairperson's question about the major barriers. The first barrier is the economic instruments. We are trying to kick-start something that has not been done before and make a shift in industrial infrastructure to deliver to our communities. The industry cannot make that shift naturally; it depends on the economic instruments to kick-start it. It must then become self-sustaining, but that is where it starts. Sweden developed economic instruments that would be across the board for residential and industrial activities; they would stimulate the conversion from traditional to renewable energy generation. That is the first area, and that is cruel to say at a time like this, when public sector cuts are either here or looming at such a level as we know they are in the United Kingdom.

600. The second area in which they were very clever is, I think, within your grasp as a regional Government: it relates to service supply. That is where SMALLEST is connecting. We are trying to extend the service supply and to make it do more and do it to greater effect across the region. In many ways, although there is a Swedish partner in the project, I am not certain what they can learn. I am not sure that they can improve what they are doing. They developed a service agency that would cover all of the issues related to all the different kinds of renewable energy in all the differing circumstances that may apply in Sweden.

601. Called the Swedish Energy Agency, it is a big organisation with a representative in every community in Sweden. That is how far it goes. I do not know how that representative is funded, but somebody from the Swedish Energy Agency in each community is responsible for making sure that renewable energy happens in that community. By putting the two together — the funding and the service — we have a very powerful mechanism for making that happen. I think that that is the answer, Mr Neeson, but, as I say, it is a work in progress. If the whole policy development, as I suggested at the beginning, is converged so that the smallest partners in Northern Ireland are sitting with the policymakers in Northern Ireland, the answer to your

question will develop organically. Then Northern Ireland will benefit from the most sophisticated answer to that question.

602. Mr Neeson: I have a follow up question for Derek Bond. To what extent does the business school have any help from Invest NI in developing renewables? I ask because a constituent of mine, who is now based in Scotland, is developing a major renewable project. However, because he is not exporting it, he gets no help from Invest NI.

603. Mr Bond: We have close contacts with Invest NI. Because this is a European project, we are very closely linked with the European unit in Invest NI. We recognise that Invest NI is very much aimed at exporting, and, obviously, renewable energy is local. The problem is that the old LEDU constituency in Invest NI is where interest lies in this side of renewable energies.

604. To come back to your earlier question, one of the problems that we find in Northern Ireland is this idea of community ownership. In Sweden and in Germany, which have successful renewable energy sectors, communities have bought into it. Most communities in Northern Ireland are very suspicious of it. Leanne Rice will talk about the few that have bought into renewable energy, and which, through strong leadership, have been successful. However, on the technology side, which Mr Neeson asked about, Mr Bond, who is here to talk about technologies at work, would agree with Mr Neeson. Professor Neil Hewitt, who the Committee will hear from in its next session, will give more advice on the technologies.

605. As people who are involved more in the business side, our job is to get people to buy into renewable energy. Many communities would like to buy in but do not know how, or are very scared of it and think, as Mr Butler said, that it is a waste of money and that payback takes a very long time. To get any of the technologies to work in Northern Ireland, we have to get community buy-in. That buy-in is much more evident in Scotland, where Community Energy Scotland and others work with communities. In Northern Ireland, no body yet does that, although Action Renewables has a business plan that includes involving communities.

606. Unfortunately, Invest NI is more export orientated. The problem, which comes to the matrix group, is that we often think that technologies here have to be frontier technologies that are only worth investing in because the rest of the world will want to buy them. In fact, the problem with renewable energy is finding technologies that work in the local environment and are easy to run. Those might not be the latest technologies, but they are ones that actually work in this environment. That is the gap that we have in Invest NI. There is a feeling that one has to come up with a new windmill that will beat the world.

607. As in the MicrE project, we are saying that we should look at technologies that are tested, that work and that local SMEs can adopt and sell. One of the big problems with windmills is getting them serviced and getting people who have the technological knowledge to work with them. The more advanced the technology gets, the less likely it is that a local organisation can work on it. There is a problem of a technology window in that Invest NI often thinks that it should be at the very frontier of technology. A region such as Northern Ireland should be somewhere back from the frontier with technology that we can work with happily.

608. Mrs McGill: On page 8 of your response, you refer to difficulties presented by the planning process, inconsistencies and conflicting advice. Do you have any views on how that should be addressed? I also want to ask Nick about Scotland. There is an increasing trend here of individual wind turbines on farms. Loads of applications are made for those, particularly in rural areas. That presents difficulties. The area of natural beauty is really a line on a map. An application could be approved in one place but another refused only a field away. How is all that dealt with? What is the situation in Scotland regarding single wind turbines in rural areas, given

that analysis and research has now placed a major question mark over wind as a renewable energy at this level?

609. Mr Bond: I will talk a bit about Northern Ireland, and then Mr Lyth can talk about Scotland. In Northern Ireland, one of the problems with the Planning Service is knowledge transfer. Planners have admitted to us that they do not understand the technologies. They are very keen to get more involved and find out about the technology so that they can make more informed decisions. There have been cases of planners allowing something and then cancelling the planning permission. That is quite a problem in Northern Ireland, and it is one that the Planning Service is looking at. We have had discussions with the Planning Service about its training needs in the area of renewable energies. That comes back to the postgraduate course that we hope to offer.

610. Mrs McGill: In my very limited recent experience, it is not about the lack of knowledge of the technology; it is about whether to allow another 30-metre wind turbine go in one field but refuse another application for one down the road. I was looking at a map in the local office within the last week. There are a number of turbines dotted all over the place. I am not saying that that is right or wrong, but I am wondering how it will be addressed. The planners are having difficulty. How do you decide that it is appropriate for one farmer to have a turbine but not another? There is a commercial aspect. David made a point about grants, and so on. It may not be grants, but there is certainly a commercial return in some cases. How is the planning side dealt with?

611. Mr Hanna: It is not completely confined to wind turbines. One of the major problems is the length of time that it takes to process applications. If you put money into something and produce a business plan but are left waiting in limbo for more than 12 months, it costs money. Time is money. Therefore, the process needs to be speeded up.

612. We have had conflicts around windmills and the necessary area of land, which is governed by planning law, and whether that is about just the land for the turbine, the land for the generator, which would be located further away, or the land for the path. There is no easy answer. However, it has to be about speeding up the process, because that would the give people applying for applications a chance to go for something.

613. The Chairperson: Has any study been done on the time that people have had to wait for applications to be processed, or is the evidence anecdotal?

614. Mr Hanna: No specific study has been done. However, having talked to people whose applications are at different stages of the planning process, particularly those involved in anaerobic digestion, our experience is that people have had to go through various processes depending on the type of supply coming to the factory and whether the supply can be shipped to the factory.

615. The Chairperson: The way that things are done is definitely not timely.

616. Mr Hanna: No.

617. The Chairperson: At times, the process is inconsistent between one office and another.

618. Mr Hanna: Yes.

619. Mr McHugh: Planning is a serious issue. I sense that councillors want to take the same approach to planning as they did to one-off housing in the countryside. However, most

councillors would approach the issue from a position of knowing very little about either. [Laughter.]

620. We have a tourism product in most areas. I have seen a wind farm on the other side of Stranraer that seems to have been done quite well. However, a one-off should not work in this situation.

621. You talked about models. There have been wind farms in the United States for I do not know how many years now. Surely, that is a model of the technology. If they have not found the flaws in that, why are we reinventing the wheel here? There are old pictures of windmills in Holland 200 years ago. I do not know about all that, but I live close to Shell, which has done a number of things in this area, including the use of small windmills.

622. My question is on grants. In relation to solar or wind energy, it is the taxpayer who has to pay for the grant that someone else benefits from, quite often someone who has money already. Is that money being wisely spent or is it, yet again, making someone richer on the back of the taxpayer? We would not want that money to be ill-spent. On top of that, the technology paid for by grants must not be a failure. For example, some single entity wind structures cost at least £250,000 to £500,000 and involve considerable labour. Usually, the grant applicant is someone who has a lot of money in the first place, and that is not the direction that I want to go in.

623. Are the other industries, such as the oil industry, trying to hold back the process? You mentioned that Shell was doing a good job on the timber side, but I have heard any amount of bad press claiming that the timber is wet, it is this and it is that. Is there any evidence of a scuttling of projects going on behind the scenes?

624. Mr Bond: We are not really in a position to answer that. Fiscal policies favour carbon. Therefore, there has to be a shift in policy before we can start to really talk about renewable energies. It is easy to see the oil companies as big, evil giants. However, we do not know what is going on behind the scenes. Until proved otherwise, we have to assume that they are gentlemen.

625. Mr McHugh: My other question is about how we can get local communities to look at renewable energy differently. In comparison with Sweden, the local communities are quite anti renewable energy. That started because oil was so cheap that you hardly had to buy it at all. That has changed a lot. Is that going to happen?

626. Mr Bond: That is part of what the SMALLEST project is about — trying to find out how we can bring communities along and get them to engage and start thinking effectively about renewable energy. It falls to the individual consumer. Most of us use energy but do not look upon it as a commodity. It is only when we get the bills in that we realise how much we spend. It is interesting that, in Northern Ireland, the pre-payment meters here are actually cheaper than paying afterwards, which is unusual within the UK. We find that people who have the pre-payment meters become much more energy efficient and intelligent about their use of energy than most of us, because they realise how much they are using on standby. If you go to bed thinking that you have switched everything off and with £5 on your meter, and the next morning there is £4·50 on it, the next night you are going to go around and check. Part and parcel of renewable energy is getting people to realise that they are energy consumers.

627. Mr McHugh: Can you say if wind is a runner for us here or not? It is a big issue? Is wind actually the runner that we first thought? I know that in the west of Ireland it will impact greatly on the product that we have, which is turf.

628. Mr Bond: That is outside our expertise; I suggest asking that question of the professor who is the next witness, as he has the expertise.

629. Mr Hanna: In relation to community engagement, there is an element of keeping up with the Joneses. If one community has installed a renewable energy installation that has been working and another community can see that, they will try to implement that in their own community. However, what we have found is that a lot of early adopters have been stung; they have been given bad advice and people have put up equipment that has not worked, so people are fearful, because they see another community that has an expensive piece of equipment that is not working and they say that they are not falling for that trap. There has to be some element of regulation. Mr Bond mentioned some sort of CORGI-style approval and certification system that stops the suppliers installing poor equipment and people installing the equipment badly.

630. Mr Irwin: I fully understand that some people have a bad taste in their mouth, because just a couple of miles from where I live a farmer erected a wind turbine from China that cost £50,000, grant-aided from the Department of Agriculture by 50% or thereabouts. That wind turbine never went for one day. He got a phone call when he had got it complete telling him that he could not put it on because they were dangerous, and that blades had flown off other ones. That guy will be very difficult to convince the next time around, understandably, even though compensation was given and an ex gratia payment was made by the Department to alleviate some of the cost.

631. You talk about community buy-in, which is very important, and I think that you will get that, but only where there is clear direction and it is clear what works and what does not work. It needs to start at the top. Government needs to have clear guidelines. There needs to be a joined-up approach from different Departments if we are ever going to be successful. I read that Norway leads the way in Europe, with 100% of its energy from renewable sources. How did they achieve that? What form of renewable energy are they using to do that?

632. Mr Hanna: I will partially answer that. I believe a lot of it is politically driven. Quite a few years ago, the oil supply to Norway came from Russia, but then Russia cut off that supply and Norway was left without.

633. The Norwegians decided that they would not be caught in such a situation again, and the entire country got behind the scheme, which is why they have been so successful in implementing it.

634. Mr Irwin: That proves that it is achievable.

635. The Chairperson: Yes, but it depends on the mood that exists in the country.

636. You refer to the cost of joining the grid in your report. You seem to be making a major point about the cost. Do you have any comment to make on that, further to what you say in your report?

637. Mr Bond: That was discussed when the Ulster Farmers' Union gave evidence. In our scoping study across the northern periphery, we have found that it costs more to get onto the grid in Northern Ireland than it does anywhere else.

638. The Chairperson: Why is that? Costs should be within certain margins.

639. Mr Bond: The state of our infrastructure is part of the problem. Mr Doran said that our grid structure is problematic and is not designed to accommodate lots of small link-ups to it, whereas

countries like Finland and Germany have a different infrastructure and encourage people to link to their grids. It seems easy to blame the big bad electricity suppliers for trying to make it awkward for other people to come in, but, for historic reasons, our grid is not as well developed as it could be. We also have the problem of trying to set up quite a complex infrastructure in a small area.

640. The Chairperson: We have a very useful briefing from the Assembly Research and Library Service on the NIE distribution code, which reiterates the points that you have been making and gives us some detail on the distribution code. It seems to be a difficult problem for people to resolve. If you are starting off in business, it is another impediment to easy transition into that market.

641. Mr Bond: That is one of the problems with renewable energy. People often think of feeding energy into the grid, but the alternative is storing it yourself. One of our partners is Pure Energy from the Shetland Islands, which Mr Lyth knows well. That company is looking at hydrogen storage; it could be possible to have a small hydrogen tank on your premises to store your energy when you are not using it so that it can be used again as needed. Obviously, for island communities that is a very important issue.

642. So, we have to think about whether we always have to feed surplus energy into the grid. Should the technology be such that people can store the energy and use it as they need it? Professor Hewitt does not think that hydrogen is the way forward, and we have had long debates on the issue. However, that suggests that we should be looking at how we store the energy when we are not using it.

643. The Chairperson: I am very grateful to all of you for coming. We have had a very interesting discussion. Thank you very much.

4 November 2010

Members present for all or part of the proceedings:
Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mrs Claire McGill
Mr Gerry McHugh
Mr Sean Neeson

Witnesses:

Professor Neil Hewitt University of Ulster

644. The Chairperson (Mr A Maginness): Briefing the Committee today is Professor Neil Hewitt from the Centre for Sustainable Technologies at the University of Ulster. Professor Hewitt you are very welcome and the Committee is very pleased that you could come. Would you like to make a short opening statement?

645. Professor Neil Hewitt (University of Ulster): The Centre for Sustainable Technologies, of which I am the director, is a research unit in the University of Ulster. Its primary focus is on

energy, and it currently receives grant income for approximately £5 million worth of live projects, three quarters of which are funded from outside Northern Ireland. Our key areas are low-carbon buildings; renewable forms of energy, particularly biomass and solar; clean fossil fuel use, including carbon capture, storage and sequestration, which is a big EU project; and energy storage. We have laboratory facilities, with 10 academic staff, supported by 30 researchers and PhD students, working in the area of energy.

646. The Chairperson: Thank you very much. I read your response to the Committee's inquiry and found it very clear. There were some blunt messages in it, and I thank you for the forthrightness of your answers.

647. It is critical of Government policy on energy, and that is disappointing. In your response, you referred to the fact that energy policy, and the responsibility for its implementation, is spread across eight Departments. You also stated there is no proper government centre for the dissemination of information to those who want to enter the market. That is pretty brutal stuff. Would you like to comment further on that?

648. Professor Hewitt: Eight Departments have energy elements in their remits. Perhaps it is because of the nature of our emerging Assembly Government that it evolved like that, at a time when energy was not as high on the agenda as it may be now. There is room for change on that. A number of organisations offer support and advice on specific areas. For example, the Carbon Trust works with industry, the Energy Saving Trust works with householders and community projects, Action Renewables, representatives of which were here today before me, has an educational training remit, and I am sure that there are others that offer advice in specific areas. However, projects can fall between stools, and, therefore, they sometimes lack information from other areas that can transcribe into what they are doing.

649. The Chairperson: You made an interesting observation that perhaps we should have one Department — perhaps a separate Department of energy — to deal with this area. Is that still your view?

650. Professor Hewitt: That is my view. I recognise that it is liable to be impractical. However, it is my view that, if energy is so important and Northern Ireland continues to import something like 98% of its energy, we need to take the issue very seriously. Therefore, having a co-joined, top-down approach would be a very strong way to deal with it.

651. Mr Butler: You mentioned barriers in government and disputes with the Planning Service. You said that the South of Ireland seems to be ahead of here. It is a competitor, but should we not be working together, rather than competing with each other?

652. Professor Hewitt: Very much so. From my personal involvement in this area, I have noticed the competitiveness. We talked to Enterprise Ireland about concepts and so on. They have enacted them; we are still talking. That was two or three years ago. My exemplar would be setting up an industry/academia/energy group. They did that, and they utilised our ideas.

653. Mr Butler: We are still talking about it.

654. Professor Hewitt: We are still talking about it. We have batted proposals back and forth with Invest NI. They go through various groups and nothing happens. I think that the opportunity has gone, because people are already committed to other projects, and if it serves the industry need, it does not matter which side of the fence it is on. If something works for them, they will do it.

655. Mr Butler: That approach has helped the industry in the South to move on, and that is why it is ahead of ours?

656. Professor Hewitt: That is why it is ahead of ours.

657. Mr Neeson: Professor, I know how various university departments rely on funding, and I note that most of your funding comes from outside Northern Ireland. What research is being carried out by your department at the moment in relation to renewables?

658. Professor Hewitt: Specifically on renewables, we have two themes with four areas. The two themes are solar and biomass energy. Those are our key strengths. Believe it or not, we can make solar power work in our country with what are called concentrating devices. Therefore, for example, we work with Kingspan in developing new solar concentrators. Alternatively, we are working on new concentrating photovoltaics to develop both heat and electricity. On the biomass side, we work specifically on downdraft gasification, which, effectively, takes indigenous wood and creates a fuel gas cleanly, with very few emissions and particulates etc. It is a research topic because the process is touchy about the quality and moisture content of the wood that goes into it.

659. Our other biomass research area involves oils. We have been working on ways of enhancing simple mechanical presses for oilseed rape, and that has developed into an approach involving developing countries, using jatropha and various other oilseed varieties that grow in nice warm climates and not here, but which are seen to be beneficial to Third-World or emerging-economy farmers, as they give them added income. Those are developed into fuel oils, so we have been developing ways of enhancing those systems with, basically, good plant biology. It is a cross-disciplinary approach. We are now merging into seaweeds, both micro-algae and macro-algae — seaweed itself — for fuel oils. I am grateful to the Department of Enterprise, Trade and Investment (DETI), which helped fund it through the INTERREG project. That is what we do.

660. Mr Neeson: The AES Corporation at Kilroot were looking at the whole question of biomass energy. Do you know whether AES will progress with that?

661. Professor Hewitt: Co-firing introduces an alkaline component into the system, so the ash, which we understand well as coal ash, suddenly has a different chemistry, so there is a limitation to co-firing with traditional gear. There is then an additional issue because of the change in PH: the wear and tear on the system may be questionable over time. We are part of a new Engineering and Physical Sciences Research Council (EPSRC) project called "Supergen", and part of that is biomass co-firing. We are trying to assess the impacts of co-firing with wood and with crops such as miscanthus and other biomass crops that can potentially be grown.

662. Ms J McCann: Thank you for coming along, and for your paper. I came in late to our last evidence session, but the Committee was talking about community buy-in. You said that 98% of all our energy is imported, and that keeps up the price. Cost is a big factor for people, particularly with the high levels of fuel poverty that we have in the North. It would take a Government policy or drive to sell renewables, and there would have to be a lot of Government buy-in.

663. The Committee visited a company — I think it was Airtricity — and its staff said that, because we live on an island, the potential wind and wave energy available to us cannot be stored for export. They said that the infrastructure here would not be sufficient to manage it, even if we were able to capture such energy. I think that, as this is a small island and we have that potential, we should have an all-island policy. Do you envisage such a conversation taking place? Do you agree that we are looking to the long term and seeking to promote renewable

energy, and, after the investment is made, the cost of energy will come down for households? That is an important leverage. At the moment, people in social housing face high energy costs. However, there is no awareness of the long-term benefits of renewable energy. Do you see a sea change in that awareness?

664. Professor Hewitt: The very fact that this Committee is talking about it shows that the conversations are happening. They are happening at many levels; I would not say at all levels. So people are talking about it. Perhaps that is all we are doing, unfortunately, but at least we are doing that.

665. First, let me begin with social housing and work upwards. There are many studies that show that you can retrofit a house for as little as £6,000 for insulation and bring it up to a better standard. However, to add renewable energy to that adds to the cost. Let us be honest, if people cannot afford energy, they cannot afford it. No matter how well-insulated the box in which they live is, it will become just a cold, insulated box, if they cannot afford to buy energy. We still find it prohibitively expensive to retrofit a house with renewable energy systems.

666. Secondly, renewables are no panacea. The sun does not always shine; the wind does not always blow and so on. There will be periods when we need to use something else. That might be using electricity from the network, but we will have reduced the cost because we will have used renewables or heat from other sources. Alternatively, you could build in some form of energy storage that can take the excess energy and give it back later, but that takes space and there is additional cost.

667. Coming up through the network in the wider renewable energy scheme, Ireland as a whole seems to be moving towards big renewables, such as big wind. Wave and tidal energy are a bit further behind; they are more at the development stage. The network currently cannot take that capacity. Crudely speaking, the resources are in the west and the population is in the east. There has to be east-west reinforcement.

668. In defence of Northern Ireland Electricity (NIE), for example, we have not really decided where we are going to put our renewables. It is done case by case, and, therefore, infrastructure follows behind. Perhaps we should take a more innovative approach by zoning areas and deciding on a good place for renewables such as wind, after which we could look at the cost of putting in the main infrastructure through some sort of public-private partnership. Then, at least, we will not be proceeding on a piecemeal basis, connection after connection, with all the environmental impact assessments that accompany that to ensure that we do not harm the birds and the beasties. Those are all good things that we have to do, but we will do it once for each area.

669. I will move on to the issue of poverty and, particularly, rural poverty. Big companies pay good money to individual farmers for placing wind turbines on hillsides, and, as far as I am aware, the sheep are not afraid of them. I have not seen any sheep running away from them. There are many positives in bringing money into the community. Perhaps a business mechanism to support that can be viewed as community empowerment. We can get rid of the Nimbyism — not in my back yard — if more of the community can benefit from the turbines that intrude on people's views through some sort of reduction in electricity tariffs, for example. Perhaps an integrated approach can be created that allows connection to be done quickly, the environment to be checked quite legitimately and issues to be overcome, so that communities can benefit from having wind turbines in their localities.

670. Dr McDonnell: Thank you very much for your submission, Professor Hewitt, and for your robust and honest attitude. I like it, and I would like to hear a lot more of it as we go forward. If we were to appoint you as the guru of a renewable energy commission, what two or three steps

could we take in the short to medium term to move things on? I share your frustrations and have done for 10 years. The difficulty that you have identified is that there is a quagmire; the vision is blurred and nothing is in focus. How can we give some hope to those who are engaged and, as others have said here, have become frustrated by failures and dysfunctional efforts in various directions?

671. Professor Hewitt: I will reiterate what I said. For the big-scale stuff, we need some sort of zoning. We already have industrial zones. Invest NI has already vested land for such zones. That approach can be adapted towards biomass, bioenergy and other sorts of projects, with the correct environmental support. Equally, wind power, in the first instance, because it is the most advanced renewable that we currently have, can be zoned at the appropriate places. That zoned area should go through an environmental impact assessment once, after which the statutory bodies can be allowed a short period of time to challenge the project on specific issues so that local sensitivities are brought on board. There is no need to take a brutal stick to the process. When those zones are in place, the network has to connect to them. It will go to one area, and there will be lighter weight networks in between. Perhaps there can then be a joined-up approach from the community through to implementation and distribution. That is what I would try to do in the first instance.

672. Mr McHugh: Welcome, Professor. I want to look at in a little more detail the whole possibility of using agricultural land for growing oil crops or any type of renewable energy, including biomass. It has been done quite successfully in Sweden and elsewhere for home/city situations, where anything from grass for silage to wood products to municipal waste are used, and everything was run off that power. It seems more sensible to do it that way than to put individual solar energy panels on some houses and not on others throughout the countryside. It seems to be a more organised approach. Is that an option for us? Given that countries such as Brazil are cutting down rainforest to create grass to feed cattle and trees take time to grow, perhaps we should start to grow them in Ireland, or else we should be told that that is not an option. We are almost told that it is not an option, but there are farmers who would like to get involved in some of that.

673. The grid is developed in the east, not in the west, yet some of the renewable energy would have to be developed in the west. That is a curious scenario. Is there anything that should be pursued as regards the development of the grid? If the grid is not going to be developed in the next 10 years, should we going in different directions?

674. Professor Hewitt: You raised a number of points, and I shall start with the one on bioenergy. We have a limited land mass, and the issue brings on board the dreaded food-versus-fuel debate. We import a lot of food, and other protagonists say that we export a lot of food. Perhaps I should go back to eating my father's green cabbage that he used to grow every winter in his back garden. It was terrible stuff, and I still have an aversion to it, but you will know what I mean.

675. Dr McDonnell: It is very good for you.

676. Professor Hewitt: Yes, I know that it is very good for you.

677. The Chairperson: You are looking well. It did you no harm.

678. Professor Hewitt: It did me no harm, but I think that I prefer something more tropical. We have that issue, and there is a huge debate to be had on food versus fuel. We have a limited land mass, and the question has to be asked: what is the best value for the biomass that we can grow sustainably? Having posed the question, I do not know the answer. We have been trying to answer that question for some time, and it is difficult to get an answer to it.

679. You can grow grass and use anaerobic digestion to get fuel and gas for engines, electricity and heat without a problem. You can grow quick-growing wood crops such as willow in three years, but you get only between £60 and £80 a ton, whereas the price of wheat went up to £200 a ton last year. If you have grown those big wood crops, you cannot plough them into the ground and start again, whereas, if you decide that you have the appropriate land, you can grow wheat and you get a quick response. This is a good year for it, especially with all the Russian fires and droughts.

680. You can change things. Wood, biomass and so on represent a longer-term commitment. Miscanthus — the big grasses that you see growing about the place — grow sort of well with us. Some of them grow better than others, and that takes us back into the food-versus-fuel debate, because you want to put the miscanthus on good land.

681. You touched on the community aspect of biomass and whether individual solar panels should be used versus community-based systems. Some of the UK Government policy for what energy might look like 20, 30 or 40 years ahead takes a scattergun approach. It includes every technology that you can think of. Either that is the result of someone quoting from a textbook and giving an arbitrary figure, or, as I believe, it is because there is no one single solution.

682. Solar will work for people because, in towns where housing is denser, there are no longer coal holes to turn into wood holes. In my parents' house, the area under the stairs where the coal went has been converted to part of a dining room or something. Wood, for example, is less dense than coal; therefore, we would need a wood man to deliver wood every week, and it would have to be a big delivery at that. The equipment is also still expensive, and so on.

683. When it comes to community systems, we do not have a positive experience of district heating. We had some negative experiences, which were the result of a design/operation/information issue. There was not too much wrong with the technology, if used correctly. District heating is used successfully on the content, and our challenge would be to retrofit that infrastructure. Woodbrook, in Lisburn, has a wood-fired district heating system that works.

684. At a meeting that we attended in Newcastle upon Tyne yesterday, one of the big concerns raised by user groups was how people were locked in to using district heating. We have the idea that people should have flexibility in selecting their electricity and gas suppliers, but installing a district heating system locks them down to a particular provider. We have moved from being used to that type of arrangement — such as when we had just NIE — to having the choice of different companies. That has become the norm, so there will be fear about the uptake, price guarantee and so on. Therefore, there are lots of challenges in what you said. You went through an awful lot, and I do not think that I have answered all of your points.

685. Mr McHugh: That is fine.

686. The Chairperson: Thank you very much. In conclusion, your submission touched on this, but the overall context in which we are developing indigenous businesses requires financial support, and there must be incentives. What is your view on the argument about renewables obligations certificates (ROCs) versus feed-in tariffs?

687. Professor Hewitt: They are both supporting mechanisms, so I am not concerned about whether one or the other is used. I am concerned that we ensure that we do not benefit from certain situations. It is a crude example, but someone with a big, draughty old house may get a nice big, oversized biomass boiler to heat that big, draughty old house. That person then gets a heat ROC for doing that, whereas, had they first insulated the house, they would have got a lot fewer heat ROCs. To implement that approach without heat metering, which is expensive — I

recently bought some heat meters at £400 a shot — people would need to be trained to assess the state of the building, the size of the equipment required and so on. That requires degree-level training in building services. We do not have enough people of that calibre. Therefore, are we creating an unnecessary industry to manage something for which we have not correctly legislated? Does the Committee understand my circular argument?

688. The Chairperson: Yes.

689. Professor Hewitt: It is about being able to implement the system and keeping its cost down, because cost is always an issue, and being able to rest assured that it is the correct approach, bearing in mind that renewables should be the last option; the first option being energy efficiency. In any building, that means first getting right the insulation, the glazing and so on, before deploying additional technologies.

690. The Chairperson: OK. Thank you very much Professor Hewitt. That was very interesting. If the Committee has any further questions, perhaps you will respond in writing.

691. Professor Hewitt: Thank you.

11 November 2010

Members present for all or part of the proceedings:

Mr Alban Maginness (Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mrs Claire McGill

Witnesses:

Mr Tom Clarke
Mr Brendan Forde Department of the Environment
Mr Stephen Hamilton

692. The Chairperson (Mr A Maginness): I now move to the briefing and welcome officials from the Department of the Environment (DOE). With us today are Mr Tom Clarke, Mr Stephen Hamilton and Mr Brendan Forde. Gentlemen, you are very welcome indeed. Do you want to kick off with a short introduction and then we will ask questions?

693. Mr Tom Clarke (Department of the Environment): We are in your hands. We are here to provide information and assistance to your Committee. I suggest that we run through a quick briefing. It will include planning and policy issues and take about 10 minutes. My colleague Brendan will deal with climate change issues and then it will be over to you to ask us about whatever aspects you wish.

694. The Chairperson: That is fine.

695. Mr Tom Clarke: If I overrun, you can tell me to speed up.

696. The Chairperson: I will tell you to stop; I am sure that you will obey me. [Laughter.] That is a helpful way to proceed.

697. Mr Tom Clarke: It is understood that the Committee would like DOE to provide oral evidence on the role of planning as part of the investigation into the barriers that may inhibit the development of renewable energy production in Northern Ireland. In response, we propose to provide the Committee with an overview of DOE's role in the facilitation of renewable energy projects; a brief description of the planning policy context; a summary of the range of projects that the Planning Service is dealing with; and a commentary on a number of the key issues that appear to be most relevant to the Committee's investigation.

698. DOE is aware of government renewable energy policy, which is set out in the strategic energy framework (SEF). That policy document sets out government's aim for 40% of Northern Ireland's energy use to be from renewable sources by 2020. As the planning authority for Northern Ireland, DOE recognises that it has a key role to play in the delivery of that target.

699. DOE seeks to contribute to land-based activities in three main ways: the publication and promotion of clear policy guidance that will assist the renewable energy industry in planning its investment programmes; the processing of planning applications for individual renewable energy projects in a consistent and timely manner; and the monitoring of regulations and the amending of those as necessary. With regard to offshore energy, we are getting into the whole area of marine planning. We will introduce a new system for managing a wide range of activities that take place in the seas around Northern Ireland. That will contribute to a framework of consistent decision-making that is based on sound evidence and involves all sectors.

700. I mentioned policy guidance as an area in which we feel we have a contribution to make. Planning Policy Statement 18 (PPS 18) provides the policy framework for renewable energy projects. PPS 18 was published in August 2009 and was accompanied by a good practice guide that provides background information on the various renewable energy technologies that may come forward in Northern Ireland. It is designed to contribute to the development and management process. PPS 18 states that the Department will support renewable energy proposals unless those would have unacceptable adverse impacts that are not outweighed by the local environmental, economic or social benefits of the development.

701. PPS 18 supersedes the policy contained in the planning strategy for rural Northern Ireland. It was published in 1993 and contained a general policy presumption against wind farm development on designated landscapes. Supplementary planning guidance (SPG) to guide developers on the siting and design of wind-energy development on Northern Ireland landscapes was published in August 2010. It will support PPS 18 and the complementary best practice guide.

702. As regards the processing of applications, the Planning Service has dealt with renewable energy projects for a number of years. Our experience is best described by referring to the following categories of renewable energy development: energy from waste applications; wind farm applications; and smaller-scale renewable energy applications.

703. In respect of energy from waste applications, a total of 32 proposals have been processed and approved to date. The majority of those — 23 — were determined in less than 12 months. A small number of those applications took longer than 12 months to process due to the complexity of the proposal and the significant number of objections. At present, seven energy from waste proposals are under consideration at Planning Service headquarters. The power output from the approved schemes is approximately 62·45 MW.

704. Although I am aware that the Committee is not specifically examining the area of wind farm applications, I feel that it is appropriate to provide the wider context of renewable energy projects that are being processed in the planning system. To date, planning permission has been granted for a total of 41 wind farms with a potential projected output of 634 MW. That is equivalent to 19·5% of Northern Ireland's electricity use, and, as the target is 40%, that means that almost half of that target is already approved. In addition, the headquarters team is dealing with a further 43 applications that have the potential to generate a further 700 MW of power, representing a further 19·4%. So, if we add the number of approved applications to the number of applications in the system at present, we get a figure of almost 39%, which is very close to the target.

705. Smaller-scale renewable projects are dealt with in divisional offices, and those projects involve single wind turbines, active solar power panels, photovoltaic cells, small hydro schemes and cooling and heating power plants.

706. Another area in which we are involved is the monitoring and amending of regulations. The Department recently undertook a series of public consultations on proposals for new permitted development rights, which would mean that certain types of minor development would not require planning permission. The consultations included small-scale renewable energy development. In other words, we are looking at making some of the smaller-scale renewable energy projects permitted development.

707. I will outline some of the issues that have arisen during our time spent focusing on renewable energy. One is uncertainty around policy guidance. PPS 18, which deals with renewable energy, has been published for over a year now, and we feel that it does a lot to plug the gap. Because it is accompanied by a best practice guide, it provides advice on the various forms of renewable energy technologies that may come forward. The guidance informs the reader about where each technology works best and provides information on planning requirements and other authorisations and consents that each technology may require. In addition, there is supplementary planning guidance that guides developers on the siting and design of wind energy developments on Northern Ireland landscapes, and it will support the other two documents. Therefore, as far as policy guidance is concerned, we feel that up-do-date and relevant policies are now available.

708. Another big area that is frequently a problem for us and that is reported in the press is delay in the planning system. It is acknowledged that the length of time taken to process planning applications for renewable energy projects needs to be shortened. Nobody is saying that we can continue with long delays. While the Planning Service is taking steps to improve the situation, there is a need for all parties in the process to review their role and performance. Improvements have been made in the length of time it takes to process wind farm applications. Analysis of other renewable energy applications shows that delay can often be attributed to one of the following factors: complexity of the proposal and the additional information needed under environmental regulations; the speed of consultation response from a wide range of agencies; delays on the part of the applicant or the agent who has submitted the application; the poor quality of the initial submission; and the significant number of third-party objections in some cases.

709. We have introduced a number of measures to improve the speed of consultation response from Departments and agencies. There has been a recent review of the service level agreements (SLAs) between Planning Service and, for example, the Northern Ireland Environment Agency (NIEA), Roads Service, the Rivers Agency and Northern Ireland Water, and work is ongoing to review the SLA with the Department of Agriculture and Rural Development (DARD). So, we are taking all the measures that we can internally to improve communication between various Departments.

710. Another issue that has been raised is inconsistency of approach. We feel that, because we have specialist teams at headquarters, we have gone a long way towards eliminating any potential for inconsistency.

711. The final issue is staff awareness. We have information on renewable energy on our staff intranet and on our public website, and we issue guidance to staff frequently when new issues arise.

712. I will now hand over to Mr Forde, who will deal with climate change.

713. The Chairperson: Thank you, Mr Clarke. That was very succinct.

714. Mr Brendan Forde (Department of the Environment): Thank you for giving me the opportunity to speak about the Environment Committee's inquiry. We have been asked to provide an update on it, and the Committee has given its permission for us to do so. We were to brief it about a month ago, but, due to pressures of other business, that briefing has been postponed until January.

715. I will give a quick recap of the inquiry. It was initiated by the Environment Committee in January 2009, and the report was published in late November 2009. There was an Assembly debate in December, a couple of weeks after the publication of the report. Our Minister responded officially in writing to the Committee in May, and that response took on board the comments on the issues that fall to different Departments. There has been some exchange with the Committee since then.

716. Broadly speaking, more than 80% of the 52 recommendations have been accepted and have either been implemented or are in the process of being implemented. The most significant thing to bring to your attention is the fact that our Minister, Mr Poots, now chairs a cross-departmental working group on greenhouse gas emissions. The purpose of the group is to develop an action plan to account for the Programme for Government target, which is to have a 25% reduction in greenhouse gas emissions by 2025 against 1990 levels. The Minister chaired the first meeting of the group in August. Since then, officials have been in bilateral discussions with each of the Departments in order to develop the action plan. The next meeting of the group is 15 December, when we hope to have a draft plan for agreement, and that will fulfil the obligations as regards accountability for whether we achieve the target.

717. In parallel with that, we have a greenhouse gas projection tool that our statisticians have responsibility and accountability for. We are mapping together policies from the perspective of greenhouse gas impact and economic impact and then comparing the combined policies and considering what they might look like against the 25% target. I am not in a position to tell you today what the projections show at the minute, because work is ongoing. We would probably need to run that past our Minister first. However, I can tell you that we are pretty confident that the target for 2025 is well within reach.

718. I should also highlight the fact that there are specific policies in different Departments. Members will not be unfamiliar with the strategic energy framework, which has significant targets for renewables and is part of the reason we are here today. Progress is already being made on the sustainable development strategy and the implementation plan, for which a recent consultation has just closed. The Department for Regional Development (DRD) is putting forward its draft regional development strategy proposals to the Executive, so that should be emerging soon. There is a range of policies that we are combining for all Departments.

719. Once the action plan on greenhouse gas emissions is agreed, we will bring it to the Executive. They will decide how it is progressed. No doubt that will also assist in preparations for

the next Programme for Government, during which we will consider whether the current target is appropriate for the future.

720. The Chairperson: Thank you, Mr Forde. Mr Hamilton, if you want to come in due course, do so.

721. Mr Stephen Hamilton (Department of the Environment): I will, hopefully, come in on any specific issues that you wish to raise on the presentation.

722. The Chairperson: Thank you very much.

723. People who are involved in the renewable energy sector have an issue with the time it takes to get from conception to submitting an application for whatever it may be and having that application processed. It is not entirely the fault of the DOE and the Planning Service or, sometimes, NIE, when it comes to linkage and so on. During its inquiry, complaints have been made to the Committee that the length of time taken to consider an application is too long. You quoted figures on energy from waste and said that most of those applications were processed within 12 months. Do you have an average timescale for other types of applications, for example, applications for wind farms?

724. Mr Tom Clarke: We did a calculation that showed that, at one stage, the average time was in excess of that, at around two years.

725. The Chairperson: For wind farm applications?

726. Mr Tom Clarke: Yes. The processing of those applications was not much different from the processing on the mainland. They are complex, but we want to improve on our timescales. In response to those sorts of figures, we put extra resources into the wind farm team at headquarters. That has resulted in an improvement, but it will take time to work its way through.

727. We also encourage the industry, because this area is new to all of us. Although the industry is grappling with the technology and relies on planning agents to get through the planning process, the planning agents themselves are in a new situation. There is a huge education process to go through from our point of view and that of the agents. We encourage them, almost at the embryonic stage of a proposal, to talk to us. We have a process called pre-application discussion (PAD), in which we engage with them to try to scope the sort of information that is required to accompany the application to allow it to be processed quickly.

728. One of the big delays is caused by the fact that when an application comes in, an environmental statement is inevitably required to be submitted with it. That environmental statement is controlled by European regulations, and, if it is found to be deficient, we have to go through a process to get new information in, and all of that has to be advertised and consulted on again. An examination of the delays in a number of our bigger projects will show that, quite often, we have gone back a second and a third time for more information. Each time we go back, there is a cycle that has to be initiated, and it takes a number of months to complete it. Our goal, which is in everyone's interests, is to get discussions under way early and get clarification on all the surveys that are needed and all the environmental information that is needed to accompany the proposal. Then, hopefully, we can get the application through in one cut as opposed to two or three bites at the information cherry. That is in everyone's interests, and, therefore, we have been in discussions with the agents, who may not have a lot of experience of these things, to try to improve the submissions that come in. There is general agreement that we need to do these things more quickly.

729. The Chairperson: Yes. Would you say that two years is too long?

730. Mr Tom Clarke: I think that that is too long. That was the average time for processing applications for wind farms at that time. Some other types of application are easier to get through. Local politicians will know better than I do, but the other dimension is that, quite often, those proposals are not that popular, and we get a lot of objections to them. Again, we have to be seen to be treating those objections seriously and examining them thoroughly, which, in itself, can be time-consuming.

731. The Chairperson: Having been a local councillor, I understand the strength of local objections to any sort of development, if it proves to be contentious. You are working to reduce the times.

732. Mr Tom Clarke: Yes.

733. The Chairperson: Do you think that PPS 18 has improved the situation?

734. Mr Tom Clarke: My colleague Stephen will deal with the detail of PPS 18. From our perspective, PPS 18 gives us a clear policy background against which to judge the applications when we process them. The absence of a policy background slows things down. We think that PPS 18 has been a help.

735. The Chairperson: Witnesses to the inquiry said that PPS 18 and the guidance notes were all right. I think that, initially, PPS 18 was not terribly well received by the sector but that the guidance notes were helpful in clarifying some issues. However, those witnesses also made the point that there seemed to be a very subjective application of the PPS 18 principles across Northern Ireland. Although it seemed originally that the applications were dealt with centrally, there is now a tendency for local offices to deal with them. Therefore, there is not the consistency across Northern Ireland that one ought to expect. What would you say about that?

736. Mr Tom Clarke: To be honest, I find that view strange. Almost since the introduction of the technology, we have had a central team to deal with all applications for wind farms and energy from waste. All those types of proposals are dealt with centrally by a small team. The concern about different interpretations across the Province is not really relevant to those.

737. The Chairperson: Do you still have a central team that deals with those matters?

738. Mr Tom Clarke: Absolutely.

739. The Chairperson: And those matters are not devolved to the local offices?

740. Mr Tom Clarke: The local offices deal with individual wind turbines for domestic properties and individual projects; for example, projects in which someone wants to put something in the back garden or put photovoltaic cells on the roof or a farmer wants to put a device somewhere. However, all the bigger projects, including wind farms and energy from waste, are dealt with by central teams. We have a specific team for wind farms, a specific team for energy from waste and a specific team for landfill. They build up expertise, and it is the responsibility of the head of each team to ensure that individual case officers interpret the policy correctly and consistently. There is a tight control, so I am surprised by that view. However, evidence has obviously been given to that effect, and we would be happy to look at it.

741. The Chairperson: If I can get any reference to that, I will let you have it.

742. Are there sufficient people involved at the centre for your purposes?

743. Mr Tom Clarke: As I said, we have a general concern about our speed of processing. Our speed of processing relates to complexity but also the number of bodies. Due to the wind farm situation and the timescales involved, we brought extra people in to help. Obviously, the Planning Service, the Department and wider government are all under resource pressure. Like everyone else, we will inevitably take a hit. I cannot speak for tomorrow, but, at this point, we have taken measures to improve the situation by bringing in extra help. The other issue is that those applications are complex and specialist. It will be perhaps six months before someone who comes in today is on top of it. Therefore, there has to be an education aspect.

744. Mr Stephen Hamilton: Three documents were published in the PPS 18 process. The policy statement itself is a general criteria-based approach for all forms of renewable energy development proposals. Wind technology is mature and very obvious on the landscape, and it has different impacts on amenity. Therefore, separate criteria were produced for wind technology to accompany the generic criteria for all forms of renewable energy. Those were brought together through a stakeholder group. The wind industry sat on that group and provided invaluable help and advice to those of us who did not have the competencies to deal with certain issues.

745. Generally speaking, the wind energy industry has been very content with the policy throughout the entire consultation process. It has also been content with the best practice guide that allows individuals and development management officers in divisional planning offices who deal with one-off projects as opposed to strategic projects to have that consistency of approach.

746. One issue that really put the cat among the pigeons was that of the supplementary planning guidance, which related to how the technology looked on the landscape. When it was published, it was felt that it was too prescriptive. It went into policy issues when it was only meant to supplement the policy. As a consequence, when the Minister published PPS 18 in August 2009, he asked that the SPG be held pending some analysis of how it would impact on the then draft SEF. Colleagues from NIEA and I have worked very hard with the industry to make sure that we have something that can protect the amenity of third parties but can still help the industry realise the targets set in the SEF. The SPG was published in August 2010, and the industry has sent letters to the Minister thanking him for the process that he has brought forward and for producing a guide that they feel they can work with while still protecting the amenity of Northern Ireland.

747. The Chairperson: So, people had concerns about the way in which this issue has been addressed, but you are saying that the industry now seems to be reasonably happy.

748. Mr Stephen Hamilton: Yes. Some of the measures brought forward in PPS 18 were not in the previous policy, but, given that that policy was written some 17 or 20 years ago, technology has moved on an awful lot. We have a greater proliferation of turbines, for instance, in the countryside. It was a question of trying to balance third-party concerns about amenity and health and safety issues with the efforts of the industry and government to achieve not just renewable energy targets but climate change targets. However, the industry is on board and the guidance is supplementary to PPS 18, which is predicated on achieving those targets, because it was brought forward in close collaboration with colleagues in the Department of Enterprise, Trade and Investment (DETI). It reflects the renewable energy directive as well as the strategic energy framework.

749. Mr Givan: Thank you, Stephen, Brendan and Tom. In a previous role working with the Minister, I worked with these gentlemen, and it is strange being on this side of the table. Having worked with these three, I can say that I found them very effective in their roles. I have a high regard for the work that they have done and continue to do — not that that will cloud my comments and questions.

750. A common complaint about PPS 18 that we have heard from people giving evidence is that government is operating in silos; the different areas are not talking to each other and do not know how to work together. What was the engagement across government when PPS 18 was being devised?

751. Mr Stephen Hamilton: The project was initiated mainly by the wind industry, which was aware that the existing policy was old and had to be revised. There was lobbying of different Ministers, and DOE formed an internal working group — internal to government, not just to DOE. That working group consisted of colleagues from DETI because of the energy remit and from DARD because of where a lot of the facilities will be located. There is input from the Department of Finance and Personnel (DFP) as well, because it has issues with the building regulations. We brought together anyone who had an immediate stake in the issue, and we used their competencies to ensure that we created a policy that was workable and useable when published in both draft form and final form.

752. So, we had direct input from DARD, DETI and DFP, and we also had input from the Department of Health, Social Services and Public Safety (DHSSPS), because of the health impact of some of those facilities, and, of course, from the Executive as a whole, as the Minister took it to them. We were looking more at the strategic picture, but a lot of smaller issues about government bodies that had not previously been consulted came from the Executive. We were able to take those on board prior to publication of the draft version and the final version.

753. Mr Givan: Was everyone then able to sign off on the SPG, both in government and in the industry with regard to the role that it played?

754. Mr Stephen Hamilton: Correct.

755. Mr Givan: When looking at planning applications, there is a judgement to be made about the visual impact of a project, and, obviously, you consult with the Environment Agency on that. How do you strike a balance between a large turbine and medium and small ones? If we constantly reduce the large applications and tell people that they need to go for medium and small ones, there will be a dispersal effect across the Province. There will be a lot more wind farms, and the argument could be made that it may be better to have smaller large wind farms as opposed to quite a large number of medium-sized ones. Which has the greater visual impact, and how do you balance that?

756. Mr Tom Clarke: You probably heard this answer before, but it is all down to individual circumstances. It is difficult to say in a particular situation that tall ones would not be better just because of the land form and because, from various viewpoints, you may not even see them. In that situation, you would go for them. However, in other situations, a site might be particularly exposed, so turbines that are that wee bit shorter would not be just as visually intrusive over a wider area. You are balancing the two all the time.

757. We have, I think, refused only one wind farm. It is then a question of getting into discussion with the industry and saying, "Look, this development will have a big impact. Can you drop some of the heights or move the turbine round the corner?" That sort of discussion and negotiation takes place to try to get a more acceptable solution for a particular site. It is hard to give a particular answer for every site and say whether the turbine should be tall or small. You have to assess a site to see what is most appropriate and to make sure that it works for the proposal and for the applicant.

758. Going back to the issue of delay, the process takes time, and an amended proposal might have to be submitted. However, that may be time well spent, because the applicant would have an acceptable proposal: the turbine would not be visually intrusive yet would generate the

energy required. So, we are constantly making judgements. As we have a specialism at headquarters, we are building up an expertise in making those judgements rather than having individuals make one-off judgements.

759. Mrs McGill: Mr Clarke, you said in your briefing that a huge education process is required to inform people. I could not agree more. As an MLA and a councillor in the Strabane District Council area, I want to mention some comments that I heard. I am not being critical; I am trying to work with the Planning Service in Omagh. I recently had a meeting with the principal officer there on applications for a single wind turbine on a farm. You referred to that earlier, and I am very grateful to the officer for meeting me and for indicating some of the difficulties.

760. What are you at HQ doing to inform those who do not have a great knowledge of this business, that is, the applicant and the agent? What direction are you giving in that context? They absolutely need to be informed in a comprehensive and meaningful way. I was told that, when people ask for information about what to do, they are told to look at the website. I am not saying whether that is accurate or not, but that is what I was told. Will you comment on that? Is it good enough for the Planning Service to tell people who are interested in this new area to look at the website? If that is what happens, my view is that it is not good enough. I am keen to know what is happening. What direction and assistance are you giving at a local level to help those who are looking for help?

761. Are the pre-application discussions that you referred to available to people who want to apply for a single turbine on a farm? If they are available, how do the applicants or agents know that they can go to their local office and sit down with someone? When do they go? Will the person with whom they sit down have the expertise, or will they meet a duty officer who will eventually just tell them to look at the website? I am not saying that that is happening locally, but that is what I was told recently. If the resources are available or even if they have to be increased, would there be any benefit in the central body assessing all applications, regardless of their scale?

762. Mr Tom Clarke: I will come at those points in reverse, but you can make sure that I do not miss any of them. Your last point was about capacity at headquarters, and that comes down to resources. We have about half a dozen folk who are specialists in wind farm applications. They are at their limit as regards the number of applications that they deal with, and those are the applications with the biggest public interest. The others are individual, and it was decided, therefore, that they should be dealt with locally. I do not think that we could take on individual applications at this point, because we just do not have the resources to deal with them in a timely manner. Obviously, someone who submits an application along with money will want it to be dealt with fairly quickly.

763. Mrs McGill: Someone working in the field made the point that that would help the overall strategic assessment and give a better view of what is happening throughout the North. I looked at the map in my local planning office, and the staff there had done a very good job in marking on it the location of the significant number of approvals and pending applications.

764. Mr Tom Clarke: Were those wind farms or individual turbines?

765. Mrs McGill: Individual turbines and wind farms. The local office certainly had an idea of what is happening and was able to show me. Would you have some sense of the overall view?

766. Mr Tom Clarke: Similarly, we, at headquarters, know the exact location of all the applications that have been approved and those that are pending. We know the generating capacity and potential of each of those. That is why we can say fairly accurately that we have approved 643 or whatever.

767. Mrs McGill: Do you engage with the local offices regularly? What is the nature of that engagement? You say that you have an overview.

768. Mr Tom Clarke: I was talking about the applications that we deal with. We keep a similar monitor of the numbers.

769. Mrs McGill: Do you have information on the individual wind applications?

770. Mr Tom Clarke: We do not.

771. Mrs McGill: Would it not be important for you to have that?

772. Mr Tom Clarke: The individual ones are for individual consumption. If a farmer puts up an individual turbine, he consumes that energy. We deal with ones that are connected to the grid. That is the difference between what we deal with and what the local offices deal with. However, I am not taking away from your point. There would obviously be some benefit in us knowing the total number. What I am saying is that we try to focus on the generation that goes into the grid and contributes to meeting targets and so on.

773. Mrs McGill: Should headquarters not have some idea about how the number of wind turbines dotted around the country is going to look eventually? I would have thought that it would be important to you to keep yourselves informed.

774. Mr Tom Clarke: Are you talking about the cumulative visual impact?

775. Mrs McGill: I mean for whatever reason. I thought that it would be a material consideration, because that is the case when the local planning office is deciding where wind turbines should be located. One applicant said to me that he wanted to put a wind turbine in a certain place and was told that he could not do so as there had been an objection. Yet, he pointed out one or two that were located not far away. In such situations, it is extremely difficult for applicants to understand that this is, in your words, consistent with policy. Should you not have some idea about the overview?

776. Mr Tom Clarke: We look at bigger projects and their impact whereas the individual planning officer will be aware of individual projects that have been approved and are in the vicinity of the one he is considering. We can certainly assist in assessing the cumulative impact, but it is the local office that judges whether planning should be granted or refused because other wind turbines are in the area.

777. The approach is similar to that taken to planning decisions on a single bungalow. That also involves a local decision, which would be made on the basis of, for instance, the situation in which a lane already has six bungalows and where approving another one would change the rural nature of that particular part of the countryside. Such judgements are made for all types of development. Wind turbines have particular visual impacts, but assessments and decisions are made locally.

778. Mrs McGill: The point about bungalows is interesting, and it did occur to me. People who make applications early and have someone working for them who knows the system will have them approved. There is a commercial aspect to this. I am wondering where the cut-off point will come, as it did with PPS 14? All of the people who did not manage to submit their applications were not informed and were not educated by the Planning Service as, in my view, they should have been. When the cap comes, those people will not benefit. The overview is essential. At the moment, things are too short-term and too localised.

779. The Chairperson: I do not want us to go off on a tangent. However, Mrs McGill's point about an overview is reasonable.

780. Mr Tom Clarke: I know the point that the member is making, and we can look at those aspects.

781. Moving on to the other points that were made: pre-application discussion is a formal process that we have for, in a sense, the bigger types of development as it is very difficult for us to service everybody. Each divisional office runs clinics in out-offices or through duty officers, as you call them, so that anyone with a planning proposal can come into a local office and ask for assistance in putting that proposal together.

782. When you get into the area of single turbines, you are getting into a specialist field, even though it is not as complicated as a wind farm. The best advice that we can give is to speak to an agent who knows what they are doing. Going back to the first point, which was about informing people; we are constantly working with agents, and we now know that there are a number of them in the Province who can deal competently with wind farms or, in the member's case, individual applications.

783. Mrs McGill: Who are those agents? How would I know who they are? Where would I get that information? I am thinking about how I would tell people in my area that, if they so wish, they can go and find expertise in a certain place.

784. Mr Tom Clarke: It is difficult for us to promote individual businesses.

785. Mrs McGill: I understand that.

786. Mr Tom Clarke: However, we can assist by recommending a number of people. It is difficult for us to tell someone to go to one individual because they are very good, because that would be a commercial aspect that would worry other agents who think that they are very good. We can point people in a general direction.

787. My basic point is that, if someone is not competent in the field, I suggest they find someone who is, because these are not simple proposals. If someone wants a house extension, even a basic one, they would get somebody to draw up plans, make sure that the water pipes are in the right place and that sort of thing; these proposals are of a similar nature. People think that it is only a tower with a wee whirly thing at the top of it: it is not like that. People need to go to the planning office and get advice in the first instance and then seek the assistance of somebody who can put together an application with the necessary information.

788. There is finance involved. I do not deny that, but, if people want an application dealt with in a reasonably quick and effective manner, that is the best process that we can suggest. We liaise with our local offices, but there is a limit to how many of those individual applications we can assist in. The basic advice is to make contact with the local office and be aware that specific planning advice on how to submit your application may be necessary. We can maybe assist by suggesting people who are competent in that area.

789. Mrs McGill: You are saying that people should go to their local office in the first instance because it will absolutely be able to help and will have the expertise.

790. Mr Tom Clarke: Yes. It will give general advice, and, if that office is having trouble, it will ring us to ask whether we could suggest someone in that part of the world who could assist in an individual application.

791. Mr Stephen Hamilton: A lot of the issues that Tom has identified around PPS 18 are very complex, which is why we issued the best practice guidance with it. All the areas for each technology come with a different range of consenting regimes, not just a planning regime. We produced a very detailed guide along with PPS 18, and it is very user-friendly. It sets out different topics and will, hopefully, explain to individuals what is required of them. People working in the divisional planning offices have access to that document and should be providing that to anybody who comes for assistance in the first instance.

792. The Chairperson: That is very helpful.

793. Dr McDonnell: Thank you for all the information. It is very useful. How long will it take to clear the backlog of wind applications in the system, and how many of them are likely to succeed?

794. Mr Tom Clarke: The figures that I quoted were that 41 applications have been approved, which is 19% against a target of 40%, and there are currently 43 applications in the system. We do not call that a backlog, because those are current applications that we are working through. Some of them will move through quickly because the site is a simple one or because there has been no objection to it, but there may be a need for negotiation with others, so it is difficult for me to give you a figure. As soon as one goes out the door, another one comes in, so we will always have a basic workload of around 40.

795. Dr McDonnell: Let me put it another way: what is your rate of approval?

796. Mr Tom Clarke: I think that we have only ever refused one or two planning applications.

797. Dr McDonnell: That is fine; most of them succeed. I have talked to people in the renewable energy sector, and one thing that worries me is that, at best, DOE appears to be neutral on renewable energy rather than supportive of it. Because of the whole carbon scene, people expect a certain amount of bias in favour of renewable projects rather than a bias against them. Am I correct to say that? Are you neutral on these projects, or are you biased in favour of them or biased against them?

798. Mr Tom Clarke: We have to be seen to be dealing with all proposals in a fair and equitable way, having regard for the policy context and all the other factors that are raised with us. We cannot approach a planning application saying that we are going to approve it.

799. The figures speak for themselves. I cannot give you the exact number of applications that we have refused, but you could probably count the number of wind farm applications that we have refused on one hand. We have processed 32 applications for projects involving energy from waste, all of which have been approved. That sends out a message.

800. Dr McDonnell: You are biased in favour, but you are reluctant to admit it.

801. Mr Tom Clarke: We deal with all applications in a proper manner and take into account all of the aspects.

802. Mr Stephen Hamilton: The policy is very promotive towards all forms of renewable energy development, as long as the applicants meet the criteria. One of the most important things is the policy objective, which states that the aim is to facilitate projects in order to achieve Northern Ireland's renewable energy targets and realise the benefits of renewable energy. If applications go to the Planning Appeals Commission, those principles are the principles that it will go back to.

So, the policy is very promotive and supportive of the government targets. That is how we have to promote renewable energy through the system.

803. Dr McDonnell: My dealings are with individual projects and individual promoters of projects who are struggling financially and have a lot of finance caught up in getting projects off the ground. We have a government strategy in favour of renewable energy, but the levers for doing something about it are scarce. I am reassured that your strategy is in favour of renewable projects, because the perceived message from DOE is that it is more about policing and supervising than encouraging.

804. Mr Stephen Hamilton: That is part of our role; we take information from all of our consultees in the processing of individual applications. However, this policy goes a little bit further than an awful lot of others, because it says that, in a policy context, the wider environmental, economic and social benefits will be given significant weight in determining applications. From another area of work, I know that that has been caught up in the courts. However, with regard to renewable energy projects, that is in the text of the policy.

805. The Chairperson: You said that, if all the applications are approved, the total output would be in the region of 700 MW. Is that right?

806. Mr Tom Clarke: That is purely for wind farms. We have approved 41 projects for wind farms, which have a potential output of 638 MW. That is 19%, and our target is 40%. At present, another 43 applications are being processed for projects that will be capable of producing a further 700 MW.

807. The Chairperson: A further 700 MW?

808. Mr Tom Clarke: If all the current applications are approved, there will be another 700 MW. So, adding the two together, we get 38·9%.

809. Dr McDonnell: Is that 38·9% of Northern Ireland's total demand for electricity?

810. Mr Tom Clarke: Yes, it is. The strategic target for renewables is 40%. We are saying that, if all the approved applications and all the applications that are being processed come to fruition, they will contribute 38·9% of our electricity.

811. The Chairperson: Are you saying that you are near to meeting the target?

812. Mr Tom Clarke: Yes, if all of the applications go through.

813. The Chairperson: Does that take into account that the turbines in wind farms run at around 30% efficiency?

814. Mr Tom Clarke: I do not know about the technology aspect.

815. Mr B Forde: To clarify, in the exercise that we are doing on climate change, there is not a one-for-one substitution when it comes to renewables displacing one unit of fossil fuel energy. We are working with the energy regulator to come up with a proper estimation. DETI's grid study took it that 42% renewables would result in a 25% reduction in greenhouse gas emissions. The regulator is carrying out an exercise for us to try to come up with a proper figure for that as part of the climate change agenda.

816. The Chairperson: OK. We can pursue that elsewhere. Thank you very much for that.

817. Ms J McCann: Thank you for your presentation. Some of my specific questions about DOE have already been answered. I hope that I picked you up right; you said that you would consider the economic, social and environmental benefits when looking at some of those planning applications. I have a more strategic and general question to ask. The development of energy policy, and specifically renewable energy policy, is the responsibility of a number of Departments and other organisations. The way in which we have to import fuel for energy now, the high cost of energy, particularly in the North of Ireland, and the high percentage of fuel poverty in the North mean that the long-term benefits of renewable energy have to be considered when we are looking at any future energy policy.

818. There is also potential to build the economy. The Committee has listened to organisations that have told us that there is potential for renewables, particularly electricity generated by wind energy, to be exported. There is scope for small or medium-sized businesses to get involved. From what we have been hearing throughout this inquiry, I get the feeling that there is not a lot of joined-up thinking across Departments and organisations. Although there is better consultation now than there was before, it is still not at the level that would allow that renewable energy policy to be driven in a beneficial way. Have you any thoughts about measures that could be taken to ensure that that policy is driven at Executive level and not just at a departmental level? Do you feel that the emphasis is being driven in that direction?

819. Mr B Forde: From a broader energy perspective, there are many — perhaps too many — interdepartmental working groups whose job it is to make the connections between the different Departments. There is a big crossover connection between my Department, which deals with climate change, and DETI, which deals with energy. How do we fix that and make it work? We have a ministerially chaired cross-departmental working group on climate change, which is part of an effort to bring those strands together, but there are other examples of the same thing. There is a sustainable energy group that works across different memberships in different Departments, and there are lots of subgroups to do with communications and behavioural change.

820. I am not saying that everything is perfect. It reflects, potentially, the nature of an Executive such as ours and the type of partnerships that exist in it. However, the main thing that joins together anything that is cross-cutting is that, under the ministerial code, we still have to go back to the Executive to get agreement on proposals. From a DOE perspective, on an issue such as climate change, and from an administrative point of view at official level, we find that that can be quite frustrating. The need to have co-operative government means that we have to go back to the Executive to get a decision even on simple things. On the other side of the coin, however, it is right that there is proper oversight across the piece of issues that cut into the remits of many Departments.

821. The Chairperson: OK. Thank you very much.

822. Mr Frew: Thank you for the report. I want to go back to the 40% target for 2020 and the fact that applications amounting to 19·5% of electricity use have already been approved, with another 19% going through the system, all being well. Do all those applications include connection to the grid? The grid is a major problem in reaching the target.

823. Are there conditions on all the applications, both those that have been approved and those that are in the system, that mean that turbines have to be decommissioned in 20 or 25 years' time when they have become redundant or reached the end of their lifespan?

824. I want to ask about applications with multiple objections. I know of one application, although I will not name names, with which a lot of documentation was submitted, and one document was an area map showing households in the vicinity. However, it became clear to the

objectors that only 30% of households were shown on the map. The objectors then submitted documentation showing the actual number and positions of households. How far down into the nitty-gritty of an application do you go? Would you have picked that up, or were you relying solely on the objectors to produce the documentary evidence to show that something was wrong in the first place?

825. It has been put to the Committee that the farmer who wants to submit an application for an individual wind turbine has to go through the same flaming hoops, perform the same somersaults and produce the same action plans and business plans for the Planning Service as a large wind farm company, which has all the expertise at hand through its employees. Is that the case, or have those telling us that got it wrong? Do farmers have to meet the same criteria for a small, individual wind turbine as large companies have to meet for a wind farm?

826. Mr Tom Clarke: I will deal with those in order. You asked whether they all have grid connection. That is the applicants' responsibility. If they put in an application, it is up to them to ensure that there is a grid connection, otherwise they have to come back and apply for that.

827. Mr Frew: Is that a separate application?

828. Mr Tom Clarke: It can be, or they can sometimes put it in with the initial application. Those are their decisions.

829. Mr Frew: Obviously, that will skew the figures and the targets. Can you give us information now on whether the 41 applications that were approved have grid connection?

830. Mr Tom Clarke: I cannot off the top of my head, but I could get that information for you.

831. The Chairperson: That would be helpful.

832. Mr Frew: Could we also find out about the 43 applications that are going through the system at present, if that is in order?

833. Mr Tom Clarke: Yes.

834. The Chairperson: It would be very helpful if you could produce that.

835. Mr Tom Clarke: Those are decisions for applicants. Those with a grid connection do not need to apply. In other situations, people do need to apply, whether by submitting both applications simultaneously or by submitting an application after getting planning permission. We can check to find out the number of people who have applied for grid connection in previous and current submissions. We do not dictate that; it is for applicants to make those judgements.

836. Without going back over all the applications, I cannot give you the assurance that, yes, a decommissioning condition applies to each and every one. We have been processing applications for a number of years, and, in the early days, we probably would not have gone that far. As issues have arisen, we have looked a bit closer on that score and have put those conditions in, particularly where there has been a judgement about the prominence of turbines. The process is probably consistent now, but, looking back over time, that consistency has probably not been there.

837. Mr Frew: Does the fact that turbines are still up but not working raise concerns about your Department's service?

838. Mr Tom Clarke: Clearly, we gave permission for that use on that ground. The applicant may well apply again for a different or more efficient turbine to replace what he has. We assess the site's capacity to take the installation that is there. Clearly, we would not want anyone leaving derelict stuff all around the countryside, but the sites are usually valuable, so the applicant will, in a sense, recycle the turbines for more efficient ones as turbine technology changes.

839. Mr Stephen Hamilton: Applications have been submitted to swap older models for newer, taller, more efficient ones. It is not as if the turbines are there in perpetuity once a footprint is established, although, in some instances, you could say that they are lying there redundant. Historically, we did not have the policy basis to combat that by requiring decommissioning, but, as of August 2009, one of the criteria of the policy is that above-ground redundant plant, buildings and associated infrastructure should be removed from the site and the site restored to a preordained level. That means that that will not be an issue in the future, but it does not preclude someone coming in and using the same footprint. We had to ensure that we got that wording right so that we can future-proof those sites as being of strategic significance to Northern Ireland.

840. Mr Tom Clarke: I want to return to your question about objections. Our information comes from the applicant, and, through pre-application discussions or such like, we stress the importance of giving accurate information, but there is still an onus on us and on the case officer to go out and check on the ground whether the information is accurate. If it is not — and either the case officer will find that out or, as in the case that you mentioned, objectors will point it out — we have to go back, change and update the information and go through the whole cycle again. That is where delay comes in, for whatever reason. The issue may not be the number of households nearby; there may be other inaccurate information.

841. Going through the cycle again adds months and months to the application process, so it is in nobody's interest to give us inaccurate information. However, there is an onus on us, as the processing authority, to check it. We can only make an assessment of one aspect, which is residential amenity, if we know exactly where everybody is, so that information is critical. It is foolish from everyone's point of view, including the applicant's, to give us something that is deficient, because we will find out, so they are only adding delay to their timescales.

842. Mr Frew: My other point was about the individual farmer or rural dweller submitting an application.

843. Mr Tom Clarke: Again, it is difficult to be precise. They have got to include the information necessary to support the application. That may well include a number of environmental aspects, but it would be difficult to know. That is why I said that it would be better if they came in and asked us about it so that we can give advice on what is needed for their particular situation.

844. Mr Frew: Do you understand how that could be a barrier to a farmer who does not have the expertise, or the wealth to generate the expertise, to produce a document?

845. Mr Tom Clarke: Yes, absolutely. I do not think that we would push people beyond what is necessary, but, on the other hand, going back to the other question about how we process applications, it is incumbent on us to process everything fairly and to get the information to assess applications properly. We would not push anyone beyond what is necessary, but we need a certain amount of basic information.

846. Mr Frew: It is fair to say that, even if we reach the 2020 target completely through wind farm energy, we do not always have wind, so that is not a true reflection of the target. We need to make sure that we have a diverse range of renewable energy.

847. Mr Tom Clarke: I do not disagree with that at all.

848. The Chairperson: What is the current situation with permitted development for domestic premises?

849. Mr Tom Clarke: I am checking my notes here.

850. The Chairperson: There was a report; I think it was in January this year. I just wonder where it is at in the system.

851. Mr Stephen Hamilton: I am looking for the exact reference to the date that we hope to publish by, but it will be published early next year.

852. The Chairperson: You will have that early next year. Would that affect single turbines on farms or does it just involve photovoltaic solar panels and so on?

853. Mr Stephen Hamilton: There are outstanding issues with turbines, and there are other consenting regimes. Making turbines permitted development will create issues with regard to security of airports because of the antennae, noise and so on.

854. The Chairperson: I do not want to prejudice the position that the Department will come to. However, is it not unlikely that individual applications for turbines on farms, for example, will be permitted development?

855. Mr Tom Clarke: We will shortly propose legislation for permitted development for the installation of domestic microgeneration equipment, including solar panels, ground and water source heat pumps and solid biomass fuel storage. The proposals will not, at this stage, cover wind turbines and air source heat pumps until the issues relating to the standards and safeguards have been agreed and tested elsewhere. We are producing permitted development proposals for some elements but not the ones that you mentioned.

856. The Chairperson: Thank you very much, gentlemen. That was very interesting. Other questions about permitted development may arise out of your representations this morning. I am sure that you will allow us some time to think about it and follow up any questions in writing.

857. Mr Tom Clarke: Absolutely.

858. The Chairperson: Thank you.

11 November 2010

Members present for all or part of the proceedings:

Mr Alban Maginness (Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mrs Claire McGill

Witnesses:

Ms Olive Hill
Mr Nigel McClelland Invest Northern Ireland

859. The Chairperson (Mr A Maginness): Briefing the Committee today are Olive Hill and Nigel McClelland of Invest Northern Ireland. You are very welcome to our inquiry. We are very pleased that you could come.

860. Ms Olive Hill (Invest Northern Ireland): Good morning. Thank you for asking us to come along. I will spend a few minutes taking the Committee through what we are trying to do with renewables.

861. Invest NI is very focused on the renewables sector, primarily because of the economic benefits that we can see. We have been proactive in the sector for around 18 months. Prior to that, we tended to deal with the sector through our normal approach to sectors, but, 18 months ago, we undertook a substantial piece of work to assess what strengths Northern Ireland had, where we should position ourselves and where our capability was in developing the sector.

862. We welcome the strategic energy framework. It is very important that investors can see that government has set clear targets in this area. It sends out a robust message that there are opportunities. For example, if 40% of electricity is to be generated from renewables, that will lead to a requirement for products and services and it immediately makes Northern Ireland an attractive investment opportunity both for foreign direct investment and indigenous businesses that see a tangible opportunity that they can deliver.

863. A lot of those technologies are evolving, so we have an opportunity to work closely with the universities to evolve more R&D in the sector. The most substantial opportunity that we see from our company perspective is around the supply chain that will come with renewables. There is an opportunity for even some of our very small indigenous companies to feed into the renewables supply chain.

864. Our core driver in renewables is the economic benefits. The global opportunity — not just what the Executive have agreed as targets for Northern Ireland — is huge. I know that the Committee has had a number of reports that highlight that. That opportunity is huge and long term, so those jobs are sustainable. They will not last for three or four years and go away. The global opportunity is such that they are sustainable jobs that tend to generate higher-than-average salaries, primarily because of the technology base that surrounds the jobs, all of which sits very well with what Invest NI is trying to do.

865. The Committee asked for our views on renewables obligation certificate (ROC) incentive measures. The feedback from businesses still varies on that. Our engagement with investors shows that the key factors are consistency and longevity. At a conference last week in Glasgow, the marine sector stated that ROCs are working and are accepted and that the last thing they want is changes to be made in that market because that would cause a lot of uncertainty for investors. The key issue for us when we compete for investment is that incentives are equitable when compared with those of our nearest counterparts and what is happening in Europe.

866. Of the areas where we think that Northern Ireland can play a role, there will be some in which there really is not much incentive to do so. We would be less focused or concentrated on what happens with those. The key areas that we have worked on have evolved from where we feel our natural resources are, where we see the scale of the opportunity, where we see our research capabilities and where our manufacturing base has capability. Based on that, we have strategically focused on four key areas, which are quite large areas in their own right. Our challenge is to get access to the niche opportunities beneath them. Offshore energy, bioenergy,

integrated buildings and energy storage are, for a variety of reasons, the key areas where Northern Ireland is very well placed. Our natural offshore tidal energy resource is recognised as being the best in Europe, if not further afield. That makes us attractive from an investment point of view, given the number of subsidiary products and services that flow from it. In bioenergy, we have moved a number of our traditional engineering companies into the renewables sector by concentrating on the manufacture of biomass equipment and plant. We have taken a different approach in each of those four areas, but there are clear opportunities for different reasons and different characteristics.

867. You asked us specifically to outline the barriers and challenges. We are active in this arena from an investment point of view. There are a number of key things that I want to focus on. I included a picture of Belfast port in our submission to emphasise that infrastructure is key. From my perspective, much broader involvement is required, and not just from Invest NI. On the offshore side in particular, there are huge land requirements, such as deep water access and heavy-loading quays. Northern Ireland is very well placed in that regard, not just at Belfast but at Londonderry port, particularly given our UK competition. We have also looked at the ports at Kilroot and Warrenpoint. That is a huge selling feature for us, which we should not underestimate. A lot of big projects cannot go ahead without that infrastructure, and Northern Ireland already has a lot of that infrastructure in place.

868. Other consultees have flagged up the challenge of joined-up government and investors' perception of our approach. The work that Minister Foster has done with the interdepartmental working group has helped hugely in that regard. One of the first outputs of that working group was a piece of scoping work that showed the breadth of work on renewables that is happening across all Departments. A lot is happening, and that particular group has really helped to get the joined-up approach across. Interestingly, from an Invest NI point of view, when we have investors over to talk about projects, many of which are five or six years away, that is the first thing that they ask about. They want to know whether they will get a joined-up approach from government if they come here and whether they will get a surety that the land will be available, that they will be able to do their projects and that the Environment Agency will work with them. They are not asking for clean sheets; they just want to know that everybody will work in tandem. A lot has happened there, and we are very happy with the progress, but a lot more can be done. Although we do not necessarily need to replicate everything that our nearest neighbours are doing, the most obvious example is that of Scotland, where the Scottish Executive, from Alex Salmond down, continually put renewables to the forefront of practically every speech and agenda item that they deal with.

869. There is no question that our research is world-leading. We have done a lot of work to try to assess that. The big challenge for us is to make sure that that research benefits Northern Ireland and does not just go offshore. Engineers from Queen's University and other parts of Northern Ireland have been involved in practically all the marine devices that are in the water around Scotland or Scandinavia. We want to make better use of that resource. We already have a small but strong base operating in the sector, and we are trying to enhance the capability of those operators by getting them to work in collaborative networks. For example, Siemens were with us a few months ago trying to build a supply chain. However, their cut-off was that they did not want to talk to anyone with a turnover of less than £10 million. The number of companies of that scale in Northern Ireland is limited, but getting them to pull together and form entities has resulted in some successes in having contracts awarded.

870. I have included in our papers some idea of the targets that have been set. We set challenging targets from a very low base. All those targets have been achieved, but, from my perspective, the key outputs have been that, from a base of no enquiries from a foreign direct investment point of view, we have now had over 40. That means that international companies

see Northern Ireland, primarily because of its research and its natural resources, as a place that they should be looking at for renewables.

871. On the research and development side, from a very low base, we are getting projects through and are starting to see that being embedded in our companies. The key to research is to get the universities and colleges working together around renewables. We are working on a proposition at the moment, which is led by Queen's University, on an innovation hub and competence centre for renewables. We think that that will send a broad message out about Northern Ireland and our success in research.

872. We have a lot more to do, but we are very focused on and proactive in the sector. A great opportunity may come up through the round 3 Crown Estate licences and the Northern Ireland licences. We are keen to get a large infrastructure project, because we feel that that would generate a hub. As recently as yesterday, our Minister was involved with discussions in another investment project. The challenge for us in Invest NI in our public service agreement (PSA) targets and corporate plan is that we tend to work in three-year cycles. Renewables is a harder nut to crack as the projects take between five and seven years. For example, the general consensus is that there is unlikely to be any generation from marine devices until 2020. If we roll that back into a proposition coming to Invest NI, we can see that competition for funds is a challenge. However, there is great optimism around the sector. We feel that there are great opportunities there, and we are keen to keep driving forward and delivering.

873. The Chairperson: Thank you, Ms Hill. That was very interesting. I just want to make sure that I understand fully what you are saying. Effectively, Invest Northern Ireland is saying that renewables is a discrete sector and that it is going to work through that discrete sector. One of your criteria in assessing companies is whether they can export. Are you saying that the renewables sector is a very important and new sector that you can get stuck into and can try to build up, ultimately, to start exporting but that it also has the capacity to attract foreign direct investment, to create jobs and to create wealth in the community?

874. Ms Hill: Yes, that is what I am saying. The uniqueness of the sector is a challenge in that it draws in companies from every other sector, such as McLaughlin and Harvey, for example. That company is very active and successful in the deployment of renewable projects. It is a construction company, not necessarily a renewables company, but the breadth of the sector is the challenge. The opportunity makes it worthwhile for us to focus on it.

875. The Chairperson: In my view, the sector breaks up into three areas: research and development for the new renewable energy technologies; the manufacture or production of generation equipment, such as plant and machinery, turbines and so on; and the generation of energy from different sources. Are you concentrating on the first two areas? If you are, I would understand that, as the third area is the actual generation of renewable energy.

876. Ms Hill: Our focus would be on the first two areas, although we provide a lot of technical advice and support on the generation aspects as well, because, if people can develop things in the local market that will help the strategic energy framework, they will, hopefully, develop a product or service that can then feed into export arrangements.

877. The Chairperson: What level is foreign direct investment at here? Do we have any such investment in the renewables sector?

878. Ms Hill: Are you asking about volume?

879. The Chairperson: Yes. It would be good if you could quantify it.

880. Ms Hill: In 2009-2010, we had 43 enquiries from around 30 foreign direct investors. Our figures for 2010-11 are not available yet, but that number has certainly escalated.

881. The Chairperson: Have they actually invested money?

882. Ms Hill: No.

883. The Chairperson: They have not invested money.

884. Ms Hill: No; this is purely about prospecting at this stage.

885. The Chairperson: So, they are not coming in and saying that they want to do this or that?

886. Ms Hill: No. We are doing the work now on projects that will potentially bring investment in three to four years' time. It is all driven by government policy. Once the licence is out there, the developers start looking at where they are going to go and what infrastructure and so forth is in place to help them select the site.

887. The Chairperson: What is the lead-in time, roughly?

888. Ms Hill: If we are talking about the three Crown Estate licences in the Irish Sea, the last investors that we had in will probably invest in 2013-14 at the earliest, because it will be 2015-16 before generation begins.

889. Mr Givan: Thank you for your presentation. You mentioned the R&D opportunities in the sector. I recently saw the wave and tidal system that Queen's University has. Do you see opportunities in that area? The turbine in Strangford is gathering electricity through that source, and there is tidal potential around the North coast. Have you had interest from people around those areas, and could you get investment there?

890. You mentioned the multi-agency approach and the fact that people want to know whether they can get land, planning and support from government. People have made the point that, in approaching government, they do not know which Department to go to and that they feel that there should be one specific focal point. Has that been your experience? Do you think that that is the case? Do you think that, if people come to government, they will get that support? If they come to Invest NI, will it be able to link with other Departments to pull the information together to help them? I am keen to know whether what we are being told is the reality from your perspective.

891. Ms Hill: On your first point, there are great opportunities for marine energy, and that is driven by the fact that we are seen to have tidal resource. It would make sense for marine devices to be put in around the coast. Universities often say that their research is leading-edge, but Queen's University's marine research definitely is. There is not one marine proposition in Europe that some of our people are not involved in from a Northern Ireland perspective. The supply chain around that is what we are trying to work on. You are probably aware of the global maritime alliance that we have funded, which is a collaborative network that is trying to feed in to that supply chain to make sure that, if tidal devices come, we have a supply chain to back them up.

892. Mr Nigel McClelland (Invest Northern Ireland): Tidal stream energy is much less mature than wind energy. The prospect of generating electricity from tidal streams is a lot further away. The industry is focused on the development of devices, both wave and tidal, to capture energy, and a lot of research is being carried out. We have supported companies through our funding of

the Carbon Trust, which is one of the organisations advocating greater use of renewable energies. Through our funding, a number of local companies have been able to access R&D support.

893. Mr Irwin: Invest NI mainly focuses its support on companies that export. Is it not possible to encourage companies in the renewable energy market to produce goods and services for Northern Ireland? Outwith renewable energy, I was at a meeting the other night where some businesspeople from small companies were quite critical of Invest NI. I support exports and companies that export, but some small companies in Northern Ireland feel that they cannot avail themselves of support from Invest NI.

894. Ms Hill: Our export focus is driven by economic return. That has been the case with Invest Northern Ireland for a long time. I will give you an example from the renewables sector. We recently took a couple of our fairly small traditional engineering companies that do not export to look at some biomass boiler technology in Slovenia. They have now successfully bid to install a biomass boiler in Strabane, which will be the first such installation in Northern Ireland. Although that is not a direct export, we hope that, as a result of that experience, we can eventually get them into an export market. It is not that we are not assisting them but that we are assisting them in a slightly different way. At the end of the day, the market opportunity will be outside Northern Ireland. If people can establish credibility and experience in Northern Ireland, that would translate across.

895. The Chairperson: Are you telling companies that you will not assist them if they do not export?

896. Ms Hill: We are keen to get them all embedded and involved in renewables.

897. The Chairperson: You want to build that up and then, hopefully, they will begin to export.

898. Mr Irwin: Are those companies aware of that?

899. Ms Hill: Over the past year, we have had someone out on the road talking to those smaller companies. I think that renewables scares some companies, so we are telling them that the widget that they make for the engineering plant down the road is also useful in the renewables sector. We ask them to let us work with them to try to formulate those opportunities. The collaborative network is a key part of that, because the smaller companies can take the information back and feed off some of the bigger companies that have broader experience.

900. Mr Irwin: It is important that that is the case.

901. Mr Frew: Thank you for your presentation. You touched on engineering companies trying to grab some of the renewable energy market. I would like you to elaborate on that. I also want to ask about the potential for the construction industry to become involved in installations. The construction industry is on its knees at the minute, and it is not likely to recover anytime soon. Could it evolve to become part of the renewable energy market? It might not necessarily become involved in major installations for large companies, because those companies will do it all in-house, but it could become involved in installations for domestic properties, schools and hospitals. Could that fill the void in the construction industry, and, if so, would it aid recovery in the short term or the long term?

902. Ms Hill: The green new deal would be a great help to the construction sector, and I know that a business plan has been presented. Various Ministers are looking at how that could be funded. In the short term, there is an opportunity on the construction side that can be taken up relatively quickly. Again, we are saying that construction companies should look at the

renewables sector, and that is starting to happen; mechanical and electrical engineers through to concrete companies are starting to play a role. For example, traditional precast concrete companies are getting involved in anaerobic digestion plants and so forth. It is about getting the opportunity out there and holding the hand of the company so that it can see the opportunity.

903. Mr McClelland: Onshore wind farms with a combined capacity of 640 MW are already installed in Northern Ireland, mostly in the west of the Province. I believe that local contractors were used in the installation of those. In fact, last week, I spoke to the owner of a number of wind farms who assured me that the local supply chain was being used, which means companies providing concrete and stone and so on. A further 640 MW is in various stages of planning at present, so I expect that the installers, developers and utility companies that are building those wind farms will likewise use local companies in their supply chain. We have mentioned the likes of McLaughlin and Harvey, which is a local construction company that is already involved in the deployment of renewable energy and marine energy systems outside Northern Ireland. So, yes, there are good prospects for the construction industry.

904. Mr Frew: I know that I am going across Departments here, but can you reassure us that you are minded to suggest that the Planning Service has the expertise at the moment to deal with the influx of planning applications that will come from renewable energy? Do you see signs of that, or are they struggling? Do they need more training or advice, or is the expertise there already?

905. Ms Hill: Our experience has been that timescales were a real issue with renewables, and there has been an improvement there. However, we need to see more improvements, so, to go back to my original point, if an investor comes here and Invest NI provides whatever support it can, we need to know that that project is going to happen. We need to see continuous improvement.

906. Nigel is probably better placed to comment on the skills base. I have not come across any issues with skills at an individual company level.

907. Mr McClelland: Nor have I. My experience of Planning Service is that it is well equipped technically to deal with the issues involved.

908. The Chairperson: Time is the problem rather than skills.

909. Ms Hill: Yes, time is an issue, and that is to do with the processes that are involved. However, I know that Minister Foster and Minister Poots have had several conversations about that, and there is an emphasis on improving the situation.

910. The Chairperson: We will be talking to officials from the Department of the Environment later this morning, which is fortuitous, and we will deal with that aspect with them.

911. Dr McDonnell: I am sorry that I missed your presentation. What is your estimate of the full employment and turnover potential of renewable energy?

912. Ms Hill: I know that you have had a lot of papers. The jobs estimate ranges from 400 to 24,000 jobs, but the different research papers indicate a huge variance in their estimate of potential. Nigel will comment on the most recent piece of work, which was done by the Department for Business, Innovation and Skills (BIS), formerly the Department for Business, Enterprise and Regulatory Reform (BERR). We went through it yesterday.

913. Mr McClelland: The Department for Business, Innovation and Skills has undertaken fairly comprehensive surveys across the UK of the prospects of jobs, not just across the renewables sector, but what is called the low-carbon sector, which includes building and environmental technologies. That Department's translated figures as of 2008-09 indicate that there were an estimated 31,000 jobs in Northern Ireland across the low-carbon sector. In renewable energy in particular, the figures estimated that there were approximately 3,800 jobs. The projected growth rate as of March 2010 of 4·9% would take us to a total of 15,161 jobs in renewable energy by 2015-16. That is an increase of 3,784 over those intervening years.

914. Dr McDonnell: Do you guys buy that?

915. Mr McClelland: The Department has used a comprehensive methodology and included the supply chain across all the sectors. As Olive mentioned earlier, the renewable energy supply chain embraces companies that provide legal services through to engineering companies that provide products and services. It embraces a wide range of jobs.

916. Dr McDonnell: Does Invest Northern Ireland accept that potential, or are you just observing that somebody has said that that potential is there?

917. Ms Hill: It is a reasonable reflection of the potential, but I add the caveat that we have seen that the issue is increasingly about sustaining jobs. Whether construction or engineering concerns move into the sector, we need to do more work on the job creation aspect, and I would make that differential. However, I believe that the estimate of 15,000 jobs is a reasonable reflection.

918. Dr McDonnell: That is formidable, compared with the potential of foreign direct investment to create jobs and potential. I wondered whether Invest Northern Ireland had set a high enough priority for that block of jobs.

919. Ms Hill: The proposals will come in and will be assessed in the normal way. The change regarding renewables is that we have taken a much more proactive approach in getting them. The bulk of those 15,000 jobs will come from indigenous investment. Existing companies will move into renewables and will, hopefully, grow as a result.

920. The Chairperson: That was a very interesting presentation. If any further questions arise, I am sure that you will be willing to answer them in writing. Thank you very much.

18 November 2010

Members present for all or part of the proceedings:
Mr Alban Maginness (Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mrs Claire McGill
Mr Sean Neeson

Witnesses:

Mr David de Casseres
Mr Billy Graham — Northern Ireland Electricity
Ms Bronagh Lunney
Mr Joe Donaldson
Mr Bryan Gray — Northern Ireland Manufacturing
Mr Richard Hogg

921. The Chairperson (Mr A Maginness): I welcome Billy Graham, David de Casseres and Bronagh Lunney to our Committee. We are very pleased that you have come along and look forward to hearing what you have to say. You have helpfully prepared a succinct and interesting briefing paper. We thank you for your written response, which, likewise, was succinct and helpful.

922. Mr Billy Graham (Northern Ireland Electricity): I am the chief operating officer for Northern Ireland Electricity (NIE). David de Casseres is NIE's director of transmission projects, while Bronagh Lunney is responsible for generation connections. With your permission, Chairman, I will summarise some of the points that we made in our paper and, perhaps, deal with some issues in a wee bit more detail.

923. The Chairperson: That will be extremely helpful.

924. Mr Graham: I have divided my presentation into two parts in order to deal separately with large-scale generation and small-scale generation. Large-scale generation relates to large wind farms — those with multiple turbines. Small-scale generation relates to one-off wind turbines that are located on farms, for example, and anaerobic digesters.

925. If the Department of Enterprise, Trade and Investment (DETI) target of 40% of Northern Ireland's electricity to come from renewable sources by 2020 were all to be delivered by wind, that would mean 1,700 MW to 1,800 MW of wind generation being connected. As we have outlined in the paper, our current position is that we have connected around 340 MW and around 25 wind farms. A further 176 MW is committed for connection. Applications are in progress for 174 MW. Therefore, a total of around 690 MW is in the process of being connected. A further 740 MW to 750 MW is in the planning process and awaits approval.

926. The renewables obligation certificate (ROC) mechanism drives interest. We have an obligation to connect applicants. There is a fair bit of debate on how best to meet the 40% target and what the different balances are between possible biomass generation and large-scale or small-scale wind generation. Our difficulty is that we have to respond to connections. If somebody applies to be connected, we have to make the offer to connect.

927. A couple of maps are included in our submission. The first map shows the distribution of wind farms that we know of — those that are in the process of being connected and those that are in planning. As Committee members can see, they are located in the west and the north. That is where the network is least strong. It is at its strongest in the east, because the main generators are at Ballylumford and Kilroot, although there is also one at Coolkeeragh in the north. The 275 kV network is coloured red in that diagram. Those are the large tower lines. The network loops around Lough Neagh and is strongest in the east, with a spur up to Londonderry and the north-west. Therein lies one of the problems: the generation is located where the network is not as strong.

928. Members will also notice from the diagram that we have clustered the wind farms. Rather than try to build a separate line to every wind farm, which would have a big environmental impact, we tried to cluster those wind farms into groups so that we could build a substation

locally, build short lines to the substation from each of the wind farms and then build one strong line from there to the network. We have agreed that with wind farm developers and are moving forward on that.

929. We have short-, medium- and long-term plans for grid investment to support the connection of renewable generation. Our short-term plan was aimed at getting the best out of the existing network through the use of new technology, such as new types of conductors. That has got us to where we are at now. Our medium-term plan is focused on the 110 kV network, which is mostly a wood pole network. When driving around the countryside, you may see two big poles with a long cross-arm that has conductors hanging from it: that is part of the 110 kV network. It tends to be easier to develop than a network consisting of pylons and towers. The medium-term plan is a combination of uprating existing circuits and building some new circuits.

930. The long-term plan means building two 275 kV infrastructures, on steel pylons, out towards the west and around the north of the Province. The second map roughly shows the network corridors that have to be reinforced. The routes for those lines are still to be defined, but, in trying to choose a route for a line, we have to balance technical performance, environmental impact and cost.

931. The medium-term plan —the work on the 110 kV network — will allow around 750 MW to 1,000 MW of renewable generation to be connected by around 2015. That amounts to around 20%, against the DETI target of 40%. The long-term plan will facilitate the remaining 20% and allow us to reach the 40% target if it is all to come from onshore renewables.

932. One challenge, which we see as a big barrier, is planning and consents. The new North/South electricity interconnector is a fundamental requirement in meeting renewables targets, because the problem is that, at any given moment in time, generation must match the load in the Province. There is no real storage mechanism for electricity at present, so generation must balance with load. The maximum demand in the Province is around 1,800 MW, but, on a summer night, it is around only 600 MW. If it is a windy summer night, and there is 1,500 MW or 1,600 MW of wind, it cannot be used, because there is nowhere for the power generated from it to go.

933. That becomes an easier problem to solve on an all-island basis, because the wind is not always blowing at the same time in the North as it is in the South. There is further interconnection between the South and Wales, and we will probably have to look at further interconnection with France in future. However, the difficulty with not having an interconnector is that wind farms cannot run. It will reach a stage at which it will not be economic for them to continue, because they will be curtailed so often.

934. We submitted our planning application last December. It has been referred to a public inquiry, and initial indications are that that may not be heard until late 2012. If similar delays occur with the long-term plan, the simple fact is that the 40% target for 2020 will not be met.

935. Funding for that grid investment must be agreed with the Northern Ireland Authority for Utility Regulation, as does all proposed investment by NIE. We are a monopoly, so we have to agree anything that we want to invest with the regulator. Nobody else is going to build a network out there, so we have to be regulated. The Utility Regulator represents the customers, and we need his approval for anything that we do.

936. We propose to spend between £200 million and £300 million on the grid over the next five years to facilitate the connection of renewable generation. That is the medium-term plan that I mentioned. That figure will rise to around £1 billion over the next 10 to 15 years. NIE will invest that money and get a return, agreed by the Utility Regulator, over 40 years. A similar model is

applied to utilities in Great Britain. That money is then recovered from customers through their bills. In the strategic energy framework, DETI estimated that that would cost customers between £40 and £80 annually should we reach our target from onshore wind.

937. At present, the total price of a unit of electricity is around 14p or 15p, depending on the supplier, and NIE gets between 2p and 2·5p of that to run the electricity network in Northern Ireland. As I say, DETI has estimated how much the connection of renewable generation would cost households. However, if that did not happen, the cost of fossil fuel generation could outweigh any additional cost that that would place on customers. As a rough rule of thumb — these are ballpark figures — an investment of £100 million in the network over 40 years would probably add £5 or £6 a year to customers' bills.

938. I will move on to small-scale renewables. The first issue is connection costs. Small-scale renewables are individual wind turbines or anaerobic digesters. The rural community is supported by an 11 kV network. The single poles with small horizontal cross-arms that we see when we are driving in the countryside provide that network. There is 20,000 km of it in Northern Ireland, and it was mostly built in the 1950s and 1960s to bring electricity to rural homes, farms and communities. However, it was not designed to connect to wind turbines using up to 250 kW, which is what we are seeing now. Typically, the capacity of a farm is one tenth of that, and those turbines use 10 or 15 times as much capacity.

939. An apple tree is the best analogy that I can apply to help the Committee to picture the situation. Imagine that the substation is the trunk of an apple tree, and that one of those 11 kV circuits is a strong main branch of the tree that distributes electricity to the customers, who are the apples. Then imagine that putting in place one of those wind turbines, which can use up to 250 kW, is akin to hanging a box of 10 to 15 apples on one branch. If that box of apples happens to on a branch that is near the main trunk of the tree, there is not so much of a problem. However, if it is hanging way out on a small twig, there is a big problem, because the network is not designed for that and will, therefore, require significant reinforcement. We have to try to address and overcome that problem as well as the technical difficulties.

940. At the minute, the cost of the connection will depend on the location of the applicant. As I described, it will more expensive for applicants on the periphery than those near the main line. It is, therefore, difficult to provide an indicative cost as a guide to prospective applicants, because the price will very much depend on where they live. Connection charges must represent the cost of carrying out the work, and each connection is individually designed. The current connection rules agreed by the Utility Regulator stipulate that the applicant must bear the full cost of the connection. However, if the applicant does not bear the cost, the alternative is for us to make the investment and recover that from customers over 40 years. The Utility Regulator is currently conducting a consultation on that whole area. One of the issues tabled for consideration is whether we should be thinking about a possible subsidy to try to encourage that type of renewable generation. The cost would then be spread across all customers over 40 years. That consultation is ongoing. I have tried to address some of the issues that I saw raised in responses to the Committee's inquiry. Issues were raised around the communications and supervisory control and data acquisition (SCADA) infrastructure required. That is all about telecommunications and control, which is the meaning of a smart grid. The smart grid allows the balancing of generation and load in a smarter way and enables more renewable generation to be connected. That is why we need that infrastructure.

941. I will return to my apple tree analogy. Think about that apple tree with 10 boxes of apples hanging from it. Without communication, I do not know how many apples are in the boxes. Think of the apples in relation to the amount of generation that is going into the network. I do not have any communication, so I must assume that all the boxes are full. However, if I have communication from all the boxes, I will know how many apples are in each box. I can maximise

the amount of generation that I can connect, and I can balance it against the load that there is on that circuit. That is the essence of a smart grid. It is about knowing what is out there and being able to balance it more smartly. That allows us to maximise what we connect.

942. Generators must meet certain technical standards to be able to be connected, and they must have compliance with the description and cost of distributed energy model, which is often called the D-CODE. You will have seen some reaction to that. If we connect a generator, we have to ensure that it does not have an adverse impact on other customers who are located close to it. There would be no point in our connecting a generator if it starts blowing the light bulbs of the house next door and blowing up its television. One of the challenges on the network is around voltage control. The machines have to comply with certain technical standards so that they do not have an adverse impact on other customers who are connected to that network.

943. We do not yet fully understand the potential impact of renewable generation on the 11 kV network. Much will depend on, for example, how many come forward to be connected and on whether any subsidies are put in place to try to encourage connection.

944. We have concentrated a lot of our efforts on the large-scale renewables, because wind farms were seen as the facility by which most of the 40% target would be delivered. Owing to the ROC incentive, interest in small-scale renewables has increased around tenfold over the past two years. Since April, we have seen applications increase by about three to four times. We have put more resources in place, and we are currently recruiting further resources. However, we will deploy whatever resources we need to deploy in order to be able to cope with the volume of connections.

945. We have a difficulty. At privatisation, we were 3,500 people. We are now 1,200 people. The benefit of that has fed through to customers by way of the price of electricity, but we do not have many people sitting about waiting for something to do. That is a challenge that we have, and we will meet it. We will put in place whomever we need. The timescale to get connected is usually dictated by planning and consents for overhead line work, because we have to go through a planning and consents process, even for wood poles.

946. We have established close links with the Ulster Farmers' Union in order to engage with the farming community. When it made representation to the Committee, I think that its members acknowledged that. We have been to a couple of events, one of which was in Greenmount and one of which was in Loughry. I think that those events were attended by more than 1,000 people. Bronagh Lunney and her team were there to try to communicate and to let people know more about what they were facing and how the process works.

947. We held a workshop last week with the large-scale wind farm developers. DETI and the Utility Regulator also attended that workshop. A lot of this is about communication and for us to be able to communicate with others and tell them what is going on in the network. We are working closely with the Utility Regulator on the connection charge.

948. I want to leave you with a number of key messages. We are committed to working with all stakeholders to achieve the 40% target. We are also committed to the investment that is required in the grid to meet that target, and to working with the Ulster Farmers' Union and the rural community on small-scale generation.

949. I would like to ask a few things of the Committee. I ask the Committee to support our request to the Minister of the Environment to prioritise the interconnector public inquiry, because it is a critical barrier to achieving the 40% target. The Utility Regulator has estimated that not having the interconnector costs customers on the island of Ireland perhaps €20 million to €30 million a year.

950. There is a critical need for a co-ordinated and more efficient approach to infrastructure planning approvals. We need to have joined-up thinking to recognise that meeting the 40% target will need infrastructure. It will then be about trying to take the lead in communicating messages and challenging public attitudes. For example, more renewable energy will require more pylons.

951. That is a quick run-through. I tried to summarise what we said in the paper and to explain some of the issues in a bit more detail.

952. The Chairperson: Thank you very much, Mr Graham, for the very clear exposition of Northern Ireland Electricity's position. It is a very valuable contribution to our inquiry. I do not want to go through everything again, but the critical point is getting the grid right and fit for the purpose of renewable energy, whether it be large-scale or small-scale. Do you sense that government is committed to the target of 40%? Do you sense that it is prepared to get its systems and approach into shape so that you can meet the challenge?

953. Mr Graham: To be honest, the jury is out.

954. The Chairperson: That is a fair answer.

955. Mr Graham: It would help if the Executive rubber-stamped the 40% target and stated that they were behind it and that it was their target. When I went to councils and different forums, and when I met some of the people up here to discuss the interconnector project, the difficulty was that no matter how many times that I said that we were asked by government and the Utility Regulator to deliver it but that it was not our project, it was seen as ours. If it is seen as an NIE project, it will be difficult. However, if it is seen as government policy and that NIE is just an instrument to deliver that, that would make its delivery more practical.

956. The Chairperson: The interconnector is a critical piece in all of that. Getting the public inquiry under way quickly is absolutely essential.

957. Mr Graham: The interconnector will probably take around three years to build because of all the detail and design. The public inquiry could take a year — the Beauly Denny public inquiry in Scotland took a year — so we are perhaps looking at three years. It could be 2013 or into 2014. Our medium-term plan takes us up to 2015 and gets us to 1,000 MW. It would be difficult to get beyond that without further infrastructure development in the west. If the interconnector is held up, what will it be like trying to build other similar types of infrastructure?

958. The Chairperson: There needs to be something central in government to deal with all the strategic projects. A localised planning system can no longer be relied on.

959. Mr Graham: Absolutely.

960. The Chairperson: It has to be centralised.

961. Mr Graham: It is centralised. There is a strategic group that would deal with that planning application. We would have gone through a PAD. What does that stand for?

962. Mr David de Casseres (Northern Ireland Electricity): Pre-application discussion.

963. Mr Graham: I hate those acronyms; I can never remember what they all mean. We had a pre-application discussion with the planners. I have some sympathy with them, because the whole process of putting in place a very complex planning application, and the legislation that

surrounds it, is not tied down 100% tightly. It is very easy for legal people, if this is what they are trying to do, to pick holes in what we have done or what the planners do. Therein lies one of the problems. Minister Poots highlighted that, but he was probably criticised for it.

964. The Chairperson: We will not stray into that territory.

965. Mr Graham: Therein lies one of the issues.

966. Dr McDonnell: Some of his friends are here.

967. Mr Givan: Where is the legal profession for not supporting us? [Laughter.]

968. The Chairperson: We will steer clear of commenting on that. If we can get through the medium-term phase, we can move on to the long-term phase. However, if those two phases are dealt with efficiently, effectively and in a timely manner, we can reach that target of 40% largely through wind generation. Is that right?

969. Mr Graham: We could, if all that happened. I struggle to see that from where I sit at the minute. I struggle to see the interconnector and some of the other stuff happening in time. Around 1,400 MW are in the system, and, if applications for wind farms continue to come through, we will not be that far off the 1,700 MW.

970. It is hard to know and the jury is probably still out on what "small scale" will amount to. Might it amount to 50 MW, 60 MW or 100 MW? What can it amount to? A large wind farm of about 20 MW has about 80 of those single wind turbines. That scale equals a wind farm.

971. The Chairperson: How do you calculate that figure of 1,800 MW? Do you take into account the efficiency or otherwise of the energy production?

972. Mr Graham: That is correct.

973. The Chairperson: Are those figures based on, say, 30% efficiency?

974. Mr Graham: Something like that. The wind does not blow all the time, so we need to have a certain amount connected to be able to meet —

975. The Chairperson: I am getting at the fact that you consider that in making your calculation.

976. Mr Graham: Yes.

977. Mr Irwin: The interconnector passes through part of my constituency. Considerable opposition to large pylons there caused some problems. In selling its case, NIE needs to be more vocal about the need for the interconnector. People on the ground do not fully realise why it is needed. They think that it is NIE sales talk. They do not fully realise the importance of the interconnector to renewables and to future energy supply. I probably did not fully realise its importance. NIE must make that position clear and state it loudly and clearly, and perhaps it should have done that earlier on in the game.

978. Mr Graham: No matter how often I state the case, government has a role to play in that. I remember telling Armagh City and District Council that there are three reasons for the interconnector: first, the single electricity market (SEM) does not work efficiently; secondly, it is needed to help to connect with energy from renewable sources; and, thirdly, it will help with security of supply. People heard NIE say that.

979. Mr Irwin: Yes, and that is probably part of the problem.

980. Mr Graham: Therein lies one of the challenges that we face. If government were saying that —

981. Mr Irwin: How successful is the interconnector project at this stage on southern side of the border? Is it any further on than we are on our side?

982. Mr Graham: It has a different process. An Bord Pleanála had an open session around Monaghan somewhere. In the middle of all that, a problem was uncovered about the accuracy of the information that had been made available. Therefore, it has had to withdraw that application. It will resubmit it, probably some time in the new year.

983. The South's process differs from ours in that obtaining planning permission gives it the right to site the equipment. When we get planning permission, we have to go through a separate process to sign up landowners and secure way leaves. Therefore, it could end up being significantly ahead if it gets through its planning process.

984. The Chairperson: Do we have to go through a double process, then, comprising planning permission and consents?

985. Mr Graham: Yes. The public inquiry in Scotland into the upgrade of the overhead transmission line between Beauly and Deeny considered the planning application and any compulsory way leaves at the same time to try to save time, instead of doing so sequentially.

986. The Chairperson: Who gives the consents? Is it the planners?

987. Mr Graham: It is the planners. Planners give planning permission and DETI gives consent to build a line, but we need easements from all the individual landowners.

988. The Chairperson: Who gives the easements?

989. Mr Graham: The landowners give the easements.

990. The Chairperson: If they refuse to give the easements, how do you proceed?

991. Mr Graham: If a landowner refuses a way leave or an easement, we make representation to DETI and apply for what is called a "compulsory". DETI will take account of what we have done, the efforts that we have made and whether alternatives have been considered, and it will then make a judgement.

992. The Chairperson: That could mean that one landowner could hold up a whole project.

993. Mr Irwin: I want to talk about connections to the grid. I know of one wind farm owner who said that his connection cost something like £80,000. There has to be a way in which to subsidise that in some form or other or to make it easier for people to be connected. The costs of connection across Europe are a fraction of what they are here. If we are to be successful, that has to be looked at.

994. Mr Graham: As I said, that is part of the current consultation. The Utility Regulator has asked people whether they think there should be a subsidy for small-scale wind generation and connection to the grid. That subsidy comes from all customers, because we end up investing the money if the developer does not pay for it.

995. The Chairperson: The argument may be that it is not worth doing because it does not produce enough generation.

996. Mr Graham: It is not up to us to answer that. That is a question for government and the Utility Regulator. The Government have introduced the four ROCs mechanism for that type of generation. If someone applies to us for a connection, we have to give them a quotation. That is a judgement call between government and the Utility Regulator.

997. Mr Neeson: I share your frustrations about the delays with the interconnector. As a representative for East Antrim, I am bound to say that those delays are having an effect on Kilroot, Ballylumford and the Moyle interconnector. First, will the purchase of NIE by the Electricity Supply Board (ESB) have an effect? I am in favour of the interconnector, by the way. Secondly, we had a useful debate in the Assembly on Tuesday on the strategic energy framework document. We are focusing very much on wind power, and the Strangford project is a good one. To what extent, for example, is the north Antrim coast being looked at for the production of tidal energy?

998. Mr Graham: Sorry, what was the first part of the question?

999. Mr Neeson: It was about ESB.

1000. Mr Graham: How could I forget that? [Laughter.] My personal opinion is that the effect will be a positive one. ESB has given a commitment that it will invest whatever needs to be invested in the network. I think that we complement each other quite well. Over the years, NIE has done a great deal to try to improve its efficiency and its processes, such as its emergency response capabilities. We will be able to bring some of that to ESB, which has a great deal of technical capability and other benefits that it will be able to bring to us. ESB has made a clear statement that it will make the investment that is required.

1001. Our long-term plan for the north coast has to take account of a number of possibilities. It has to take account of the onshore and offshore winds at the north coast; the tidal possibilities around Rathlin Island; the offshore wind at Warrenpoint; and the possible biomass plants at some of the existing generation sites. It is easy for me to say that, but when it takes perhaps six years to put major infrastructure in place, one has to nail one's colours to the mast at some point and go with something. We are trying to ensure that a certain amount of flexibility is built into that long-term plan so that we can cater for whatever mix of renewables will form part of the 40% target. In the future, the 40% target may become a 50% target. Indeed, after 2020 we will probably have to make use of all our renewable resources.

1002. The Chairperson: Your frustration is evident at the fact that so many barriers are in the way. There are technical barriers and infrastructural barriers, and it is difficult enough to reach the 40% target.

1003. Mr Graham: Our challenge is to overcome the technical barriers and some of the other barriers. We will all have to overcome the barrier of putting the infrastructure in place.

1004. Mr Cree: I am still a little unclear on some of the background, and I have a few questions that will hopefully help me to colour it in. I understand that the wind generation that must be called up must be balanced against the prevailing weather conditions. If the 40% target were in place, but were not needed, would there be a standby cost?

1005. Is the Scottish connection coming in here? For example, the Committee visited the company that runs the single electricity market. I think that it is called SONI.

1006. Mr Graham: It is. System Operators Northern Ireland (SONI) operates the transmission system.

1007. Mr Cree: During the visit it was explained to the Committee how that company brings things on and leaves things off. Are we making the maximum use of the Scottish interconnector by exporting our surplus electricity to Scotland? Indeed, what use are we making of it? We cannot sit back and say that we cannot call on too much tomorrow, for whatever reason.

1008. You also touched on the efficiency of wind turbines, which is a significant point. I have read a great deal of literature about turbines, and there are some quite damning reports about their efficiency. Some are as low as 17%, and you have factored in 30%. Will you clarify that?

1009. Mr Graham: That was just an estimated average.

1010. Mr Cree: It is a fairly high average.

1011. Mr Graham: It is accepted that it will take approximately 1,700 MW of onshore wind to meet the 40% target for usage.

1012. Some of the points that you touched on are not our responsibility. For example, the interconnector is controlled by SONI, which is now completely independent from NIE. That company makes the decisions about what happens and what the marketplace is like. One of the issues is that there is also an excess of wind in Scotland, and it is a challenge there to find a place for that excess to go. Therefore, it would not be an easy answer for us to export wind power to Scotland.

1013. However, there is a real need to balance generation between the conventional and wind forms of generation. On occasions this year, 50% of the maximum demand on the island of Ireland came from wind, but a real technical challenge needs to be met, because if the wind suddenly dropped, the shortfall would have to be made up by other forms of generation. People have got much better at predicting those things and now have much better models to predict how much wind there will be tomorrow and the next day. However, there must be some margin for error, and some conventional generation will be needed. I am not an expert in that area, because it is not the role of NIE, but I understand that things such as fast-start gas turbines help to balance things. If there is a problem with conventional generation turbines in Ballylumford or Kilroot, it takes some hours to run them up, but all that is needed with a fast-start gas turbine is the pressing of a button. There is a mix there, and that is a mix that the Department will have taken on board when trying to come up with its strategic energy framework and its targets.

1014. Mr Cree: Is there a standby cost? So many wind turbines are in the long planning queue, so how difficult is it for you to plan your side of the business when you must anticipate how many wind turbines will become available?

1015. Mr Graham: We make an assumption. I forget what the figure is. Bronagh, can you remember?

1016. Ms Bronagh Lunney (Northern Ireland Electricity): We make an assumption that permission will be granted for 80% of the small-scale applications.

1017. Mr Graham: We make an assumption that 50% or 60% of large-scale applications will be approved. If a developer applies for 20 wind turbines, we make an assumption that he will get planning permission for 10 or 15. We make some assumptions around that. We try to keep in touch with all the planning applications, and we are talking to the developers all the time.

Therefore, we know where all the potential sites will be. We try to take those into account when trying to plan the network.

1018. Mr Cree: What about standby costs? Do they affect you?

1019. Mr Graham: It is really how the single electricity market works. There is a capacity payment mechanism in the single electricity market, but you would be better asking SONI about that, because it is part of how the single electricity market works. It knows how much generators are paid and how that works, and it knows what capacity payments are paid.

1020. Dr McDonnell: I am sorry that I missed the beginning of the meeting. Thank you for your frankness and openness. It is very refreshing to have an open and frank discussion about some of these issues. I have two simple, blunt questions. First, have you learnt anything from the interconnector fiasco?

1021. Mr Graham: We said to Mr Irwin that it cannot be seen as a NIE project as we go forward; rather, it is something for the community in Northern Ireland. As part of the interconnector project, we tried to go through a particular process. We spoke to the councils; we met a group of local residents to try to discuss the issues; we held open days in Armagh; and we wrote to everybody who lived within 1 km either side of the site and then sent them maps. We will have to sit down and look at all of that. We will also have to look at what happens during the planning process and consider whether anyone would be critical of it and whether we could have done something else. We will look at all that and find out whether we could have done anything differently.

1022. Dr McDonnell: Would it be unfair to suggest that the process was fumbled at the beginning?

1023. Mr Graham: I do not know.

1024. Dr McDonnell: I like the approach that you are taking, because we are all in this together. At the beginning, however, I think that NIE thought that, after a duck and a dive, it could be all over in half an hour.

1025. Mr Graham: It did not feel like ducking and diving in front of Armagh City and District Council. I still have the scars.

1026. Dr McDonnell: I am talking about what was happening before you got to Armagh City and District Council. A rabbit-out-of-a-hat situation emerged, and I think that it could have been handled better.

1027. Mr Graham: I take your point, but I think that there is an opportunity here to do something different. I take the point that the process appeared suddenly and that people might have wondered from where it came.

1028. Dr McDonnell: I know that you have touched on some of it, but do you hold out any realistic hope for the cost of interconnection to be reduced?

1029. Mr Graham: What do you mean by that? Do you mean the cost of the interconnector?

1030. Dr McDonnell: Sorry, I mean the cost of connection. Everywhere I turn, I hear people say that NIE is profiteering from connecting the small energy producer, regardless of the renewable source. There needs to be a clear-cut case in which you tell the small producers that you are

happy for them to connect themselves and pay the cost of doing so. There is a sense that they are covering not only the cost but that they are paying a serious top-up.

1031. Mr Graham: I will deal with that, because there is no incentive for us to overcharge customers. In fact, there is a disincentive. We do not make the rules on who pays what. Those rules are agreed with the Utility Regulator.

1032. I will use an example of a sum of £100 that is to be invested in the network. If customers pay £20 and we pay £80, we invest that £80 and get a return on it over 40 years. It is good for us to invest that. If we overcharge the customer, and, say, they pay £30, we get to invest only £70, which is worse for us. If we overcharge customers, it nets off how much we invest in the network, so there is a disincentive for us to overcharge customers.

1033. Customers are charged the actual cost of the connection. The case that needs to be considered is whether that becomes a barrier. Do we have to share the costs across all customers to make it work better for those individuals who want to be connected? I am not sure whether the Utility Regulator has been before the Committee, but you may want to make that point to him.

1034. The Chairperson: The Utility Regulator is before the Committee next week. That is an interesting point, and we will raise it with him.

1035. Mr Frew: We know that connection costs here are significantly higher compared with other countries in Europe. Is it purely because of the grid and the infrastructure that we have to stretch ourselves so far to get to the sites?

1036. Mr Graham: I believe that it is. To be honest, I have read some stuff about the nature of the network in Germany, but I am not familiar with it. However, I know that our network is different even to the one in England where there are hamlets that are grouped, whereas we tend to have lots of transformers or lines all over Northern Ireland.

1037. I recently came across a statistic that helps illustrate that. A few years ago, what was Eastern Electricity had 3·5 million customers and 50,000 transformers. At the same point in time, we had 680,000 customers and 55,000 transformers. Our network is widely distributed in Northern Ireland, and I think that it is the nature of rural electrification in the 1950s and 1960s, and of where farms and houses are. My apple tree analogy applies if you look at it on a map.

1038. Mr Frew: I certainly take your point about the apple tree. I am an electrician by trade, so I know exactly what you are talking about.

1039. Dr McDonnell: We are not sure how good he is. [Laughter.]

1040. Mr Frew: Manys a time I have painted that same picture to my apprentices, so I know exactly what you are saying. When people are seeking planning permission for large wind farms, in some cases in the planning application they have applied for grid connection, but in others they do not. How does that affect your planning? Is it better that the application for grid connection be made separately?

1041. Mr Graham: I do not know the answer to that.

1042. Ms Lunney: What normally happens is that a wind farm makes an application, and we then assess the grid connection and what the connection is going to be. That happens unless, as Billy said, a cluster is proposed, in which case we may take that forward. However, the normal

process is that, once applicants come to us with their planning permission, we will offer them grid connection.

1043. Mr Graham: I should have mentioned that we have a rule in the North that we will not offer a connection until an application has cleared the planning stage. That is to stop a backlog of people applying for a connection and almost hoarding capacity, knowing that they might not get planning permission for two years. An application has to be past the planning stage before we make a connection offer. That helps to ensure that there is no backlog of people hoarding capacity.

1044. Mr Frew: Good, that clears that up for me. Thank you. Bearing in mind the unreliability of wind for generation, how advanced is our technology for electricity storage? You mentioned problems with the interconnector and the timescale. Are we looking at concrete proposals? Are we considering positioning and siting of such technology? Is it being actively pursued, and, if so, what are the timescales involved?

1045. Mr Graham: I do not know, because that is very much a DETI thing. I think that it would be in its initial stages. I have heard about what could be done in the salt mines in the area around Carrickfergus and Larne, but I think that the technology is at an early stage, certainly in Northern Ireland.

1046. Ms Lunney: NIE was engaged at an early stage about possible interconnections, but, as Billy said, that is still at an early stage.

1047. Mr Frew: Would you welcome that development?

1048. Mr Graham: Again, we are the guardians of the network. However, from everybody's point of view, storage would be of assistance. People use the example of electric vehicles. If there is a lot of wind at night, electricity is practically free, so those with electric vehicles charge them at night. That is the aspiration sometime down the line. In a way, electric vehicles are a method of storage, because they store energy that gets used elsewhere. However, storage on the scale necessary is in its early stages.

1049. Mr Givan: Other members have covered my questions, but I want to make a comment. In its paper, NIE asks the Committee to lobby the Minister of the Environment to prioritise the interconnector. I would say that he has done so in his list of article 31 planning decisions, but he has obviously not made it a high enough priority from your perspective. I feel that your energy would be better spent asking the Public Accounts Committee (PAC) or the Office of the First Minister and deputy First Minister (OFMDFM) whether they are managing their resources so that not only one article 31 decision is being dealt with at a time.

1050. Mr Graham: Yes. We have.

1051. Mr Givan: You are experiencing delay because of the way in which they manage the process of dealing with article 31 applications, not, in my view, because of where you are on the priority lists. I do not argue that other applications in my constituency, such as Sprucefield, should be moved from their place on the priority list. However, it is a big problem for NIE and others if the PAC and OFMDFM are managing their workloads by taking article 31 decisions only one at a time.

1052. Mr de Casseres: I think that we have written to them.

1053. Mr Graham: We have.

1054. The Chairperson: I think that Mr Graham was making the point that this is an all-government target, that everybody has to co-operate and that there should be a more concerted effort by government. I do not think that he was criticising the Department of the Environment (DOE) or individual Ministers. My point is that this is so important that everybody must fall in behind it.

1055. On another matter, would the cost of grid connections decrease as a result of upgrading the grid? If the grid were upgraded, would the connection cost fall?

1056. Mr Graham: I will talk about large-scale connections, to which most of the costs relate. Individual developers are not charged for the upgrading of the grid because the connection arrangements are different at that level than they are at the small-scale level. Therefore, because they do not contribute to the grid infrastructure, the connection charges for them will remain the same. However, the charging arrangements for the small-scale guy who pays for some reinforcement of the 11 kV network. That is why, if those arrangements were to change, small-scale generators would not pay totally for that infrastructure.

1057. The Chairperson: Are you saying that small-scale generators are paying more?

1058. Mr Graham: They pay 100%, more or less, of what it takes for the very large-scale wind farms to get connected. The £1 billion that I talked about is something that we fund those developers.

1059. The Chairperson: Are you saying that large-scale wind farms would pay proportionately less than the small-scale generators?

1060. Mr Graham: They pay the cost of getting connected to the network. We have to pay the cost of upgrading the network. Therefore, the chargeability arrangements are different.

1061. The Chairperson: I did not appreciate that there was that difference.

1062. People get their planning permission, after which their connection to the grid is considered. Perhaps this is a silly question, but do the planners ask whether they will get grid connection? Do the planners make enquiries in that regard?

1063. Mr Graham: I do not think that the planners would make enquiries of us; rather, they would assume that people will get grid connection. Having said that, we interact a lot with the planners. We have many discussions with them about clustering to make sure that they are happy with it. We also have much discussion with wind farm developers. The planners were happy with that, because it meant fewer overhead lines.

1064. The Chairperson: It seems a sensible approach. Once people receive their planning permission, they get their connection. Is it correct that they will not have to go to the planners again for the connection but that they may have to go to them because of other matters?

1065. Mr Graham: They get their planning permission and we then make them a connection offer. They accept that connection offer and we do the detailed design, including, if we have to build a new line, planning permission, way leaves and consents. Parallel to that, they would build their wind farm.

1066. The Chairperson: Could there be a subsequent planning application for the way leaves?

1067. Mr Graham: There would be.

1068. The Chairperson: Is there no way of doing that at the one time? That seems to hold up the process.

1069. Mr Graham: It does not tend to hold up the process, because people will not even start to build their wind farm until they receive planning permission. Usually, it is wood-pole lines, so it is not the same issue. We work with the planners to make sure that there are no hold-ups. By the time that we get through that and get the line built, I am not aware that we are holding up any of the wind farms. People have to order their turbines and make all sorts of arrangements to get the thing built, so that is not a big issue at present.

1070. The Chairperson: Thank you very much. That was very helpful.

1071. I now welcome witnesses from Northern Ireland Manufacturing. Briefing the Committee is Mr Richard Hogg, who is the managing director of Limavady Gear Company Ltd; Joe Donaldson, who is the managing director of Environmental Fabrications Ltd; and Bryan Gray, who is the chief executive of Northern Ireland Manufacturing. Gentlemen, you are very welcome. I am very pleased that you could come here this morning to assist us with our inquiry. We have received your written briefing, which we found very helpful. I invite you to make a short presentation or a few remarks before we ask questions.

1072. Mr Bryan Gray (Northern Ireland Manufacturing): Thank you, Chairman. I apologise on behalf of Con O'Neill from Harland and Wolff, who is unable to be here this morning. He had planned to be here, but he has been called away on urgent business in Denmark. Unfortunately, he is one of our principal sources of expertise in the renewables sector.

1073. I thank the Committee for the opportunity to give evidence. Energy is, of course, a key issue for us. We very much appreciate that renewable energy will be more important in the future, not only for the sector but for everybody in Northern Ireland, because it will be considerably more expensive. The Utility Regulator advises that the 40% renewables target that was set recently is likely to increase energy prices for everybody in Northern Ireland by some 10%.

1074. Manufacturing's principal concern is that it is vital that, to offset those increased energy charges, which will, of course, make Northern Ireland plc less competitive, we capture a reasonable share of the renewables market and ensure that there is a substantial Northern Ireland content in the installations that will be provided here to generate renewable energy.

1075. One of our main concerns is that we feel that, in some ways, we are being left behind by other UK regions. In the past three weeks, there have been announcements about a £70 million investment in Scottish ports and a £60 million investment in British ports to stimulate their respective renewables sectors. Companies such as General Electric (GE), Siemens and Gamesa have already committed to British installations. GE has stated that it intends to locate its new R&D centre there. That, we believe, is the result of a lack of focus and vision on the part of government here and having a vast array of Departments that exercise various responsibilities in the area of renewables.

1076. We also believe that there is a need for an all-island approach in Ireland so that we complement what our near neighbours are doing rather than compete with them. In the past six months, the sustainable development strategy and the strategic energy framework have been published, but we are disappointed with both documents. We badly need a road map for renewables, because few, if any, targets were set in those documents. Both documents mention the fact that there is a huge opportunity for creating green jobs, but, unfortunately, all we have heard so far are green words. No green jobs have been created.

1077. At a rather different level, we would say that there is a need for more-targeted advice and assistance for small and medium-sized enterprises (SMEs). Indeed, many of Northern Ireland's largest companies are also struggling to understand how to get into the renewables sector and take advantage of it. Is that because of the policy vacuum at a higher level? We would say that there is a need for a separate directorate in Invest Northern Ireland to deal with the renewables sector.

1078. The Chairperson: Thank you very much, Mr Gray. Your colleagues are welcome to join in at any stage. They will not be interrupted.

1079. In your written submission, you say that the absence of renewable energy feed-in tariffs (FITs) and a renewable heat incentive (RHI) in Northern Ireland disadvantages businesses. Leaving aside the RHI for the moment, have you any comment to make on the difference between the ROC and the FIT system?

1080. Mr Richard Hogg (Northern Ireland Manufacturing): It is a serious issue for investors when they come to invest in something that is not as solid an investment over the next 20 years as FITs are. On the UK mainland, that is exactly what they are. They are fixed for the next 20 years, but our ROCS are traceable. When one goes to an investor with a traceable ROC, the investor will ask what happens if the value goes down and, as such, is not so keen to invest in that system. The likelihood of ROCS going down in value is pretty slim anyway because they are aligned to the price of energy, or they should be. It is very difficult to get investors to invest in that scenario.

1081. The Chairperson: The position in Britain is that feed-in tariffs are for small-scale generation.

1082. Mr Hogg: On the UK mainland, they are used for generation up to 250 kW for wind power. It is different for solar and photovoltaic (PV) power.

1083. The Chairperson: ROCs are used in Britain in large-scale generation.

1084. Mr Hogg: Yes. It is still the ROC system.

1085. The Chairperson: Is it good or bad to have two systems at the same time?

1086. Mr Hogg: There is a completely different investor involved with the large-scale systems. One will be talking to a different person in a different environment when dealing with those. Likewise, one will talk to completely different companies and investors when dealing with the microgeneration area and generation of up to 250 kW. The large investors are probably more open to trading ROCs, and they understand that. Bigger amounts of money involved, although there are smaller machines.

1087. The Chairperson: Is a feed-in tariff much better for smaller generation?

1088. Mr Hogg: That is my belief and the belief of the industry.

1089. The Chairperson: What is the attitude of local banks towards ROCs? Are they aware of the ROC system? Have they evaluated that?

1090. Mr Hogg: I am probably not a good man to talk to about banks at the moment. In the past five weeks, Ulster Bank closed down our company for no reason. That is a whole other thing. We had investment from Canada to come in, and Ulster Bank managed to scuttle that. Mr

Elvin should be brought to task for that by somebody, somewhere. His actions were disgraceful. However, that is another thing. I am getting over that, and I am moving forward.

1091. To be honest with you, we do not really have a banking system here. A lot of people invested in a lot of property. They do not understand manufacturing, and they do not want to. There are far too many loopholes that allow them to come in and decide to shut something down if and when they wish, and because that is done, Northern Ireland plc will not go forward. It does not matter what good work you guys do or how much good work Invest NI does. That work will be scuttled if we do not have a banking system here with which we can work. That is me preaching about them. I am not finished with them yet, and I will go more public about it when I am ready to do so.

1092. I will return to the ROCs and the FITs. Local banks are spouting a bit about the fact that they are going to support micro-turbines and suchlike. I honestly do not know how they will do that. They talk about it, but I do not know whether they have the money or the wherewithal to do so. I do not think that they understand the system, and I do not think that they want to understand it. I think that they are pandering to the public view.

1093. The Chairperson: You think that the financial institutions do not have a working knowledge of the system.

1094. Mr Hogg: That is my opinion.

1095. The Chairperson: Do you want to comment on that, Mr Gray?

1096. Mr Gray: The broad spectrum of manufacturing is seeing little support from the banks. I sit on the forum that was established by the Churches to consider the position of the banks. That forum has addressed your Committee.

1097. The Chairperson: It addressed a meeting of the Committee for Finance and Personnel and this Committee no later than yesterday.

1098. Mr Gray: It continues to be the case that the banks' preferred solution seems to be to put companies into liquidation rather than to support them back into profit.

1099. Mr Irwin: Thank you for your presentation. You reckon that if we meet the target by 2020, there will be a cost increase of 10%. That is 1% a year.

1100. Mr Gray: The Utility Regulator told us that he felt that we could get to 25% renewable energy quickly by making use of wind, but to get beyond 25% would require solutions such as anaerobic digestion and biomass. He said, however, that those solutions would be more expensive. He said that he felt that it would increase the pass-through charges by 50% and that that would result in a 10% increase in bills.

1101. Mr Irwin: Is that over 10 years?

1102. Mr Gray: Yes. That is by 2020.

1103. Mr Irwin: No one wants to see an increase, but if we do not go down the renewable energy route, we are leaving ourselves wide open. It is possible that oil prices will have increased by more than 10% over 10 years.

1104. Therefore, I do not regard that as an argument. It is quite possible that bills may increase by 1% a year, if what you say were the case. If we do not go down the renewable energy route, we are totally at the mercy of the oil market, so bills could be 20% or 30% more expensive in 2020.

1105. Mr Gray: The renewables route is unavoidable. However, it is a fact of life that energy will be more expensive.

1106. Mr Irwin: That is difficult to ascertain. We say that it may be more expensive, but if oil prices continue to rise, renewables will not be more expensive compared with oil. Do you understand where I am coming from? It is difficult to gauge what the situation will be 10 years from now, in 2020.

1107. Mr Hogg: It is, but given the amount of R&D on renewable energy, wind is a secure and very mature market. It is there, and it uses good, solid equipment, the running cost of which I well know, because I have 15 years' experience of it. It is much more questionable how tidal power, for instance, will work. I am fully behind tidal power because it is a fantastic idea, but its development will require a lot of money.

1108. Hydro systems, such as the first in Ireland at the Roe Valley on the outskirts of Limavady, where I come from, have been about for a long time and are well tried and tested methods of producing electricity. The problem with that is that the Northern Irish and the Irish markets are not massive, but there are massive markets elsewhere in world. However, for Northern Ireland to showcase itself, it needs to have a planning authority that lets us put the bloody things in. I think that there are about 19 applications in the system at the moment. We have manufacturers, such as Joe here, who are quite capable of making the necessary equipment, and the market is a worldwide one. South America is full of small tributaries. The people there need power, and hydroelectricity is the most secure way of obtaining it. We need more forward thinking in Northern Ireland to see that. We need to look beyond our own wee Northern Ireland box to see what we can do outside of it.

1109. The Chairperson: What you are talking about is manufacturing and exporting.

1110. Mr Hogg: Let us showcase here. We have plenty of rivers and tributaries. Get the planners to catch themselves on and cease transferring applications from one section to another. Let us tell them to get the systems operational. Systems that have been in place for years are ready to run. We just need to open up the weirs again and let people put in the hydro systems.

1111. I am not saying that we should go out and kill all the fish, or anything else. We must meet certain environmental conditions, but do not make every single thing a blockage. The view of people from outside Northern Ireland looking in is that they cannot do business here because to do so is so blinking awkward. They believe that, every time that they turn around, someone is putting up another barrier, doing this or saying that. I know the people well who operate the machine in Strangford Lough, and they are fed up to their back teeth with constant planning conditions. At the end of the day, they will take that machine out, which is ridiculous because it is doing no harm.

1112. Mr Irwin: I have made representations for a family involved in one of the wind farms that is in the system. It has been held up for perhaps three years now. This is a public meeting, so I will not state why, but it is unbelievable to most people, including me, how trivial the issues are that are holding that application up.

1113. Mr Hogg: We should not ignore the fact that we do not have carte blanche to site renewable energy systems everywhere. However, there is a happy medium, and the rest of

Europe does not go through the nonsense that we do. We compete in the worldwide market. The Province has a fantastic opportunity, and we cannot keep knocking the passion out of people who want to do this stuff. The last thing that we need is this constant barrage of nonsense coming at us from all roads and directions, and a banking system that does not work.

1114. The Province's renewables industry has fantastic prospects. We have all the good precision engineering and fabrication that goes on in mid-Ulster. A lot of blades are involved in renewable energy systems and they require a lot of composites, and we are about to open a new compositing centre in Glengormley. Everything is going for us, but we need to get the core of it sorted out. Forget about the big picture of there being hundreds of millions of jobs and just concentrate on the core stuff. There are things that we or the Government could do that will not cost any money, and that is get the test sites up and running, and call them test sites. That will encourage outside investment.

1115. From my perspective, will I go back to the bank to ask for a lot of money to try to grow a company? Absolutely not. I have been kicked from pillar to post, and I am not doing that again. If somebody from outside comes, which is how I see investment coming in, we must give them something for their investment.

1116. We have plenty of tide and plenty of wind here. We also have a great climate for growing grass, which means that biomass can be a very good product. We have a fantastic opportunity here, but, as usual, it is slipping away because we are getting stuck in bureaucracy.

1117. Mr Joe Donaldson (Northern Ireland Manufacturing): I thank you, Chairman, and the Committee for taking the time to meet us. My company is a small one. Three years ago we employed 47 people, but today we have 26 and are looking at making more redundancies. We looked at this area, having done a lot of work in the water and wastewater industries. A lot of that infrastructure has been completed, and there are other companies like mine that have been involved in manufacturing in that area. We need to determine where the next opportunities lie. Again, as Richard says, there is a window of time in our part of the world to get at this and move forward, and, in doing so, to give job security to the people in our company. We want to keep the guys that we have and start to build on that.

1118. The slower that this process rolls out, the more difficult that it will be to keep those people together. I spend a good part of my time in England and Scotland, and I have been out to Saudi Arabia and other places to see what the opportunities are for our company. If we are going to do business in England, in Scotland or especially in Saudi Arabia, we are going to have to look at employing people over there. The work that we are doing in Scotland at the moment is costing me £500 or £600 a man every week just to get them over there and to provide them with digs. The costs ramp up on a 12-week contract requiring four or five men.

1119. Ideally, I want to bring the work to Dromore. I do not want to be employing people in England or Scotland in order to keep the bones of the business going. I want to bring it to Dromore and add some value to my community. We can achieve that if we can have a clear way through. We need to understand the supply chain and how to feed into it at the lower levels. We are not a big company; we are not a Harland and Wolff. However, if we can drip-feed off the larger companies who are able to speak to the like of Siemens, it will give bedrock companies such as ours the confidence and the ability to move forward.

1120. That is especially true in the light of Richard's experience. We have had losses ourselves this year, but, thankfully, there is work in the pipeline because of our efforts back and forth to England. However, is it going to be viable to fly guys over there and put them up or are we going to have to look at local labour to do installation for us? That is a big concern for us.

1121. Mr Gray: To sum it up, the message from a recent conference on renewables held by Invest Northern Ireland was that there are millions of opportunities worldwide in renewables. However, someone at my table said that he wanted to know where the opportunities are in Ahoghill. That message is not getting through to people.

1122. The Chairperson: That is a fair point.

1123. Mr Hogg: It is difficult for Invest Northern Ireland to tie that down, because its staff are not experts in that field. Invest NI is doing some very good work, even though it is also doing some silly things. It is trying its best to move towards what it can do for the renewables sector. It needs to be more focused, however, rather than concentrating on the big picture. If you are not in the middle of it, you do not understand it and all you hear about is figures in the hundreds and thousands and millions. As an SME, you ask, "What on earth is this about?" There needs to be more focus and more dedication to helping things to happen. We all know that times are tight and that money is tight, but there are things that we could be doing in the Province that will not cost us any money. We must use our natural resources, such as tide and wind. It is there to use, so we just need to whittle down the bureaucracy.

1124. Dr McDonnell: Keep going, guys. I could get up and dance on the table to the music that you are making, because it has been a long time coming. That is exactly why I want to see this inquiry succeed. You are delivering your message to open ears and open doors.

1125. Bryan's suggestion of having a renewables directorate somewhere in DETI is crucial. My frustration is that five or six good people there are working very hard but are doing so almost in isolation and, as a result, are forgotten about. I discussed that with the Minister less than 48 hours ago. How do we get investment, and how do we make the case for investment against a rising tide of cuts?

1126. Mr Hogg: The test sites will not cost money. Environmental impact assessments are currently being carried out for tidal energy, and I understand that, hopefully, those should be through by the start of next year. We need to put four buoys in the water somewhere and say that that is the test site. That will open it up to international companies, which have a lot of money and are keen to get the equipment made. They will make it close to where it will be tested. The test site needs to be sorted out. The area off Rathlin, Lough Foyle, Strangford Lough and the area off the Copeland Islands are all good for that.

1127. Some areas have been earmarked to be enterprise zones, although they are not designated as such. It will not cost money to designate enterprise zones to encourage people to come into areas in which they will not have to pay rates for a certain amount of time and in which the planning regulations are a bit more lax. Is that possible?

1128. Mr Cree: That thought is utopian.

1129. Mr Hogg: I am not suggesting that all of Northern Ireland be designated an enterprise zone, because that would be too much, and it would end up getting fluffed into some nonsense. In my area, Limavady, an enterprise zone was to be set up at Campsie, and there was to be one in Omagh and one in Belfast. That would give people the opportunity to go into those areas with biomass boilers, anaerobic digesters and wind technology and fast-track them. There could be such a zone offshore as well as on land. Surely that could be done at the stroke of a pen.

1130. Dr McDonnell: Not quite, but I think that it could be done. You have been very frank with us, and, at our end, we need a business community saying that, in spite of all the financial difficulties, initiatives need to be considered. Most of us advocate that, despite the downturn, we

should invest in family silver for the future and not throw everything out. The question is of how we get that balance, and we need your advice on that. We do not have a monopoly on wisdom.

1131. I picked up on Bryan's suggestion, which I have kicked around in the past and which we have discussed in Committee. It is a question of how we get a proper energy directorate in the Department. I would not go as far as having a renewables directorate, but there could be a significantly expanded energy directorate with a priority on renewables. We need your support as a business community to say that that is essential.

1132. You made the point that renewables are more expensive, but that is only until the price of oil goes up, because, in 20 years, I do not think that there will be any oil. To be blunt, we will have to walk or take bicycles. Renewables may be relatively expensive at the moment, but, in 20 years' time, it will not matter what the price of oil is because there will not be any oil, or there will be very little. Whatever oil there is will go to China, because, at that stage, China will be able to buy it and the rest of us will not. That is why we need to get a much stronger grip on renewables. A partnership is needed among you, us, the Department and others. Around 10 different partners need to come into play.

1133. The Chairperson: This is an opportunity for business to tell the Assembly what it wants done. That is why we are glad to see you, so speak as frankly as you want.

1134. Mr Donaldson: I take on board what you said about the higher cost of renewables compared with the price that oil is sitting at. Looking ahead, we could get ourselves into a position in which we specialise in the design and manufacturing of renewables and could bring that into this part of the world to generate work and employment. Although renewables may look a bit more expensive, designing and manufacturing the products would add great value by getting employment into the system. It is about making sure that we take full advantage of this small window in which we might achieve that.

1135. Mr Hogg: I have just had a thought. The old Army base in Ballykelly has been handed over to the state. It sits on a very windy site, has a tidal race beside it and a lot of grass around it. Is there any chance that we could look at doing something with that? I am firing that out as an idea that has just come into my head. There are buildings on that site and something could be done with it.

1136. The Chairperson: That is an interesting example.

1137. Mrs McGill: Bryan, you said that you were disappointed with the strategic energy framework document.

1138. Mr Gray: Yes.

1139. Mrs McGill: At the beginning of the week, we had a debate on the strategic energy framework in the Chamber. Reading the document, I see that there are caveats everywhere on the financial situation in which we find ourselves. Therefore, you are justified, Bryan, in asking whether we are serious about this. Alasdair McDonnell touched on the finances involved, but how do we manage the strategy, given that the financial situation is as it is? The document clearly sets out that there are difficulties and, if I remember correctly, states that there is no commitment to fund certain projects. We share your views on the difficulties, but how do we get around those?

1140. My second point is on Invest NI, which you refer to in your written response to the Committee. Invest NI should have a very specific and comprehensive role to play in renewables. You referred earlier to opportunities in Ahoghill, but your paper states:

"At a recent conference on renewables a senior official of Invest NI stated that the organisation was 'starting to struggle with where we go next'."

1141. Invest NI gets a sizeable amount of money from DETI's budget. Joe, you mentioned the difficulties, and the role of Invest NI comes up repeatedly, not just in the context of renewables but more generally. We will hear from Invest NI later in our inquiry, but how do you think that it should reshape, rebalance and, as Richard said, refocus?

1142. Those are my two big issues: how we manage the strategic energy framework's finances and what we do with Invest NI.

1143. Mr Gray: We asked Invest NI who is responsible for renewables. The answer was that everybody is responsible. We all know the story in which Everybody thought that Somebody would do it, but Nobody did. Our concern is that there is perhaps a lack of focus from Invest NI. That could be solved by having a specific directorate in DETI with a managing director specifically responsible for renewables.

1144. Just last Wednesday, the EU launched a fund of £4·3 billion for renewables. One of our concerns is that time is marching on. Although it may be very attractive to set up a new directorate in Invest NI, we all know that that is not going to happen next week. A consultation exercise will have to be carried out, and that takes a long time. Therefore, we have to find a way in which to work within existing structures to move the issue forward as a matter of great urgency. For example, the closing date for sponsors to submit applications to their member state for the new £4·3 billion fund from Europe is 9 February 2011, which is a couple of months away. The closing date for member states to submit their application to Europe is 9 May 2011. Those are the kind of time frames to which we have to try to work.

1145. There are some very simple things that can be done as a matter of urgency. If Mr O'Neill were here, he would say that the issue of a fast-track process for test sites is vital. If we can fast-track test sites and planning approval for test sites in places such as Rathlin Sound, which, I understand, is the second best site for tidal energy generation in the world after Singapore, Northern Ireland industry will be in pole position to make the prototypes for those test sites. Further down the road, having made the prototype, we will be in an advantageous position to make the full-scale version. Simple things such as that can be done quickly.

1146. Mr Hogg: Make no mistake about it, there is no finance coming from the banking regime in Northern Ireland at the moment, nor will there be for a long time. We have to encourage people to come in who have the ideas, the investment and the foresight to do it. I do not know any businessperson who is going to take a risk at the moment with any banking regime. Everyone is scared and worried about what the banks are going to do next.

1147. The £60 million that is coming from the UK will be distributed on a per capita basis. That is the biggest load of nonsense that I have ever heard. "Per capita" means the number of chimney pots. We do not have enough chimney pots, so that money will go to the north-east of England or somewhere like that. We need someone in Westminster to fight our corner. We spoke to the Minister about that when we last met her, and she is behind what we are saying. The distribution of that money should not be on a per capita basis but done in a different way. Those are the sorts of things that should be picked up by Stormont and debated hard in order to see how we can do something. I feel that, and I think that we all feel that.

1148. Mr Frew: I have enjoyed your fact-filled presentation. As Dr McDonnell said, it is good to get people such as you to come here and talk about the real world.

1149. How dependent is the manufacturing sector in this country on renewable energy? I know about the struggle that the private sector is going through at present with the downturn and the recession, and I understand how the banks are treating the private sector. How much will manufacturing rely on the production and engineering of the renewable energy sector? Do you see it as the only way forward for manufacturing at present?

1150. One could argue that we know a bit about wind, but the technology for renewable energy is relatively new to us. That is probably not the case throughout the world, where there is expertise. Has the technology settled to the degree that if a company were to be awarded a manufacturing contract, it would be quite secure in the knowledge that the product it was making would be state-of-the-art and that renewable technologies would not evolve into something else that would make that company's equipment redundant? Do you know what I am getting at?

1151. Mr Hogg: I do.

1152. Mr Frew: How secure are we in our knowledge and expertise?

1153. Mr Hogg: As far as the tidal systems go, Northern Ireland's knowledge and expertise makes us world leaders, even though we hide our light under a bushel far too much. Our universities and the guys that work in the field have made us world leaders. There is nowhere else in the world that has what we have in Strangford Lough. We are world leaders in that regard. As far as other types of manufacturing are concerned, we have fabrication businesses in mid-Ulster that are well able and are world leaders.

1154. Make no mistake about it: Northern Ireland at this moment still has a fantastic manufacturing base and one that, with support, can go forward. However, if that is left alone for too long without support, it will disappear and be lost, for example, to Germany. In Germany, if a company cannot keep all its employees, the Government will pay 60% of their salary for three or four months until the company builds itself back up again. There, it is not just a case of shut the place down and good luck to you. That is what we are competing against.

1155. We are leaders in some fields but not in others. However, we want to take the emerging markets and run with them. To do that, we need full support, and that is down to planning and test sites. The money for that will have to come from outside, because we do not have it in Northern Ireland. The banks do not have the money and you guys do not have the funds coming through. Invest NI is getting pushed further into a corner with smaller and smaller budgets, but it is doing the best that it can with what it has. I honestly believe that. We are in the position that we are in, but we do have industries, and the things that do not cost money are the things that we should try to do. Again, I go back to test sites, which would not cost a fortune, and to enterprise zones. We do not have to look at bringing in billions of pounds — let somebody else bring that in for us. However, let us give them the space to do that. That would make other people's lives easier.

1156. Mr Donaldson: What Richard says is exactly right. Scotland is pushing forward on renewables and talking to guys over here. Our concern is that Scotland will get a fair amount of information from us and then take it, expand on it and take pole position from us. Scotland's focus is to be number one in Europe, and it is striving towards achieving that. Albeit we do not have the same financial resources as Scotland, but we have facilities, which, if we could get them sorted out, could be used. We need to put that out there. That has to be the magnet that draws interest into Northern Ireland. On the back of that, local manufacturers could step up to the plate, help out, get involved in those opportunities and get into the supply chain. That is the way in which we see the situation developing.

1157. Mr Hogg: It is not about the amount of grant money that is given out. We should stop calling it "grant money", because that messes up everybody's mind. It is not about grant money but about something sustainable that can go forward. We do not have that grant money here, but we can achieve something that is sustainable, that can go forward and that can bring in outward investment. We do not have the investment here, but we do have sites and expertise that we cannot ignore. Let us swing in behind and help everybody. Nobody is more raw about this than I am.

1158. Mr Frew: I have another question, Chairperson, if you will indulge me.

1159. Is there a danger that, in trying to get investment and companies into the country, those companies will move in and take the manufacturing of this equipment to wherever it is that they originated from?

1160. Mr Hogg: To be honest, that is always that danger. However, we could bring in products that are very complicated and difficult to make, and then the expertise would stay here. When that expertise is here, it will be very difficult to move it somewhere else. We would not be offering companies oodles of money to come here, because offering money is not necessarily the right thing to do. The aim would be to make those companies indigenous and part of the community. We would bring them in and help them. You could invite companies up here to show them that we, and Northern Ireland plc, are open for business. At the moment, from the outside looking in, it looks as though we are closed for business.

1161. I had Canadian investors willing to invest £1·5 million in our company, but the bank managed to scuttle that. What does that say to the guys in Canada? Looking in, they see somewhere that they do not want to go because there is nothing here. That needs to be sorted out or we cannot go forward.

1162. Mrs McGill: I have a quick question for Richard about the Ballykelly site. What is the first thing that should be done with it and who should do it?

1163. Mr Hogg: That idea just popped into my head, so I put it out there. However, I will certainly have a think about that.

1164. The Chairperson: Mr Hogg was making the point that Ballykelly is an example of a site that could be used. Therefore, why is it not being used and is anybody thinking about using it?

1165. Mr Hogg: That is exactly what I am saying. I believe that the Secretary of State or a part of government close to that has control of it. Or is it still Ministry of Defence land or part of the Crown Estate?

1166. The Chairperson: I am not sure. I know that the houses are being sold.

1167. Mr Hogg: Those are sold — forget about those — but I am talking about the industrial site that has a runway and everything else. That is a fantastic, big, open area, and it has tidal races.

1168. Mr Frew: Is it controlled by OFMDFM?

1169. The Chairperson: It could be. I am not sure.

1170. Mr Hogg: My understanding is that it was part of the Crown Estate and was handed over to the Government, because the Crown did not want anything to do with it. It is an example of a big stretch of ground that is open for development. No one will buy it because no one has any

money and because the banks would not back any potential buyer, so there is bound to be something that we could do there.

1171. The Chairperson: That is a fair point. Gentlemen, thank you for coming along. It was interesting and worthwhile.

25 November 2010

Members present for all or part of the proceedings:

Mr Alban Maginness (Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Dr Alasdair McDonnell
Mrs Claire McGill

Witnesses:

Ms Sarah Brady
Mr Iain Osborne Northern Ireland Authority for Utility Regulation
Ms Tanya Wishart

1172. The Chairperson (Mr A Maginness): I advise the Committee that we are being briefed by Mr Osborne, who is assisted by Ms Sarah Brady and Ms Tanya Wishart. You are very welcome today. I advise members that the papers contained in their packs include the regulator's written response to the renewable energy inquiry, an e-mail regarding a report on energy efficiency of wind turbines in Scotland and a press article relating to wind farm output. The Committee Office has provided a briefing paper with background for colleagues.

1173. Mr Osborne, we have read your written response to our inquiry, but you may want to make some opening remarks.

1174. Mr Iain Osborne (Northern Ireland Authority for Utility Regulation): I will begin by introducing my colleagues. Sarah Brady is manager of our social and environmental work, and she has particular responsibility for the renewables obligation certificate (ROC) scheme. Tanya Wishart is manager in our electricity team, and she deals with issues such as the connection of renewables.

1175. The Committee knows that we exist as a resource to the whole system. We are not part of the Executive. We are independent of the industry, and we exist to focus on customers' interests. As a result of those fundamentals, I want to talk to you about value for money.

1176. I have seen a list of the parties that have provided evidence to the Committee, and many of them are doing tremendous work in building the renewables industry. However, they are doing it in order to make money, and virtually all of that money comes from customers. There is relatively little tax money going in, but, given that every household in the land uses electricity, the distinction between a household as a consumer and a taxpayer is not necessarily that interesting. We all bear the burden if we pay more to get renewables built.

1177. We have shared with the Committee the work that we have done on support mechanisms. It seems to us that the renewable obligation as currently designed is at a level that will get us to

the 40% target. I know that a lot of developers are keen on a feed-in tariff. The way that feed-in tariffs are discussed is always a bit odd, as if you could discuss the impact on the sector without actually talking about the level of the feed-in tariff. A very generous feed-in tariff would probably get more stuff built, whereas a very skinny one might get less stuff built. Therefore, you cannot talk about it in the abstract.

1178. It is an area where policy stability is of material value. You will be aware that there are quite a lot of discussions across the UK about electricity market structures, and the renewable obligation has been reviewed several times over the years. Something that one often hears loud and clear from the renewables industry is the advantage of policy stability. The renewable obligation has been around for quite a long time. People understand it, and the investor community understands it. Therefore, you would need a good reason to move away from it. We cannot see that at present.

1179. We think that the 40% target that is set in the strategic energy framework is eminently achievable. It will not be achieved mostly by very small units. The economics of microgeneration make sense if you are avoiding buying electricity, because you are avoiding paying for the network and all the rest of it. However, as providers of raw electricity at a wholesale level, the economics are often not great. We would have doubts about designing support mechanisms around an assumption that we have to turn every home into a power station and that that is necessary to deliver targets. We do not think that it is necessary to deliver targets.

1180. The 40% target is eminently achievable, because it is not a wind target but a renewables target. We probably could reach 40% wind. We have modelled, across the regulators, the impacts on market prices of 40% wind, and they are not dramatic. It depends what we compare to and what the gas price is, but the break-even point at which customers start to benefit is about where gas prices were a couple of years ago — higher than they are now but not beyond the bounds of possibility. However, on top of that, we must consider the costs of the network and of support mechanisms, and there is no doubt that the costs of the grid expansion to connect 40% wind are pretty substantial.

1181. A figure of £1 billion is in the air, and, now that we have a clear target, we can start to make use of that. The next price control for electricity is kicking off, and we expect NIE to come forward with concrete proposals. Therefore, we will know with a bit more clarity soon whether £1 billion looks right. However, it is pretty clear that there are diminishing returns. I will stick to percentage terms because it is easier to work with. Currently, about 12% of our energy comes from renewables, and that is almost all from wind. We could double that to 24% or 25%; that is the easy bit. I cannot give the Committee hard numbers on the grid impact, but, pro rata, it will be a lot less than £1 billion.

1182. What could we do to fill in the gap? There are quite a lot of renewable resources that we are not harnessing yet. Belfast City Council has a methane capture site at Dargan Road, and that is great. However, the hard fact is that, in Britain, methane capture from landfill used to comprise close to 50% of renewables obligation certificates — I think that it is still over 40% — whereas that amounts to only 2% or 3% in Northern Ireland. We could do a huge amount more.

1183. Biomass combustion is now a pretty stable and mature approach. We need to make sure that biomass combustion is, in fact, renewable. That depends on where the feed stock comes from. There are all sorts of issues to consider. If we were to build 150 megawatts of biomass next year, we would clearly have to import a lot of that biomass. Presumably, if there was a plant in Northern Ireland to burn that biomass, the value chain would mature in time, and a local supply industry would develop. That is clearly an option.

1184. The Rose Energy project is an illustration of possible future projects. Rose Energy is taking the poultry industry's current problems with dealing with the nitrates directive and turning it into a solution. I am not commenting on the planning issues there; those are for other people. However, that project is an illustration of what we need to do to look more widely at energy from waste.

1185. In order to get to any of those solutions, the planning system has to be able to cope in an efficient way with the public interest issues. We are disappointed — that is too weak a word — with the way that the planning system is dealing with the North/South interconnector. The all-Ireland electricity market works out the most efficient pattern of power stations and recognises that, sometimes, you cannot use the most efficient ones and that, therefore, you need to constrain some people's down and other people's up. It makes the costs of constraint very transparent. There are lots of constraints across the network. The one between the Northern network and the Southern network is not the only one, but it is the biggest one. Those constraints interact with each other. Therefore, although we can see the overall cost of constraints, it is a bit difficult to tease out.

1186. Overall, the cost of constraints is going up quite markedly. It was about 5% a couple of years ago and is about 7% this year. It will probably continue that steady march because it is driven by the increase in wind energy. We are going to have enormous difficulty in absorbing the desired levels of wind energy unless we have more interconnection. It will be impossible. The developers who have built the infrastructure and have sunk in capital will be routinely constrained down. They will not get the market revenues or the renewables obligation certificates (ROCs).

1187. The absence of interconnection is a major problem for renewable development. As the cost of constraints is transparent and is being paid by consumers, it is a major cost for consumers. We are probably paying about £20 million a year in the North because we do not have a North/South cable. The planning application is stuck in a queue waiting for the Planning Appeals Commission to deal with it. There are projects in front of it in the queue that may well be of commercial interest to the developers in question, but I find it hard to see that they are adding value to society in the same way as the interconnector. That is not a comment on whether it should pass or should not pass; that is not for us to say. However, I feel that the inability of the system to recognise strategically important projects and to deal with them rapidly is completely unacceptable and needs to be addressed.

1188. The Chairperson: Thank you very much, Mr Osborne. On that last point, is there no way in which government can prevail on the Planning Appeals Commission to prioritise the interconnector issue? That seems to me to be a very important strategic issue. I will not comment on the merits of the application, but it is of strategic importance. I know that the commission has resource issues, but surely something as important as this should be dealt with promptly.

1189. Mr Osborne: The short answer is that I do not know the answer to that. I do not know whether the problem is statutory or administrative in character. If it is administrative, the commission needs to be told to get its finger out. If it is a statutory problem, we probably need a legislative solution. Either way, however, the problem needs to be solved.

1190. The Chairperson: You said that the lack of an interconnector is costing about £20 million a year. How does that cost come about?

1191. Mr Osborne: In order to have power supply tomorrow, generators put their bids in to the market operator today. It is like a reverse auction. The market operator will determine the most efficient pattern of generators to use to provide tomorrow's power; that sets the price.

Tomorrow, the Systems Operator for Northern Ireland (SONI) will send signals to turn power stations on or off. It will have a difficulty in that some of the power stations that are in the schedule that was set the day before cannot physically be used because there is not enough grid capacity. SONI also deals with the variability to do with whether the wind is blowing. It is quite a complicated task. It may be that, for one reason or another, SONI needs to contact a generator to say that, although that generator bid to generate 100 units, which is part of the efficient schedule, it will have to constrain the generator down to 20 units. The generator gets paid for the extra 80 units that it wanted to provide but cannot provide. That is the right thing to do.

1192. The Chairperson: That is where the loss occurs.

1193. Mr Osborne: Exactly. Equally, someone else has to provide the missing 80 units, and they get paid too.

1194. The Chairperson: There is a double cost.

1195. Mr Osborne: Those costs are bundled up and are added to the bill of every electricity consumer.

1196. The Chairperson: The other issue that you raised, and which has concerned the Committee, is to do with incentivising the market and ROCs versus the feed-in tariff. You seem to be saying that the ROC system works reasonably well in the circumstances. Forgive me if I am misquoting you, and you can correct me, but you are basically saying that the ROC system works.

1197. Mr Osborne: Yes. In the circumstances, it is important. It is a good deal for Northern Ireland, partly because we are allowed to have a lower level of obligation compared with other parts of the UK that are contributing. I do not have anything beyond the analysis that we have shared with you. It appears that it is sufficient to get us to the target, and it is the lowest cost to consumers of the options available to us. If we were to move to a feed-in tariff (FIT) at the level of the ROI FIT, it would probably not be enough to get us to the target. You could boil it down to saying "leave it alone".

1198. The Chairperson: That is basically what you are saying. In Britain, there is a FIT for small generation. Britain has both ROCs and the FIT. Could we have a similar system here, whereby, for small generation, there would be a FIT as opposed to a ROC?

1199. Mr Osborne: Technically, you could. The question is whether that is the right thing to do. You need to recognise that there are some fundamental differences between our situation and the British situation. We all set targets for renewables as a percentage of electricity, so the fundamental issue is the ratio between available renewable resource and demand. For us, that ratio is much more favourable than is true across the island of Britain as a whole.

1200. We have tremendous wind resource, and, if wave and tidal become mature technologies, we will have even better resource. We are very well placed to become a net exporter of renewable electricity, whereas Britain will find it a good deal harder to summon up enough renewables to meet its targets. I am not necessarily saying that, if I were advising the British authorities, I would promote microgeneration to the extent that they are. It is not my job to advise them. We do not need microgeneration to hit our targets, and perhaps they do.

1201. The Chairperson: So, you are saying that microgeneration is not really the way forward here. We have sufficient resources to allow large-scale generation, so why concentrate on microgeneration.

1202. Mr Osborne: We do not need it, and it is expensive.

1203. Mr Cree: I want to return to the interconnector and the £1 billion that you mentioned is in the ether. Bearing in mind that that is going to have to be invested in the short to medium term, what are the likely costs to the consumer of that £1 billion expenditure over the short to medium term? I was interested in how you explained the grid system. I understand that and believe that to be right, but where does the input/output facility come into it? For example, the systems operator could export surplus, but that presupposes that that system is available. How would it mitigate the scenario that you painted? What is happening on the Scottish link? Is there no flexibility there for the analogy that you made with the operator?

1204. Mr Osborne: I am very sorry, Leslie, your second question completely chased your first one out of my mind. Will you remind me what it was? [Laughter.]

1205. Mr Cree: Was it that bad? It was about the use of the interconnector and how the export/import facility would work. To go back to the Chairman's point: we are talking about macrogeneration. Bearing in mind the problem that you have referred to with the Planning Service, would there not be a reasonable doubt in your mind that it would actually work? I am sorry that my questions are so fragmented.

1206. Mr Osborne: That is all right; I can remember what you were saying now. On that last point, the only strong reason why you might focus on microgeneration is if you believe that the Planning Service will make it impossible to build the big stuff. But, dear me, we should be able to do better than that.

1207. We have one interconnector to Scotland, the Moyle interconnector. As such facilities go, it is quite medium-sized, with an export limit of 450 MW. It is reasonably well used, but it is not used as efficiently as we would like. Before the establishment of the single electricity market (SEM), that wire was used for importing big blocks of power, quite a lot of which was wheeled through Northern Ireland into the South because hydroelectric power was not treated as green in Scotland and it was treated and paid for as green in the South. That was the rationale for importing big blocks.

1208. When SEM kicked off, it became a trading resource. To start with, we were quite worried about underutilisation because there are risks in trading, and the market participants took some time to get used to it. Partly, they have got used to the risks, and, partly, we have done some sensible, incremental things to reduce those risks. The SEM committee is looking at whether we can do other things to reduce those risks. In the medium term, we need to look to improving the efficiency of that line and the way that we use the new east-west interconnector.

1209. Obviously, when we use the line from Dublin to Wales, we have to be able to get power from the North to the South, so we are back to the discussion about the South/North interconnector. The medium-term solution is probably much more intensive market integration between our market and the British market. I do not yet know how exactly you do that. I know that the Department of Energy and Climate Change (DECC) in London has been doing a big review of wholesale market structures in the British market, and I have been told privately that it is likely to propose a two-part market, with some kind of payment to capacity separately from the payment to energy, which we introduced three years ago. It gives me a warm glow that we were slightly ahead of the curve on that one.

1210. It will make it much easier to integrate the markets if their fundamental structures are similar. I am optimistic and have my fingers crossed that the outcome of the DECC review will give us a platform for a discussion that will be on the agenda for the next two or three years

about how we get to a much closer level of market integration, which will make it much easier to use the interconnectors efficiently.

1211. You asked me about the costs of the South/North interconnector. If we were to spend £1 billion this year, we would probably depreciate those assets over 40 years. Therefore, you can divide £1 billion by 40. The debt or equity of the capital that is provided to fund that would also need to attract a return. We are currently giving them a return of 4%, pre-tax and in real terms. I suspect that, over the next couple of decades, the return will bubble around in the range of between 4% and 6%. You have to pay the cost of depreciation and the return on capital.

1212. I am a bit loath to give numbers that might then become gospel, but you could do the arithmetic yourself. If you were to divide £1 billion by 40 and, broadly speaking, to double it to allow for the return, you would get the kind of level that will be added on to customers' bills. It results in an increase in bills that is material. DETI has said that it might cost an extra 10% on bills, and that is probably about right. In other words, it is material, but it is well within the range of fluctuation that we see already with electricity prices because of fossil fuel variation and other factors. It is not a step change.

1213. Dr McDonnell: Your comment that we do not need microgeneration and that it is expensive worries me slightly. Surely to God, we need some of it as an insurance policy. It may be expensive, but it is needed to guarantee supply in a difficult period. Say oil prices go through the roof — would it not become less expensive in that situation?

1214. Mr Osborne: We have quite a lot of experience in building the network so that we can get power to people. The network does not fail very often. Sometimes it fails in bad weather, and so forth. It is important for us to be happy that we have short-run security of supply. Of course, some people have oil generators in their basements. They may live in the country, where, sometimes, the wires go down. Of course, if householders want to get to 100%, rather than 99 point something per cent, that is fine. I am not convinced that there is a social benefit.

1215. It is enormously important that there be longer-term security and robustness towards oil price movements. My point is that we can do that as easily through building larger renewables projects as through putting something in every home, and it is cheaper.

1216. Dr McDonnell: I am still a little bit baffled. As a layman and a non-engineer, I am baffled by these surges that run through the wires. Are we moving vast amounts of electricity from the South to the North, or from the North to the South, when we need this interconnector? Where are the oversupply and the demand?

1217. Mr Osborne: At present, we move electricity from the North to the South more often. However, it changes over time depending on changes in generation fleets.

1218. Dr McDonnell: It is a bit hard for us sitting here, seeing all those wires and pylons up there and thinking that the country is well networked, to realise that it is not that well networked. It is easy enough to understand, from where I am sitting, that Donegal might not be all that well connected to the rest of the Southern network, because of its isolation. However, the understanding is that if electricity cannot go one way, it can get round the system a different way.

1219. Mr Osborne: When was the last time that you saw a big metal pylon west of Lough Neagh? There are none there.

1220. Dr McDonnell: Point taken.

1221. Mr Osborne: There are a few up around Londonderry because there is a power station there. You can drive for miles and miles. You will see wooden poles; there is a bit that you can do in terms of restringing.

1222. Dr McDonnell: The T poles are 240 MW, are they not?

1223. Ms Tanya Wishart (Northern Ireland Authority for Utility Regulation): They vary from 110 MW to 33 MW and 11 MW. If you drew me a picture, I could tell you.

1224. Mr Osborne: Once you get up to 275 MW, something bigger is needed.

1225. Ms Wishart: When you get to 275 MW, you need towers.

1226. Mr McDonnell: By T poles, I mean the ones that have three wires.

1227. Ms Wishart: Some poles of that shape can be 110MW, which would be deemed to be transmission.

1228. Dr McDonnell: OK. Who controls the east-west connector in real terms? There are systems operators and people who say they will buy a few now and a few tomorrow. Who decides on the movement of electricity east-west and west-east?

1229. Mr Osborne: Essentially, the outcomes are determined from auctions. Are they run by SONI on behalf of Moyle?

1230. Ms Wishart: Yes. SONI has responsibility for that.

1231. Mr Osborne: Obviously, the day-to-day physical operation of the network is SONI's responsibility.

1232. Dr McDonnell: Would it be cheaper to suck electricity in from Scottish Hydro than to worry too much about providing?

1233. Mr Osborne: There is no single answer to that. Obviously, it depends on the price here and the price there. By building renewables, we have the opportunity to use the big GB market as a sink, so that when the wind drops here, we can pull in power and avoid turning on expensive resources in order to keep secure our isolated island, and, equally, we can export in times when it is profitable to do so because prices are higher there than they are here. The aim is to not have a system that is static, where the same assets are being used for the same thing all of the time. It is not like a canal. You are trying to get to a network that is closely integrated, so that it can react in real time to changes in conditions across the network. In the medium term, that will not just be across the island of Ireland, but across the UK and, indeed, north-west Europe, hopefully.

1234. Dr McDonnell: Is there an opportunity for those east-west interconnectors? I am not talking just about the Moyle interconnector; there is a Dublin-Wales one as well.

1235. Mr Osborne: There is no doubt that the interconnectors across the Irish Sea and, as some people have suggested, to France have the potential to create value by enabling us to sell more renewables to a wider market, and similarly with the South/North interconnector. If we do not get the South/North interconnector, people building wind farms in Northern Ireland will suffer economically.

1236. Mr Irwin: Although you have said that there is public acceptance for renewable energy and the equipment, I believe that the vast majority of the general public do not fully understand or see the need for it. For instance, the interconnector and pylons go through part of my constituency, so I know fine well where the problems are. I believe that the public do not understand fully the real necessity of the interconnector, because it was not sold to them early on. In fact, I know that it was not. What more can the Government do to sell the idea of renewable energy to the public? More needs to be done for the general public to take it on board and for us to be serious about it.

1237. Mr Osborne: That is right. One of the lessons from the South/North experience is that it was a bit unreasonable to expect NIE to charge into the guns without public policy objectives having been set out much more clearly by the appropriate authorities, rather than expecting a private company to take the flak.

1238. The interdepartmental group on sustainable energy's work on simplifying the message and getting to common ground is very useful. However, there is a real danger of people becoming very muddled and a bit turned off by messages from all over the place, some of which are, frankly, a bit naggy. Northern Ireland people are quite pragmatic. It is fairly obviously the case that Northern Ireland is so small that whether our emissions go up or down will not make much difference to whether the planet cooks or not. However, there is a moral case for taking our share of the burden. This is a wealthy part of the world, so, morally, we cannot carry on in a way that damages the well-being of very vulnerable parts of the world. It is also clear that people understand the economic benefits to them of using less energy and stopping waste, and it is perfectly possible to get them to understand that we are tremendously exposed to fluctuations in volatile international markets and that, therefore, using the resources that God placed on this island makes eminent economic sense. I think that that message can be got across. It is important, however, that government messages be simple and co-ordinated.

1239. Mrs McGill: Are you opposed to microgeneration.

1240. Mr Osborne: I am not opposed to it. However, I am opposed to customers being required to put money into it.

1241. Mrs McGill: Will you give us some examples of microgeneration?

1242. Mr Osborne: My point was that large wind farm developments, containing maybe a dozen turbines which generate perhaps 2 MW per turbine, are more cost-effective than placing — often badly — small turbines on people's homes. Furthermore, solar arrays, even though they work quite well — at least when the sun is shining — are very expensive to install.

1243. Mrs McGill: Sorry, I missed what you said. Are you saying that you are, to some extent, opposed to individual small wind turbines? I ask because there are so many applications for those in my area.

1244. Mr Osborne: No, I am not opposed to private individuals doing what they want. They may well make sense if, as a householder, you are thinking how you can avoid paying an electricity bill. The electricity bill is made up of the cost of electricity, plus the cost of the wires, billing and supply. The value to you of avoiding importing electricity into your home is much bigger than the value to society of the raw electricity that you produce.

1245. Avoiding importing electricity, and reducing demand, may well make sense for the householder. However, if we are talking about whether it is worthwhile for society to produce a big proportion of that 40% of demand from little stations rather than from big stations, I am just

saying that, unlike GB, we have loads of resources in big renewables, and the unit cost is much higher for small ones.

1246. Mrs McGill: What other examples, then, apart from the individual wind turbine?

1247. Mr Osborne: My comments are probably generally applicable to small-scale generation. The exception might be combined heat and power, which is quite a cost-effective way to generate electricity if you can use the heat effectively. Small examples of wind and solar power for electricity tend to be more expensive.

1248. The Chairperson: Do you sit on the interdepartmental working group, or is it one of your colleagues? I know that you are represented.

1249. Mr Osborne: I have been to probably more than half of the meetings. Sometimes Sarah has attended.

1250. The Chairperson: Can you give some evaluation of how the group works?

1251. Mr Osborne: It is a group of people who share the understanding that there is a problem, but many of whom feel that the problem is big — above their pay grade. Some of the things that the group has done has been useful; for example, the work on branding. There is a consensus in the group that there is a requirement for a structural solution to bring dispersed policy into one place, but the individuals on the group are not in a position to do that.

1252. The Chairperson: Feed-in tariffs are used in the South. Does that difference between North and South adversely affect the all-Ireland market?

1253. Mr Osborne: No, not really. If you had asked me that a year ago, I would have said that I was quite worried about distortion. However, we have been doing quite a lot of work on the economics of wind dispatch. At the margins, the fact that you have two different structures can present some distortion. There is scope for marginal distortion when the system operator has to decide which wind farm to turn down, but it really is quite marginal.

1254. The Chairperson: I think that you characterised the 40% target as almost a wind target.

1255. Mr Osborne: No, I said the opposite. It is not a wind target. The sensible way to deliver 40% renewables is by getting rather less than that from wind, and the rest from biomass or many other technologies.

1256. The Chairperson: That clarifies that for me, but it seems to me, given the way government is working at the moment, that it is really a wind target, because most of the emphasis is being placed on the generation of renewable energy from wind.

1257. Mr Osborne: I think it is very important that government focuses on the issues about unlocking methane from landfill, energy from waste and biomass. There is a need for more focus on that.

1258. The Chairperson: So we should be putting emphasis on different sources, rather than just one source?

1259. Mr Osborne: That is always true in energy policy. Diversity is always a benefit.

1260. The Chairperson: Finally, we have been told in evidence that feed-in tariffs are more bankable and stimulate small-scale generation much better. Is that a view that you accept? I know your views on small-scale generation but, assuming that you wanted to encourage it, is a feed-in tariff a better way of doing so?

1261. Mr Osborne: If that is what a particular developer has said that he has heard from the funding community, who am I to argue with that? However, I do not understand the logic of the statement, because it surely depends on the level of the feed-in tariff. Ultimately, it is about how many pound notes we are talking about. The statement is at a level of generality, and I just do not understand how it can be true.

1262. The Chairperson: The point that some people emphasised was that it is effectively a subsidy over 20 years, so people can go along to their bank and say that they have a subsidy of £X which will last for the next 20 years, and in that situation the banks are more willing to lend money for that type of business.

1263. Mr Osborne: I can understand that the feed-in tariff is simpler than the ROC. My experience, from talking to people in the investment community, is that the ROC has been around for quite a long time and, although it is not the simplest mechanism in the world, they do understand it by now. However, as I said, if that is what an individual company has heard from its investors, I am not going to say that it is wrong, but it has to be more complicated. Above all, the question is how much money we are talking about. Very few support systems provide any money at all to wind farms that are not generating, so the importance of the planning system enabling the grid so that people are actually able to spin is not to be underestimated.

1264. The Chairperson: I thank you and your colleagues for attending today. It was characteristically helpful, as always. I also wish you well in your new position with the Civil Aviation Authority and thank you very much for your contribution to our affairs here in Northern Ireland. We wish you well.

1265. Mr Osborne: Thank you very much. I have had a tremendous time in Northern Ireland. I wish you well. Energy is one of the most important areas of policy for Northern Ireland society, and your contribution is very important. Having an economically rational basis on which people will invest is tremendously important. We are going in the right direction, so good luck with that.

1266. The Chairperson: Thank you very much.

1267. Mr Frew: Of course, Iain will be back every year to holiday in Northern Ireland.

1268. Mr Osborne: I will be back every year to check on the Northern Irish airports. [Laughter.]

1269. The Chairperson: OK, thank you very much indeed.

2 December 2010

Members present for all or part of the proceedings:

Mr Alban Maginness (Chairperson)
Mr Paul Frew
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell

Mrs Claire McGill
Mr Sean Neeson

Witnesses:

Mr Liam McKibben Ms Joyce Rutherford	Department of Agriculture and Rural Development

1270. The Chairperson (Mr A Maginness): As part of our inquiry into renewable energy, we welcome Mr Liam McKibben, assistant secretary, director of fisheries and climate change division in the Department of Agriculture and Rural Development (DARD), and Ms Joyce Rutherford, deputy principal in the climate change and renewable energy branch. You are very welcome this morning. We look forward to hearing what you have to say. We have had the benefit of receiving DARD's renewable energy action plan 2010, 'Renewable Energy in the Land Based Sector: A way forward', which is very helpful indeed. Please make an opening statement, and after that, members will ask questions.

1271. Mr Liam McKibben (Department of Agriculture and Rural Development): Thank you. We are grateful for the invitation to provide evidence and describe how we are encouraging the development of renewable energy in the land-based sector. We are also grateful that you agreed to defer our appearance last month; we were unable to attend due to Joyce's having been ill. I will take a few minutes to outline briefly the context of our approach to renewable energy, highlight our work with other Departments at local and national level and, hopefully, address some of the issues that, as part of the Committee's inquiry so far, have been brought to our attention.

1272. Most of you do not need me to tell you that agriculture is one of the main indigenous industries in Northern Ireland and is the backbone of the rural economy. Meeting the demand for high-quality food supply against a background of climate change, as well as the need to reduce greenhouse gas emissions, presents a major challenge for the land-based sector. We believe that the promotion of renewable energy in the agriculture and forestry sectors can contribute to meeting those challenges and can play an important role in reducing greenhouse gas emissions. That can be done along with other measures that relate to nutrient management, more efficient livestock management and carbon sequestration.

1273. We have acknowledged the rapid development of a renewable energy policy, particularly the ambitious targets that were set in the strategic energy framework. Our objective is to assist with the creation of a favourable environment that will enable the agriculture and forestry sectors to exploit those opportunities, which, in turn, will assist in contributing to the targets that have been set at local and national level. To meet that objective, our approach is set out in the renewable energy action plan, which was published in June 2010. That plan was informed by the recommendations of a stakeholder forum on renewable energy. The Minister of Agriculture and Rural Development set up that forum in late 2008 to review the previous action plan and provide direction on the way forward. The forum's report also took account of the Committee for Agriculture and Rural Development's report on its renewable energy inquiry.

1274. The aim of our action plan is to strengthen and improve the capability of the land-based sector to adopt renewable energy technologies and activities and to help maximise the opportunities that the development of renewable energy has to offer. If you look at the plan, you will see that it contains 15 practical actions that range across research-based commercialisation of renewable energy, sustainable scale anaerobic digestion, heat-based businesses, self-sufficiency in renewable energy, integrated business solutions and successful and effective implementation of the plan. We believe that we are delivering all those actions for the sector.

We have provided an electronic copy of the action plan, and the agriculture forum's report is available on DARD's website.

1275. I will take a few minutes to highlight a couple of the key areas that are covered by the plan, specifically in the area of research and development, education, training and grant assistance. We acknowledge that there is a continued need for research and development, which is essential to the future success of the sectors in contributing to the growth of renewable energy. We have a detailed programme of renewable energy research that focuses on biomass crops, anaerobic digestion, the economics of renewable energy, research into bioenergy technologies and the carbon footprinting of renewable energy. That research is under way at the Agri-Food and Biosciences Institute (AFBI). There are extensive facilities at the renewable energy centre on the AFBI site at Hillsborough. Similar facilities at the College of Agriculture, Food and Rural Enterprise (CAFRE) provide valuable demonstration opportunities for the sector and contribute to the heat and electricity demand at Hillsborough and the DARD estate, particularly that at CAFRE's Greenmount and Loughry College campuses.

1276. Of course, research and development on its own is not sufficient. We need to ensure that we roll out the findings of that research through knowledge exchange and technology transfer. Last month, for example, we held a very successful renewable energy event at CAFRE, which comprised a series of seminars on different aspects of renewable energy technologies and how they could be used on farms. We had trade exhibitions and demonstrations of the facilities at Greenmount. Over 700 individuals with agriculture and forestry interests attended the event. That far surpassed our expectations, and we were very pleased with the outcome. Mind you, it was a rotten day for doing anything else, so perhaps that helped contribute to the attendance level.

1277. Therefore, through CAFRE we are committed to ensuring that the sector is equipped with the necessary understanding and skills and that it has access to the appropriate information, knowledge and training to enable effective operation in the renewable energy environment. CAFRE has a series of targeted training sessions for the land-based sector on renewable energy technology activities. Those include workshops and benchmarking activities on farm-based energy efficiency and workshops on energy crop production, its harvesting and how it can be utilised. I should also mention that we have strengthened our links with the National Non-Food Crops Centre, specifically with the aim of developing a Northern Ireland section on the national anaerobic digestion portal.

1278. We provide capital grants for biomass processing both to farmers and land users, and, recently, our Minister, Michelle Gildernew, announced nine offers of grant totalling almost £1 million. That is co-funded by national money through us and by EU money through the European regional development fund (ERDF) under the biomass processing challenge fund. That grant will support the installation of biomass processing facilities to produce renewable energy on farms. The fund provides capital support on eligible expenditure of up to 40% to a ceiling of €400,000 for each project. Those projects will contribute to improvements in farm business efficiency, to improvements in competitiveness and to greater energy security through the processing of agriculture and forestry wastes and other biomass material. The projects represent a total investment of over £3·4 million and cover the installation of biomass boilers and anaerobic digesters on farms.

1279. Looking ahead, we are keen to ensure that the agriculture community's interests are represented in the whole arena of renewable energy. We are committed to working with our stakeholder base to ensure that its views are incorporated as policy in that area evolves across the Executive. We are continuing to implement the actions in the renewable energy action plan, and work is continuing with other Departments and agencies to ensure that we are helping in the co-ordination of other activities. The next big thing that will happen under the renewable

energy action plan is that we will establish an external stakeholder group to provide advice to the Department and to report to the Minister on how the action plan is going. That group will conduct a review of the first year's delivery of the action plan.

1280. Finally, as I said, we are committed to working actively with other Departments and agencies to optimise and co-ordinate policy objectives. We are represented on the sustainable energy interdepartmental working group that the Department of Enterprise, Trade and Investment (DETI) set up. The purpose of that working group is to ensure that a co-ordinator reports across government on the promotion of sustainable energy. We are very keen to support DETI as far as possible in that work and to ensure that practices that relate to sustainable energy matters are in concert. We also sit on the DETI-led bioenergy interdepartmental group, and we expect that our renewable action plan for the land-based sector will form an important part of the revised bioenergy plan, when it is brought forward.

1281. We also contribute to the industry advisory panel on energy and waste. That is a subgroup that comprises Invest NI, the Department of the Environment (DOE), agrifood industry representatives and us. The purpose of the group is to look at the way that waste can be used to provide energy in the sector, particularly in the food processing sector. Other groups that we are involved with from a renewable energy perspective include the sustainable development group, which is led by the Office of the First Minister and deputy First Minister (OFMDFM). At national level, we are represented on the biomass sustainability implementation group, which is led by the Department of Energy and Climate Change (DECC). We attend meetings of the National Non-Food Crops Centre and of the Department for Environment, Food and Rural Affairs (DEFRA) and the other devolved Administrations, specifically in the development of anaerobic digestion in the agriculture context. We are also represented on the International Energy Agency's task 37 biogas group.

1282. Overall, I hope that I have conveyed an impression that we are in regular contact with other relevant Departments and agencies here and at national level to ensure that the interests of the land-based sector are represented and that our activities are co-ordinated with those elsewhere. I hope that the presentation has been helpful in providing an insight into our activities. We are happy to expand on any points and to respond to questions.

1283. The Chairperson: Thank you very much, Mr McKibben. At this point in time, how many anaerobic digestion centres are functioning in Northern Ireland? You can comment at any stage, Ms Rutherford.

1284. Mr McKibben: At this point in time, the centre in Hillsborough is the only one that I am aware of that is functioning. However, as I said, we have a number of proposals for developments on farms under the biomass processing challenge fund.

1285. The Chairperson: Anaerobic digestion seems to be one of the most important initiatives for the farming community and for agricultural producers. It seems that it is central to what they can do where renewable energy is concerned, whether that is the generation of electricity or, probably more importantly, renewable heat. It has been talked about for years. It was being talked about back in 2007 when the Assembly was re-established, and we had a report on renewables from the Committee for Agriculture and Rural Development that was published on 24 June 2008. That report also referred to the importance of anaerobic digestion. We also heard evidence from the Ulster Farmers' Union (UFU) stating that biomass and anaerobic digestion have "huge potential", but that farmers and landowners have been:

"extremely frustrated by the lack of progress on the issue."

1286. Given all that, and given the success of anaerobic digestion and biomass in other European countries, why are we not really off the starting block? Why are we so behind in all this?

1287. Mr McKibben: That is one of the reasons that we developed a renewables action plan and why the Minister then set up the stakeholder forum. In response to the perceived need, we have used public funding to develop the facilities at Hillsborough, which include a research facility and a demonstration facility. They have been very well used by groups of farmers and other organisations that come to see what is going on. We have supplemented that by the training that we are providing through CAFRE. We also developed the biomass processing challenge fund. We recognise that there is a lack of knowledge and that there is a need for some pump-priming in the form of financial support. That is how we have responded to those particular needs.

1288. The Chairperson: Are you saying that financial support is the key to incentivising?

1289. Mr McKibben: We are at a very early stage in the development of renewable energy in the land-based sector. The incentivisation will hopefully come in time through the payment that people receive for electricity that is supplied to the grid and through renewables obligation certificates (ROCs) or whatever other system is used. To get it off the ground, we got agreement in Government to develop a scheme for capital assistance.

1290. The Chairperson: My understanding is that, at the moment, two ROCs are needed for anaerobic digestion, but there is a proposal to increase that to four. Do you sense that that has in some way excited the farming community or those who are interested in anaerobic digestion?

1291. Mr McKibben: Excited?

1292. The Chairperson: That is perhaps the wrong word.

1293. Mr McKibben: There has certainly been a fair amount of interest, particularly in the period since the stakeholder forum report was produced and as we developed the biomass processing challenge fund. I think that most of the projects we have received will stand on their own without ROCs, but ROCs will certainly make a significant contribution to the future development of anaerobic digestion in the land-based sector.

1294. The Chairperson: Do you see anaerobic digestion as a means either of generating renewable electricity or of creating renewable heat? On what aspect of anaerobic digestion is the Department's emphasis being placed?

1295. Mr McKibben: There is obviously potential for the development of both sources of energy. As far as we are concerned, the particular state aid approval that we had to get from Europe would point the development of anaerobic digestion in the direction of heat, because we have to abate the capital grant that we offer by any ROCs that projects would benefit from if they supply electricity to the grid. Ultimately, and particularly if groups of farmers can come together to develop anaerobic digestion, that should also focus on providing electricity to the grid.

1296. The Chairperson: I take your point about groups of farmers coming together. Do you agree that such things are better done in groups?

1297. Mr McKibben: The projects that we have been considering so far are of a reasonable scale. My understanding of the economics is that, over time, it would be desirable if scale could be increased further through groups of people coming together.

1298. The Chairperson: I do not get from you, the Department or the documents that I have read the sense that renewable energy is given a central place in the Department's thinking. That may be changing, but I do not sense that, over the past three or four years, renewable energy has been at the heart of the Department's thinking. Do you agree or disagree that that may be the case?

1299. Mr McKibben: The matter has been of growing importance in the Department's thinking in recent years. The publication of the first renewable energy action plan in 2007, the establishment of the forum, the subsequent review, the publication of the new action plan and the fact that we were able to devote scarce national funding to the biomass processing challenge fund is an indication of renewable energy's increasing importance. We have also been responding to the growing interest in the land-based sector. The facilities at Hillsborough are excellent and are recognised as such throughout Ireland.

1300. Dr McDonnell: Thank you very much for what you have done, and thank you, Joyce, for your civility when we need to talk to you. I have a number of questions that point in one direction. I detect a sense of disappointment in the matter, largely from people who want to be involved. One of your first comments today was about how you are encouraging the development of renewable energy. How well has that encouragement worked, and how well might it work going forward? What are the goals? How high up the mountain are we going to get?

1301. Mr McKibben: As I said, a large number of people attended the CAFRE event, and we get regular requests from groups of farmers and others in the sector to come to our facilities. We have trained some 2,000 people in different workshops at CAFRE. Therefore, I think that people are recognising that there is a need and that we are helping to fill that need. When we were developing the biomass processing challenge fund, there was a fair degree of uncertainty as to whether we would get any applicants at all. We were pleased that we got the number that we did. We know that a number of people have been saying that, although they are not ready to put in an application, they will continue to work up their proposals, and, if the scheme were to continue, they would be interested in applying the next time round. We are reasonably satisfied that people have been responding to what we have been doing.

1302. Ms Joyce Rutherford (Department of Agriculture and Rural Development): We ask for feedback six months after each of our events, and we are dependent on people giving us feedback. We will start to assess the uplift and adoption of activities or technologies on the basis of that feedback. Therefore, we will get some degree of measurement. We will monitor the electricity and heat outputs of those who have accepted the biomass processing challenge fund grant.

Therefore, as I said, we will get some degree of measurement over the coming years. We know that there is a lot of interest out there. It is just a matter of pressing the buttons in the correct order to get the uplift. The interest has not diminished; rather, it is growing.

1303. Dr McDonnell: You mentioned a figure of £3·4 million invested — I think that was for only one aspect. How much has DARD invested overall, and what cost benefit is there? I raise that in the context of the feedback I get from a lot of operators, who say that the Department is helpful, but it is largely a process thing rather than a driven thing. From our perspective, the inquiry is about trying to create some driver in renewable energy. I will give you an example of where the difficulty lies. I know dozens of people who love to grow trees — I may even grow some myself — but there is no outlet for them. Nobody is building a wood-burning station or a woodchip operation, because there is nobody to supply woodchips, and there is nobody to supply woodchips because nobody is buying woodchips to any great degree, although I gather that we use some on the Stormont estate.

1304. Off and on, I have been meeting around 20 various players in the renewable energy field, and we might even invite you to have a chat with us at some stage. The point is that there is frustration about the gap between production and consumption. I think what we are trying to define is how we can bridge those gaps and get a smooth flow so that the farmer who has a bit of initiative for diversification will switch from producing edible food to producing energy crops.

1305. Mr McKibben: As you are aware, we do provide incentives to grow energy crops, particularly short-rotation coppice.

1306. The Chairperson: If I may interrupt you, I remind people to turn their mobile phones off, because they are interfering with the recording of the evidence session. Please check your phones and turn them off completely, if you would not mind. I am sorry for interrupting you, Mr McKibben.

1307. Mr McKibben: That is OK. As I was saying, we do provide incentives to farmers, for the growing of willow in particular.

1308. There is a growing commercial market. One company that we are in regular contact with has developed a significant number of outlets for purchasing and using woodchip. The type of work that we are doing — research, training and education — should help, but the existence of a commercial market is essentially a matter for the private sector. If we can help in any way, we are happy to talk to anyone to try to encourage that. We would welcome the chance to talk to the group that you are representing.

1309. Dr McDonnell: I am glad of that. Who is involved in the stakeholder group that you are setting up? From where will the members be drawn? Has it been set up yet? How will its membership be recruited?

1310. Ms Rutherford: The stakeholder group that we intend to set up will comprise individuals who have an interest in the land-based sector, have some degree of financial acumen and have a background in renewable energy. We have drawn up a list for ministerial selection. It will be a small group.

1311. Dr McDonnell: Five members? Ten?

1312. Ms Rutherford: Three, who will interface with our stakeholders.

1313. Mr Neeson: I welcome 'A way forward', which I find very helpful indeed. What I really want to ask is whether attitudes are changing. I remember that, in 2002, the then Committee for Enterprise, Trade and Investment Committee produced a report on energy. Shortly after that, the Fivemiletown project on biomass seemed to fall through. Therefore, are attitudes changing? How important is the availability of ROCs to the take-up of projects and their progress?

1314. Ms Rutherford: I will deal with the question on ROCs first. ROCs have been very useful in encouraging renewable energy in Northern Ireland. In particular, the proposed increase to having four ROCs for under 500 kW will break the economic ice on a lot of the projects in the land-based sector and will make them much more economically viable. The incentivisation of heat will have supply chain implications and will, hopefully, pull through and move us away from fossil fuel-based technologies to more renewable technologies. That is to be welcomed, as it will increase energy security on farms and farm competitiveness. Therefore, ROCs are very important, and the fact that they are banded means that it is more advantageous to pull through some of the technologies that are not as popular here or that have not been taken up here.

1315. Mr McKibben: Mr Neeson asked about attitudes. All the measures that we have been talking about have been introduced since 'A way forward'. That is evidence of DARD's recognition of it and response to it. I should supplement the answer that I gave in response to the Chairperson's question. The rural development programme that exists at present is being used to support a variety of energy-related activities on, for example, farm modernisation, and some of the criteria reflect energy efficiency on farms. Moreover, two of our focus farms have a particular focus on renewable energy. The attitude in the Department has certainly changed, and it, and the sector itself, now recognises the importance of renewable energy.

1316. Mr Neeson: I welcome the document. Will there be a follow-up to the document or a report on its impact?

1317. Mr McKibben: We have asked the stakeholder group that Joyce talked about to review how we have been implementing the report and to advise whether we can do more through the action plan and with future available resources. We will not keep that in the Department but will consult stakeholders on it.

1318. Mr Irwin: I welcome 'A way forward'. As Mr Neeson said, it is important that government drives that forward. We have had a problem in the past, and I do not believe that the public are that concerned about renewable energy. The Government have not pushed it fully from the word go. There undoubtedly needs to be a more joined-up approach.

1319. As a farmer, I know about farm waste, and anaerobic digesters could be a way forward. However, I am aware of two major farmers — one of whom is a major pig farmer — who have digesters. I am not sure whether the pig farmer's digester is operational yet, but, since July, he has been in the process of building it. For those major farmers, that represents an investment of about £1·5 million. Even with grant aid, that is still a very large investment. I know that farmers are very independent, and it is very difficult to get a group of farmers together to push something forward.

1320. Do you not believe that there has to be a more joined-up approach in government to make the public fully aware of the importance of renewable energy? In a survey of 500 households, 41% of people were completely unaware of or unable to name any renewable energy technology. Is it true that almost half the population are unaware of renewable energy?

1321. Mr McKibben: I cannot doubt the findings of that survey. There is an issue around the way in which the message is communicated. I know that DETI is very much aware of the fact that the public perceive the messages to be mixed, and we are contributing to work to ensure that those messages become more co-ordinated and consistent. I hope that that addresses the difficulties to which you referred.

1322. Mr Irwin: That is vital for the way forward.

1323. Mr Rutherford: DARD was involved in the Switched on Schools initiative, in which renewable energy technologies, such as wind and solar, were installed in schools. However, that initiative was designed to raise awareness among school children, and, along with DARD, it involved Northern Ireland Electricity (NIE) and the education and library boards. It was quite a nice initiative, because it provided information from the bottom up, was educational and provided some energy for schools. Moreover, children could go home and talk to their parents about it. Little initiatives such as that can go a long way.

1324. Ms J McCann: Thank you for your presentation. My question follows on from William's. I do not think that the benefits to households, businesses, land developers and farmers have been

set out clearly. Many people are not aware of the benefits, particularly the longer-term ones, financial or otherwise.

1325. Another problem with developing renewables seems to be the barriers that people come up against, and that is across the board. The problem might be with accessing support from government, or with getting financial investment, such as loans, from banks. We hear, and I think that we all agree, that those difficulties are spread across Departments: DARD is responsible for a bit; DETI for another; and the Planning Service for yet another. Would having a one-stop shop for those matters drive things forward? It has been said that, unless someone champions a policy, there can be no long-term, strategic overview of where it is going. Would it be better if people had one place to go, even in a Department, where someone could champion the policy?

1326. Mr McKibben: In our Department, we have established a cross-departmental co-ordination group to make sure that the message is joined up and that activities through AFBI, CAFRE and ourselves are complementary. Outside the Department, sustainable energy is a cross-cutting issue that affects almost every Department, and that is why DETI set up the interdepartmental group — to ensure that there is a co-ordinated approach to sustainable energy.

1327. As I said, we sit on and contribute to that group, and we sit on its subgroups. We are certainly committed to maintaining as integrated an approach as possible within existing structures. Having a single Department with responsibility would not necessarily solve the problems, because, for example, renewable energy has an important contribution to make to our work on climate change and the need to reduce greenhouse gas emissions. We are creating a strategy for reducing greenhouse gas emissions, and that will be ready to go out to consultation by March next year, and renewable energy is a measure that we will talk about. Therefore, even if there were a separate Department for renewable energy, other Departments would probably still have to be involved.

1328. Ms J McCann: I am not advocating a separate Department. I am advocating somewhere in one Department in order to achieve a more joined-up approach.

1329. Mr McKibben: The people whom you will see next, from DETI, have the lead role in ensuring good co-ordination across Departments. DARD has the group that I talked about, and its activities are recognised as being in the lead on renewable energy.

1330. Mrs McGill: Thank you for your briefing. 'A way forward' is very welcome. In her statement in that document, the Minister of Agriculture and Rural Development says:

"I have committed in excess of £9m to drive the development of renewable energy within the local land based sector."

1331. That is a sizeable sum of money. We asked earlier how much money the Department had committed to that aim, and that is very welcome. How much has been spent? Is that £9 million intended to take us up to the end of the comprehensive spending review (CSR) period?

1332. Ms Rutherford: That £9 million was used up until the end of 2009. The majority of that money was spent on demonstration facilities and the anaerobic digester at AFBI. A lot of money was spent on information, training and technology transfer in the sector, as well as some grant funding for the establishment of short-rotation coppice willow production facilities and energy-efficiency equipment for farms. A range of finance was made available for different measures.

1333. Mr McKibben: The biomass processing challenge fund grants were additional to that money.

1334. Mrs McGill: Was that £9 million used in the two years from 2007?

1335. Ms Rutherford: It was used between 2006 and 2009.

1336. Mrs McGill: Action 13 in 'A way forward' is to:

"Formalise links with Invest NI (Energy team) to explore potential integrated business solutions."

1337. That was to have been achieved by early 2010. How is that progressing?

1338. Ms Rutherford: We participate in a subgroup of the industry advisory panel, which is a DARD/Invest NI initiative. We are looking at different waste streams and at how they can be best utilised to provide energy.

1339. Mr McKibben: The industry advisory panel was set up in response to the calls for a food board and to help government to deliver the actions in the food strategy.

1340. Mrs McGill: Action 10 is a:

"Scoping exercise to establish a baseline of those farms/forestry enterprises meeting their own energy needs."

1341. That was to be have been achieved by the middle of 2010. That would be very welcome. Is that action aimed at establishing where those enterprises are already meeting their energy needs?

1342. Ms Rutherford: Some work is under way on that action point. At the renewable energy event that was held in November, attendees were issued with a questionnaire and were asked what technologies they had on their farm. That will give us a baseline, to a certain extent, of what currently exists, after which we will canvass those attendees again to determine what, if any, adoption they have had since the event.

1343. Mrs McGill: Is there a list of the farms and forestry enterprises that are meeting their own energy needs?

1344. Ms Rutherford: There is no definitive list, but we will have an indicative list of what is out there.

1345. Mrs McGill: Such a list might be informative and helpful.

1346. The Chairperson: Do you know of any biomass schemes that are currently fully operational?

1347. Mr McKibben: Yes. For example, there is John Gilliland's scheme in Derry.

1348. The Chairperson: It would be helpful if you could supply a list of schemes that are operational. You feel that only one anaerobic digestion scheme is operational at the moment. If there are any others, you could let us know.

1349. Mr McKibben: We could give the Committee a summary without naming people who have got letters of offer of grants.

1350. The Chairperson: I just want to know where we are at.

1351. Dr McDonnell: We might want to visit some of them.

1352. The Chairperson: That might not be a bad idea.

1353. Thank you for coming along. If we write to you about any other matters, you could kindly reply. Thank you very much for your evidence.

2 December 2010

Members present for all or part of the proceedings:

Mr Alban Maginness (Chairperson)
Mr Paul Givan
Mr William Irwin
Ms Jennifer McCann
Dr Alasdair McDonnell
Mrs Claire McGill
Mr Sean Neeson

Witnesses:

Ms Alison Clydesdale Mrs Fiona Hepper Ms Olivia Martin Mr David Thomson	Department of Enterprise, Trade and Investment

1354. The Chairperson (Mr A Maginness): The Committee will be briefed today by Ms Olivia Martin, grade 7 in the energy division of the Department of Enterprise, Trade and Investment (DETI); Ms Alison Clydesdale, grade 7 in the energy division; Mrs Fiona Hepper, grade 5 in the energy division; and Mr David Thomson, the deputy secretary of the Department of Enterprise, Trade and Investment policy group. Thank you all for coming today. I look forward to hearing what you have to say. Thank you also for the helpful documentation that you supplied for the inquiry.

1355. Mr David Thomson (Department of Enterprise, Trade and Investment): I am conscious that, given that I have recently come back to DETI after spending 16 years in the Department of Finance and Personnel (DFP), I have not yet been before the Committee. I was looking for an opportunity at least to introduce myself. As I said, I came back to DETI this year, and I lead up the policy group. The Minister has responsibility for that, and I work with her on economic development, energy, tourism, telecommunications and a range of other matters. I am using this opportunity today, given that energy and economic strategy will be discussed in the same evidence session.

1356. It is very much my view that the experts should come to the Committee. Fiona and her team are very much the experts on the energy side, and Graeme Hutchinson is the expert on the economic strategy side. Therefore, I am quite happy for my colleagues to take the lead in answering questions. I may chip in as appropriate, but I just wanted to say that I am very pleased to be at the Committee.

1357. The Chairperson: Thank you very much, Mr Thomson; I appreciate that. You are very welcome to the Committee.

1358. Mrs Fiona Hepper (Department of Enterprise, Trade and Investment): On behalf of the energy division, thank you, not only for the opportunity to speak to the Committee today but for the interest that you are taking in energy matters per se, and particularly renewables. At the end of August, we sent a detailed response to your call for evidence covering the relevant policy and DETI-led activities in the renewables space. Since that time, the Executive have agreed the new strategic energy framework (SEF), and the Minister has also made a significant announcement on renewable heat. I will come back to renewable heat at the end of my opening remarks, because you specifically asked me to cover it. However, I will mention the strategic energy framework first.

1359. As Committee members will know from the briefing that I gave to the Committee on 9 November and the recent Assembly take-note debate, the strategic energy framework document sets out the Executive's vision and the policy framework for our energy future over the next 10 years. It also illustrates the key goals, which are a competitive market, security of supply, sustainability and infrastructure.

1360. As you know, what we aim to do is to achieve a competitive, sustainable, long-term future for energy in Northern Ireland, but we face many challenges in creating a sustainable energy infrastructure that will support economic growth and provide for reliable and competitive energy for Northern Ireland. While fossil fuels continue to dominate local power production and transport, we will, like other countries, continue to suffer from the uncertainties of worldwide shifts in the prices of coal, oil and gas. It is therefore imperative that we increase the levels of power generation from renewable sources not only to improve our security of supply but to facilitate the move towards decarbonising our electricity supply.

1361. Much of the policy in the field of renewables is driven by directives set by member states at EU level. Most recently we were working on the renewable energy directive, which requires member states to ensure that they meet mandatory national targets for energy from renewable sources by 2020. DETI, in association with the Department of Energy and Climate Change (DECC), is working to transpose that directive, and the work on that is well advanced.

1362. At a regional level, we are focused on the strategic energy framework, and we have set what we think are ambitious, but achievable, targets of 40% electricity consumption to be from renewable sources and 10% from renewable heat by 2020. Those targets are evidence-based, and the 40% target in particular is towards the upper limit of what is achievable in the time frame, particularly given the constraints on the grid and other factors. The targets are based on estimated future energy demand projections, and we assume that demand will continue to grow, albeit in a way modified by energy efficiency in future.

1363. To achieve the targets, DETI ensures that the strategy, the policy and the appropriate regulation is in place so that those technologies most able to deliver the targets, to increase the security of supply and to reduce carbon emissions from electricity can do so. In reality, it is likely that the 40% target can be most easily achieved by ensuring the development of relatively large-scale renewable installations. However, DETI also supports the development of microgeneration and smaller-scale installations through the renewable electricity support mechanism — the Northern Ireland renewables obligation (NIRO).

1364. When I briefed the Committee on 9 November, I said that when I came today I would outline a scenario of how meeting the 40% target would be practically possible. Bear in mind that it is only one scenario of a number that we have in our offshore strategic environmental assessment. The starting point is to ascertain what we mean by 40%. That equates to between 1,600 MW and 1,800 MW of installed capacity of electricity from renewable sources. The Department is keen that the delivery of that be market-led. From that perspective, we take a technology-neutral view, while recognising that the closer-to-market technologies are likely to

dominate in the period up to 2020. We leave it to the market to bring forward solutions within the policy framework that we have set.

1365. Large-scale onshore wind is currently the main source of renewable electricity, as you will appreciate, not least because of Northern Ireland's plentiful resource, but also because it is well-developed, mature technology. It is likely that large-scale wind installations will continue to provide a good proportion of the electricity up until 2020, but the 40% target is not a wind target, and that is certainly not the only technology available. We already have work under way on bioenergy, plus work is well advanced on a Crown Estate call for the spring of 2011 that will look at marine and other projects in Northern Ireland waters.

1366. How are we going to reach the target of 1,600 MW? DOE has approved 41 onshore wind installations, which are at various stages of operation and should provide 600 MW. In the planning system there are a further 46 installations, with the potential to generate up to 750 MW. Added to that, the Utility Regulator has already started the process of a call for proposals for the use of the Northern Ireland Electricity (NIE) land bank. It is also referenced in the SEF that, although this call will be technology-neutral, there is potential for a 300 MW biomass power station. In addition, our preparatory work for the Crown Estate call has shown that there is potential for at least 600 MW of offshore wind and 300 MW of tidal and wave in the medium term. We have the potential to exceed 1,600 MW if we add together energy from waste — DOE has approved 32 projects already and another seven are under consideration — and the contribution from a range of other technologies, which are likely to be on a smaller scale, particularly bioenergy such as anaerobic digestion and geothermal.

1367. Therefore, the 40% target is doable, but the scale of the task should not be underestimated. To achieve that target, certain things need to be in place. That has led us to concentrate on a number of issues. In no particular order, those include finance issues, particularly on government incentivisation and private-sector and bank financing, as well as planning issues. Obviously, the infrastructure is key, particularly the grid, and there needs to be public acceptance of not only renewables but the infrastructure that comes with that. I will say a few words about each of those areas.

1368. The financing of renewable energy is not a particularly simple matter. Government policy is to provide support for renewables through incentivisation rather than through grant support. That gives a longer-term signal to the market and to investors, and the stakeholders have told us that the stop-start nature of grant support is not particularly welcome and, in some places, can give rise to inflated prices. Our main incentivisation tool is the NIRO, which has been very successful so far and has driven the proportion of renewables up threefold since it was introduced in 2005. We need to keep it refreshed and up to date while keeping abreast of important developments that are starting in GB, particularly DECC's work on electricity market reform. DECC will start its consultation before the end of this calendar year, and, as part of that, they will be looking at how to develop the renewables obligation (RO) system in the future.

1369. Just to build on that point, there has been debate on incentivisation, particularly on whether a feed-in tariff or an RO is the best way to encourage investment. In many ways, that depends on who we speak to. I know that a number of different people have given evidence during the inquiry so far, and their preference will depend on who they are and what they are trying to achieve. Some prefer the certainty of a FIT, whereas others prefer the RO. To gather some hard evidence, we commissioned a piece of work by Cambridge Economic Policy Associates (CEPA), and we recently sent that to the Committee. Members might recall that we did not adopt a FIT scheme for two main reasons. First, we did not have the necessary legislative powers in place at the time when GB put a FIT in place. Secondly, and probably more fundamentally, we and the Minister were reluctant to blindly follow a GB lead without a proper understanding of

either the impact that a FIT would have on consumers' electricity bills or whether it would help us to get to the target any faster.

1370. The CEPA work concluded that, in the present situation — I stress that it refers to the present situation — both the NIRO and the FIT will incentivise sufficient generation to get us to our 2020 target but that replicating the GB FIT would be much more expensive than using the NIRO. The NIRO represents best value for money in the Northern Ireland context to get us to the target and to keep the costs to the consumer at a minimum, provided that the concessionary level of the NIRO that we negotiated in 2005 can be maintained. If the Northern Ireland obligation level has to rise to the same level as that in GB, or if the design of the NIRO has to change to fit in better with changes at GB level, an argument can be mounted to move away from it.

1371. Therefore, the overarching conclusion of the research was that Northern Ireland should retain the NIRO for as long as possible and should strive to maintain the lower obligation level. We need to keep that situation under active review, and, should the need arise, we will not preclude moving away from the NIRO to a different form of incentivisation. However, we need to bear in mind that investors need long-term signals, and, given that delivery by 2020 will be challenging, chopping and changing will lead to uncertainty and to consequential delays in investment and deployment.

1372. There is no doubt that there are financing issues and that we cannot keep static. However, there are also issues in the private sector about what it will do. Therefore, we are also looking at, from an energy efficiency point of view, the green deal proposals in GB, which appear to provide finance for energy efficiency completely from the private sector

1373. We are also watching carefully plans for the green investment bank, which, DECC has confirmed, will operate on a UK basis. Plans for that are at an early stage, and details of exactly what the bank is, such as whether it is a bank or a large-scale fund and how it will operate, are being considered by the Department for Business Innovation and Skills (BIS), the Treasury and DECC. We will be kept informed of developments.

1374. We are also alert to the central importance of planning and other consents and how they play in to helping us to deliver our energy targets. We are in frequent contact with the Planning Service and the Environment Agency, both of which have been extremely helpful in the work that we have been doing to date. Linked to that, and developing that point, it is obvious that grid infrastructure is vital and is required to facilitate the expansion of electricity generated from renewable sources.

1375. The current grid, and NIE's short to medium-term plans to sweat the existing asset through new technologies and some upgrades to the 110 kV system, will get us to a figure of around 25%. We will need new grid infrastructure, particularly in the west of Northern Ireland, where the grid is at its weakest, to get us to the 40% target. We will also need the North/South interconnector. We are working with NIE as it develops its plans on the options to help us get to the 40% target. NIE's work is on schedule for final options to be brought forward in spring 2011. There will be a key role for the regulator to play, as the grid development must be achieved in a cost-effective way. There can be no gold-plating or any extraneous costs for consumers to pick up.

1376. The other key issue in the planning process is the way in which public opinion is expressed and how concerns are raised about the way in which developments are being taken forward. The key to that is to ensure not only that the target can be met but that we educate people and change public attitudes where necessary. Why do we need more electricity transmission and distribution infrastructure? There is a key role for government and the private sector energy

companies to play in communications to better explain why renewable energy installations of every kind are needed and why we need the associated grid structure. We are already working with NIE on that, although we appreciate that there is more to be done. We will consider how best to do those joint communications in the future.

1377. Public acceptance is important. There are a lot of mixed messages about infrastructure, renewables and energy efficiency. A lot of gaps need to be filled, and many Departments and private sector organisations are in that space. However, we felt that we needed to take a lead and try to bring some synergies and better direction. Through the sustainable energy interdepartmental working group, we have developed a cross-departmental approach to communications. That was taken to and approved by the Executive on 18 November 2010. The idea is that it will lead to a more joined-up and integrated approach to sustainable energy messaging across government and ensure that more coherent and effective messages are conveyed to the public. It offers the opportunity for the stakeholders, particularly the energy companies, product suppliers and the advisory organisations, to join us, and they have welcomed that. That will ensure that an even stronger message can go out to consumers and the confusion that tends to build up can be avoided.

1378. That leads me to the importance of joined-up government and joined-up working per se. That is important, not least because the SEF is not, and should not be seen, as DETI's document. It is an Executive document, and the wider stakeholder's group in the private sector has a role in it. We all need to pull in the same direction to ensure that we deliver. As I said when I was talking about communications, joined-up government is the starting point. The Executive have provided leadership by embracing and agreeing the SEF, but also by establishing the interdepartmental working group in the first place under the leadership and chairmanship of the Minister of Enterprise, Trade and Investment.

1379. The formation of that group has already facilitated better cross-departmental working in this area. We recently sent a paper to the Committee on the work that the group has already completed. The communication work has already gone to the Executive, and a couple of additional papers on bio-energy and wider economic impacts will be going to the Executive early in the new year. All but two Departments are represented on that group, along with the external representatives from the regulator and the Sustainable Development Commission.

1380. It is important to realise that the policy on renewables is focused on energy-related issues of security of supply and decarbonisation etc. However, there are also significant economic opportunities both globally and locally. Positioning Northern Ireland as a market leader in the field of renewables is a key role that Invest NI has embraced in the policy that we have set. It was noted in Invest NI's evidence to the Committee that it has designed a strategic framework and action plan to maximise those economic opportunities. We will continue to work closely with Invest NI. There is also a subgroup of the inter-departmental group, and that has been looking at economic opportunities and the skills dimension. That will be coming forward to the Executive in the new year.

1381. Finally, you specifically asked me to cover renewable heat. I already mentioned that the target is set at 10% of heat from renewable sources. The absence of a region-wide gas infrastructure and a heavy reliance on fossil fuels provides a significant opportunity for promoting renewable heat technologies as an alternative choice for consumers. We have already completed a piece of research to show that there is a heat market in Northern Ireland and, to give certainty to the market, the Minister made a statement when we published the results of that work in September.

1382. She announced the outcome of the work and said that a Northern Ireland renewable heat incentive would be the most appropriate form of support and we would take that to the next

stage, which was a detailed economic appraisal to assess the value for money etc. She also said that, if the renewable heat incentive went ahead, we would backdate the support to the date of the publication of that report, which, as I said, was in September 2010. All that was designed to give certainty to the market.

1383. Since then, the spending review has seen the Treasury commit to a renewable heat incentive for GB. As part of that, it has made an offer of £25 million ring-fenced for a renewable heat incentive (RHI) in Northern Ireland, should the Executive wish to accept it. DETI is obviously very keen for the Executive to accept that offer, and we have already commissioned the work on the economic appraisal. That will be a fairly complex piece of work. We need to look at the best model for how a heat incentive would work in a Northern Ireland context, given the different mix of fuels that we have compared with GB. That model will look at the tariff levels that we might set, and it will also have to consider whether we should be looking at it as a Northern Ireland product or whether we should be looking separately at areas that are on-gas versus areas that are off-gas. We hope to have that piece of work finished before the end of March.

1384. The SEF is a starting point, not an end point. It takes us to 2020, and there is a lot of important work that we have to get done over the next 10 years. However, we have to be thinking already about 2030, 2040 and beyond, particularly as part of our wider engagement within Europe and given the EU decarbonisation targets, which are set for 2050. I will stop at that point.

1385. The Chairperson: Thank you very much indeed for that succinct and very helpful race through all the issues. I want to ask you a fairly basic question, which you rhetorically posed yourself during your presentation. You mentioned 40%, but that is 40% of what? You went on to answer that question by saying that it amounts to, and correct me if I am wrong, 1,600 MW to 1,800 MW of installed renewable electricity. Looking at your document, which you correctly provided to the Committee, I see that you refer to the three power stations that we have, that is, Coolkeeragh, Ballylumford and Kilroot, producing, respectively, 414 MW, 780 MW and 440 MW. That comes to 1,634 MW of installed capacity. Your document goes on to outline what you expect over the next couple of years to 2012. It states:

"Information from DOE Planning shows that DOE has to date approved 41 wind farms totalling 585 MW. A further 46 applications totalling 749MW are currently in the planning process."

1386. If we add those figures together, the capacity is 1,334 MW. Can you explain that to me simply? If you achieve that reasonable target, how near are you to fulfilling or matching the capacity of the three power stations? I know that I am probably wrong to compare those figures as simplistically as I have done, but will you enlighten me as to how I have got it wrong, if I have got it wrong?

1387. Ms Alison Clydesdale (Department of Enterprise, Trade and Investment): I can try to answer that. The total generating capacity in Northern Ireland is 2·75 GW, and the peak load is around 1·8 GW. Even with an increased amount of renewables generation, we will always need traditional power stations to manage the variability of the wind. Therefore, even if we have enough renewables capacity to match the power stations, we will still need, because of the variability issues, to retain the power stations to manage the renewable capacity.

1388. The Chairperson: May I stop you there? Does the figure of 1,334 MW not assume that that is a constant? Are you reducing that by 70%? The average for wind power is 30% anyway.

1389. Ms Clydesdale: It is variable and depends on a number of factors. It depends on the demand at the time, and consumption in the past year has gone down by 6%. It depends on

how much renewable resource we can harness at any one time. The wind does not blow all the time, so obviously, there will be periods when wind power is much lower than it was during periods when the wind levels were high. Therefore, that has to be managed. We also have to manage other forms of renewables that come on, such as biomass power stations. Therefore, it is impossible to say that we will definitely reduce all the fossil fuel power stations by a certain amount. However, there will always be a baseload that has to be met at all times.

1390. The Chairperson: May I stop you again so that I can understand this? I referred to the 1,334 MW. Do we take that at 30% or at 100%?

1391. Ms Clydesdale: Do you mean the total of the three power stations?

1392. The Chairperson: No; that is the total renewable electricity that you anticipate will be produced from wind farms.

1393. Mrs Hepper: We can divide that by approximately three, but, even then, we will get to the 1,600 MW. That is one of the reasons why we are keen that, when the land bank comes through from the regulator's work, we will look at biomass plants or something else that will provide more constant generation. That is why we are also keen to point out that the 40% is not a wind target but a sustainable target.

1394. The Chairperson: I will come to that and move on from my calculations.

1395. Mr Thomson: Another factor that makes calculations hugely complex is, of course, interconnection. We have the Scottish interconnector and the North/South interconnection, and that means that other capacity is coming in through cables. However, we also have the ability to export. Therefore, trying to get those numbers to add up becomes a very complicated model.

1396. The Chairperson: What you have told us is very helpful, and I will have to reflect on the figures. It has to be said, and you have said this before, that, although the figure is ambitious, it is achievable. Have you, in fact, made calculations of what you may achieve year by year? I know that you have indicated what you might achieve by 2012, but have you done any calculations on that?

1397. Mrs Hepper: We have not done it year by year up to 2020. One of the key points, which, we are aware, has come through in a number of your evidence sessions, is that we easily have the amount of resource that we need to get to 40%. However, the speed at which we reach that target will be greatly affected by the planning side, which will have a big impact. The number of projects that come forward and the speed at which they get through the Planning Service will be important, as will the speed at which the grid is built. The grid will be a constraint on the achievement of the target. There is no question of that.

1398. The Chairperson: I think that we have identified clearly during our evidence sessions that the grid is very important and that it has to be improved to take on the renewables. The Planning Service has to co-operate in all that and the interconnector has to be established. Those are givens; we accept that those are our top priorities and will affect the rate at which we achieve that ambitious target.

1399. I would like to come back to one point. You said that you are "technology neutral" and that the target is not really a wind energy target. However, all that I read in the documentation seems to suggest that it is, because the other things seem to me to be add-ons — I was going to say "afterthoughts", but that would be unfair — to the main thrust of your policy, which seems to be wind driven.

1400. Mrs Hepper: It is not that our policy is wind driven; it is just reflective of what is happening in the marketplace. The wind resource is there, and the technology to harness that resource is more mature. That means that it is less expensive. It is in the marketplace; supply chains exist to produce and install the wind turbines. Other forms of technology will mature over time in the same way as wind technology has matured over time. Therefore, in the medium term, we will see the offshore angle starting to come on board. Those are less mature technologies and are therefore more expensive. We just have to be realistic about that. The target is definitely not purely a wind target, but there is no question that, as I said, the wind element will deliver a significant proportion of that target.

1401. What we have in place through the NIRO in particular, is the incentivisation of other forms of technology as well. In the past year, and even in this year, as part of the work that we are doing on the NIRO, we are proposing an increase in the ROC levels for anaerobic digestion (AD), for example. That is designed to incentivise a technology that we think is on the cusp of coming forward.

1402. The Chairperson: Can I stop you again? I hear what you say, but we heard from the Department of Agriculture and Rural Development a few minutes ago. Really, very little progress is being made with either biomass or AD. I could not detect any perceptible progress, and I think that my colleagues agree with me on that. That is a big area to be dealt with in land-based renewables. We are really starting from scratch, and it is very hard to imagine how they could have a significant input to the achievement of the target that the Department and Executive have set. I just say that by way of comment; perhaps you would like to come back to me on that.

1403. Ms Olivia Martin (Department of Enterprise, Trade and Investment): We are diversifying our policy into areas of bioenergy. You will have seen the draft bioenergy action plan, on which we consulted and which we will bring back to the Executive very soon for finalisation. We have not stopped implementing the actions in the draft bioenergy action plan, which was well received by stakeholders. Indeed, the proposal for an increase in the AD ROCs is part of that implementation. The consultation on the NIRO for this year closed recently. We are still considering all the responses, but the overall impression is that the AD industry is very favourable towards the proposed uplift, and there appear to be significant moves towards installation. In fact, some companies have begun installation already on the strength of that proposal.

1404. The Chairperson: Are you saying that that would stimulate that aspect of the market?

1405. Ms Martin: Yes, we believe that strongly. However, we stress again that that resource is smaller than the wind resource.

1406. The Chairperson: Yes, of course. I accept that.

1407. Dr McDonnell: Thank you, Chairperson. I will probably echo a lot of what you were saying. Among the people who would chew at this bone and who want to be involved in renewable energy, there is a deep frustration that there are gaps. Forgive me, because I do not mean to be offensive to you personally or to the energy division, and I am aware of the stresses and strains under which you operate. Basically, there is a lot of process and that you are ticking a lot of boxes but that there is very little product. I worry when you talk about a marketplace. I do not think that there is a marketplace for renewable energy yet, and I am worried. From my perspective, the Department's energy division needs to take the thing by the scruff of the neck and make something happen.

1408. Perhaps we should be more alert, but a lot of us are alert enough to the scare that we can no longer afford to leave ourselves totally dependent on fossil fuels in the form of Iraqi oil, Iranian oil, Russian gas and so on. Although renewables may be a bit more expensive in the short term, we need to have the capacity to move quickly into renewables. We need to get to first base. People who I have talked to tell me that you have to be mad and have to have more money than sense to engage in a lot of the renewable stuff. Everywhere I turn, all I get is disappointing stories.

1409. We are, perhaps, the well-intentioned amateurs who are trying to push things forward, and you are the experts. How do we, as a government and an Executive, get this into second gear and out of first gear? We are struggling. Wind energy has, perhaps, caught on and has had a bit of a boost, but the other bits are necessary.

1410. I can think of a lot of individuals, particularly in remote areas, who would be very happy if they could generate a bit of their own electricity, perhaps from wind or, equally, biogas, and channel the surplus gas into car fuel so that they could put it in the tank in the back of their car. How do we get the prototypes? I feel that the onus is on you and me, and on my Committee colleagues and your colleagues, to find ways and means of empowering people to take this on to the next stage and the one after that. There is a deep frustration at the gap between the process and the supply.

1411. For instance, how do we get the City Hospital to set up an incinerator of some sort that will incinerate the hospital's rubbish and waste instead of that waste and rubbish going into a landfill? Perhaps, when it runs out of material, it could use a bit of woodchip or biomass in whatever shape or form to top it up. Eight or nine years ago, this Committee looked at that issue and found that that was done in Denmark. When they ran out of waste wood and so on to put into a burner, they bought a few loads of timber, perhaps willow coppice, and kept the incinerator going. How do we get to that stage? The City Hospital, for instance, spends millions of pounds on energy, heat and so on.

1412. In some ways, we could nearly meet our target with one or two big projects, rather than getting trapped. That is the frustration, and, equally, on the back of this, my impression is that those of you who work in the energy division work hard and that there are too few of you with too many back doors to cover.

1413. I emphasise that that is not a criticism. I am an admirer of what you are doing, but there needs to be twice or perhaps three times as many people in your operation, and we need to develop greater expertise and greater decision-making.

1414. Mrs Hepper: I will cover some of those points. I appreciate that, when they look from the outside at some of our work, people sometimes think that it is bureaucratic or a case of box-ticking. However, we are doing a considerable amount of work on the strategic environmental assessments that have to be done to ensure that we are compliant with EU directives. If, as a Department, we take the lead on that, do it properly and take that work forward, it sets up a bank of information that developers can access. Then, when developers look for sites on which to put their biomass power stations or offshore wind farms, that work will have been done, and they can capitalise on it. That enables them to move forward at a quicker pace. They can rule out areas that are too environmentally sensitive or can look at a certain area and recognise that they need to change the project to meet requirements.

1415. From that point of view, we are doing some desk work that is not the hugely sexy stuff that will have an impact now. However, it will have an impact later when the developers come forward. Some developers who have worked with us on that and who have analysed it on our key groups are very aware of the importance of the work that we are doing and are helping us

to do it. However, they are also aware that, come the time when their projects are finalised and require investment, they have that to fall back on.

1416. Energy from waste, effectively for the City Hospital, has been mentioned. We have been engaging with our colleagues in DOE on that in the context of another European directive, and we are aware that three groups of councils have come together with energy-from-waste projects; namely, Arc21, SWaMP and the North West Region Waste Management Group. That is very important to help us meet our target and to help DOE meet its landfill directive commitments. Those projects will provide approximately 25 MW to 35 MW of capacity. From an energy point of view, there is no issue that people out there are not thinking about those projects and that we can smooth the way from an energy policy point of view. The issues come from the process of getting planning approval, and a number of energy-from-waste projects have fallen at the hurdle of council-level decisions. There is no lack of willingness in DETI and no lack of inventiveness outside the Department.

1417. Dr McDonnell: Are you the policeman or the enabler?

1418. Mrs Hepper: DETI is a mixture of both. We are largely an enabler, but we also have to work with our colleagues in the Planning Service, because the planning process is there to serve a purpose and to let the public express their opinion. We have to find innovative ways in which to help those projects get through, and we must ensure that, when they get through, the needs of communities are heard and met.

1419. Dr McDonnell: How do we get to a situation in which the Department is 80% enabler and 20% policeman?

1420. Mrs Hepper: Some of our work streams going forward involve active engagement with the Planning Service. We need to ramp that up — there is no question about that. Moreover, we not only need to ramp up our engagements internally with the Planning Service — we will start to do that in January — but we need to educate and communicate with the wider public on renewables, explain why they are needed and improve communication on how we will reach our targets. However, we also need to help companies such as NIE. It has stepped up to the plate to say that it is up for putting the new grid in place and putting in the necessary investment. It is incumbent on us, as an enabler, to help NIE get the message across and to help it with the processes that it has to go through. There is no question that there are big issues concerning public acceptance of new grid infrastructure, energy efficiency and renewables, and, as an individual, I am as guilty as anyone. We know that energy efficiency is a good thing, but all of us do things in certain ways in our own homes, and it is almost lethargy that stops us from taking the next step.

1421. We need to stop confusing the marketplace. External advisory bodies, and Government bodies with an interest in energy, are bombarding the public with slightly different messages. Our work, which we have taken to the Executive, has been to pull this together and funnel it to get more bang for our buck and to bring people with us.

1422. Dr McDonnell: A man came to me last week who has one of the leading biomass plants, and, because of a minor planning technicality, he had to reapply for planning permission, which was ruled out. That is the sort of frustration that emerges owing to the ticking of two boxes. He was not extending his plant but was scaling it back. However, that required separate planning permission, which crashed the whole process that he has spent two or three years building with DARD, with respect to grants, and so on. That is where the difficulty comes in and where frustration arises and bad blood is created.

1423. Mrs Hepper: We will take note of that issue, and we will be engaging with the Planning Service in the new year. It is one of the things that we in joined-up government should be looking at. Our Minister is very supportive of this. She chairs the interdepartmental working group on the matter, and these are the sorts of issues that can be embraced and examined at ministerial level. We should not be allowing hiccups and glitches in the system to stop us in our direction of travel. We have to be aware that the planning process is statutory and we have to make sure that we do not contravene its principles. However, we also need to be aware that we do things to best advantage.

1424. Ms J McCann: Thank you for your presentation. I do not think that anybody needs to be convinced of the potential for the development of the renewable energy sector to be a key driver of the economy and a way in which to combat fuel poverty and to create jobs.

1425. I have two questions. First, what is the Department's view of and commitment to the green new deal? Secondly, you mentioned financial issues concerning this in your presentation. You also mentioned banking. You said that you want the 40% target to be market-led. Obviously, private investment will be essential to meeting the target. My sense is that it is difficult at the moment, particularly for small and medium-sized enterprises (SMEs), to get loans from banks. Can you give me the name of someone in the Department to whom businesspeople with initiatives can go for advice? I know people who are having difficulties because the banks are not seeing the matter as clearly as you are outlining it here to us. To you, it is real, and you are driving it forward.

1426. Mrs Hepper: We have seen the group's proposals on the green new deal, and we think that there are some interesting and potentially exciting proposals on energy efficiency. Over in GB, something similar is happening through the green deal proposals, which DECC is moving to legislate for at the moment.

1427. There is going to be an interdepartmental meeting chaired by the Minister for Social Development. The date for that is already in the diary. A number of Departments have a keen interest in the issue and how it can be shaped.

1428. One of the questions that we will bring to the table will be on how the green new deal proposals in Northern Ireland, which could require up to £70 million of Government subvention to pump-prime them, sit alongside the green deal approach in GB, which is private sector-funded. What is the different between the two? Are there good parts of both that can be brought together? What would be the best way to take that forward in Northern Ireland?

1429. That meeting will take place in the next few weeks, and we will play our part. There seems to be a good way forward on energy efficiency and, if it comes to pass, job creation. However, it behoves us to look at the approach in GB, particularly now that government finances are being squeezed. How come the GB approach does not require any subvention? Is it because it is an entirely different beast that might not work in Northern Ireland?

1430. The approach that has been brought forward is quite a creative one, and it is certainly very welcome that the stakeholders have been able to come together and quite quickly shape our approach.

1431. In DETI, we want to give the approach a fair wind, we want to see how it comes together and we want to find the best way forward. We will certainly play our part.

1432. Ms Martin will address the banking issues.

1433. Ms Martin: One of my colleagues specialises in the NIRO and takes a significant number of calls from developers of all scales about it. He also proactively goes out to inform the developer community about the finance available under the NIRO, explains how it works, and outlines how it is a key reference point of the Government's strategy. Tomorrow, there is an event especially about renewables financing that my colleague will be speaking at to help inform developers of all scales and all technologies of the incentives and how they can leverage bank financing.

1434. Ms J McCann: What is the name of your colleague?

1435. Ms Martin: Michael Harris. I can send you his details.

1436. Ms J McCann: Thank you.

1437. Mr Irwin: Thank you for your presentation.

1438. I fully agree that education of the general public is vital. To date, that has not really happened. I agree with Dr McDonnell that the issue of waste is going to be a big problem in the future and that local councils will face massive fines. That is something that needs to be looked at seriously.

1439. The interconnector is an issue in my constituency, and there has been a lot of opposition to it from the word go. Mistakes were probably made early in the process before any application was submitted, because the public and local councillors were not made fully aware of the importance of the interconnector to the future. You said that it is very important. It is probably vital, is it not?

1440. Mrs Hepper: It is a linchpin.

1441. Mr Irwin: Very few people on the ground would have realised that, and that created a problem. Now there is a public inquiry, so we will have to wait for the outcome of that. The process might have been easier had the path been laid earlier so that people were fully aware of the interconnector's importance. That did not happen, but I am not sure who was at fault.

1442. It is very important for the future that government educates the people. I am not sure how that will be best done. With the interconnector, educating the public was left too late and there was already a lot of opposition on the ground to the proposal, which created a problem that was difficult for even us, as representatives, to deal with.

1443. Mrs Hepper: I do not disagree with that. With the benefit of hindsight, perhaps somebody from a Department, be it us or DOE, should have come to the fore and provided that level of education. We do have an opportunity now, with the cross-departmental approach that we are going to take on communications and education, and the fact that a number of the external stakeholders, including NIE and a number of the other advisory groups, are keen that we not only step up the action but involve them in the messaging.

1444. In some ways, it is not too late to educate people about the interconnector. There is still more that we can do. The interconnector is an important piece of economic infrastructure. We have to make the energy infrastructure for Northern Ireland fit for the twenty-first century, and the interconnector is part of that. Generally, across the whole Northern Ireland grid, investment in the grid over the next 10 or 20 years will be the largest investment that there has been since the 1950s and 1960s. We have a grid system that was built in the 1950s and 1960s for a world that no longer exists, so we have a lot of educating to do.

1445. More renewables are good, and security of supply is essential, but that means that more infrastructure is needed. We need to smooth the path for that and find ways around the legitimate objections that there may be. Technology will move on, and we need to harness that. We, as a Department, are not the experts on how to build the grid, so we need to make sure that we are closely aligned with our stakeholders and NIE.

1446. Ms Clydesdale: I want to add something about the interconnector. The volume of infrastructure required to facilitate the renewables target is likely to be three to four times that provided by the interconnector, so it is reasonable to expect that the arguments being played out now about the interconnector are likely to be replayed with other major pieces of infrastructure. That is something that we recognise.

1447. Mr Irwin: It is very important that public representatives be fully aware of the seriousness of the situation, especially at the lower levels, such as at council level.

1448. Mrs Hepper: One of the things that we are keen on doing when we get a programme in place for communications is to take a tour of the councils, if we would be welcome there, and to speak to them about such things. I appreciate that people have legitimate objections and will want to make their views known.

1449. While we are talking about the grid and the interconnector, another point to make is that Northern Ireland has a very small energy market. We have taken some steps to make that bigger and more robust with the single electricity market (SEM), but that is really only step one. When I was talking to the Committee on 9 November, I mentioned the drive and push from Europe, and what we will need to do. The SEM will need to be integrated with the bigger market in the British Isles over the next number of years, and the market in the British Isles will have to be better integrated with Europe. That is the way that market integration is going at European level, and if we do not have the quality of grid in place and the quality of interconnector on the island, we are going to be stuck out on the corner of Europe and very exposed.

1450. Mrs McGill: You said that you are scheduled to meet the planners some time soon. Can you give me some sense of what kinds of discussions you will have with them and what types of issues you will raise?

1451. Mrs Hepper: I plan to meet the new chief executive of the Planning Service as soon as our diaries will co-ordinate. The key thing that I want to talk to him about is the interconnector. Obviously, NIE has put its planning application in. It has been asked for some additional information, which, I am told, it will have available in the early part of January. I want to talk about the next phase of the planning process. Obviously, it is only at that point that the Planning Service will be discussing with the Planning Appeals Commission a time for an inquiry to take place. I want to talk to the chief executive about that. It is key infrastructure for Northern Ireland, and I want to ask whether there is a way in which to accelerate or smooth that process without in any way subverting any part of the statutory planning process, and whether there is anything that the Department can do. That is the main issue that I want to address first. My colleagues on either side of me already engage regularly with those further down in the Planning Service, and, through a new planning group, we want to reinvigorate planning and renewables and look at the day-to-day steps that we can take to smooth out the processes.

1452. Mrs McGill: That is very welcome. Obviously you will have to discuss the interconnector at a strategic level, but is the group formally in place to deal with the day-to-day stuff?

1453. Ms Martin: The group is already in place. However, other work in the energy division, such as transposing directives, has had to take priority, so we have had to set the group's work aside

for a few months. We want to reinvigorate the group in the new year, when we will deal with smaller-scale, less-strategic but nonetheless important issues.

1454. Mrs McGill: Will the group deal with, for example, individual applications for wind turbines from farmers and rural dwellers?

1455. Ms Martin: It will not deal with applications. It will just be about how we can work together better to prioritise renewable energy in the planning system.

1456. Mrs Hepper: Dealing with applications is correctly a function of the Planning Service. We will want to discuss with the Planning Service our overall approach and direction of travel with the strategic energy framework and the renewables inquiry, the types of technologies that we are incentivising through the NIRO, any novel or contentious issues that that might bring for the Planning Service, and whether we can do anything or offer advice and guidance to help. For instance, we will consider whether we can take on board anything from Planning Service procedures and processes that will, in turn, be helpful to the Planning Service. Therefore, although discussions will not be about strategic-level matters such as the interconnector, they will be more strategic and policy-driven than dealing with individual planning approval applications.

1457. The Chairperson: Some colleagues are under time pressures, so we are in danger of losing the quorum. Would it be possible to adjourn now and ask you to come back next week? I am sorry for the inconvenience, particularly to Mr Thomson.

1458. Mrs Hepper: I am happy to do that if it is helpful to the Committee.

1459. The Chairperson: What you say is obviously of great importance to the Committee, and I am reluctant to cut short the session. We still have to consider the economic aspects, so I think that it would be better to adjourn taking evidence on your submissions and invite you to come back next week. I hope that that does not cause you any inconvenience.

1460. Mrs Hepper: We are very happy to accommodate the Committee. When we come back next week, do you want to focus purely on the economic aspects?

1461. The Chairperson: We will finish off the energy aspects, before moving on to the economic ones. In all fairness, we should concentrate on the economic aspects. Is that all right, Mr Thomson?

1462. Mr Thomson: That is fine.

1463. The Chairperson: I think that that would be more satisfactory.

9 December 2010

Members present for all or part of the proceedings:

Mr Alban Maginness (Chairperson)
Mr Leslie Cree
Mr Paul Frew
Mr Paul Givan
Ms Jennifer McCann
Mrs Claire McGill
Mr Gerry McHugh

Witnesses:

Ms Alison Clydesdale Mrs Fiona Hepper Ms Olivia Martin Mr David Thomson	Department of Enterprise, Trade and Investment

1464. The Chairperson (Mr A Maginness): The officials who are here to brief the Committee today are Ms Olivia Martin, Ms Alison Clydesdale and Mrs Fiona of the Department of Enterprise, Trade and Investment (DETI) energy division, and Mr David Thomson, the deputy secretary of the DETI policy group. He will deal with questions on energy and the economy.

1465. I would like to concentrate on renewable heat, Mrs Hepper. I get the impression that renewable heat will be the next big issue to come before the Assembly and this Committee. I wonder how you envisage that developing, particularly the renewable heart incentive. You have informed the Committee that the Westminster Government are making £25 million available. How do you envisage that being usefully spent to incentivise the use of renewable heat?

1466. Mrs Fiona Hepper (Department of Enterprise, Trade and Investment): We have work to do on the detail of an economic appraisal of renewable heat. The procurement of that advice is almost complete, and we will formally start work on that economic appraisal in the week commencing 13 December.

1467. That work will look for the best model for Northern Ireland. It will consider the level at which the incentive needs to be pitched in Northern Ireland. It will also bring in evidence around how the work is shaping up in GB and how things will be done there. We want to determine whether what we do should simply replicate what will happen in GB or whether, because of the different shape of our energy market and the fact that we have a greater dependence on oil, we need to shape the model and the incentives in a different way.

1468. Until we finish that complex piece of work, we will not know the detail. When that work is done, and after we have briefed the Minister on what we think is the best option, we are happy to come back to the Committee and talk members through the issue.

1469. Some of the complexities will relate to whether we treat Northern Ireland as a block and simply have incentives for the region as a whole or whether we treat areas that have gas separately from areas that do not. Given that we are such a small region, the latter option might confuse the market and make it too complicated. We are planning quite a detailed appraisal and will progress that at quite a pace. The work will be finished by February, by which time we will have shaped our preferred model. As I said, we are happy to come back to talk to you, either formally in an evidence session or informally.

1470. The Chairperson: What is the potential of renewable heat?

1471. Ms Alison Clydesdale (Department of Enterprise, Trade and Investment): The heat demand in Northern Ireland is currently estimated to be about 17,000 gigawatt (GW) hours a year. Our study shows that the 10% target in the strategic energy framework (SEF) can be achieved but will require some level of intervention.

1472. The biggest heat demand is in the domestic sector, so there is a huge opportunity to target an incentive there. We will consider how to set the tariff levels in order to incentivise that sector. Also as part of the economic appraisal, we will look at the industrial sector. There is some merit in looking at some of its larger-scale installations. If a relatively small number of large-

scale installations were to move to renewable heat, it could have a significant impact on the target. However, on a larger scale, the investment is slightly different, so the structure of incentives would be slightly different. The economic appraisal will determine which model will provide the best value for money and contribute most to meeting the target.

1473. However, if the economic appraisal points us towards focusing on the domestic sector, there is an issue with getting householders up to speed. The incentive will pay them tariffs over 15 to 20 years, but householders will be required to make a capital investment to install whichever type of technology they choose. There is huge potential in the domestic sector for renewable heat.

1474. The Chairperson: Mrs Hepper, how many people work with you in your section?

1475. Mrs Hepper: There are 11.

1476. The Chairperson: Are there 11 in your section?

1477. Mrs Hepper: No, there are 27 staff in the whole division, 11 of whom work on the sustainable side.

1478. The Chairperson: Do those 11 work in the renewable energy section?

1479. Mrs Hepper: Yes, they do.

1480. The Chairperson: Therefore, a total of 27 people deal with energy issues.

1481. Mrs Hepper: Yes.

1482. The Chairperson: I am going to ask you a question to which your probable reply will be yes, because everybody wants more resources. Is that level of staff sufficient, or could you usefully do with additional staff? If so, what additional complement would you require?

1483. Mr David Thomson (Department of Enterprise, Trade and Investment): To save Fiona's blushes, I am sure that she would love to have many more resources.

1484. The Chairperson: As would everybody.

1485. Mr Thomson: I support her in that. Energy is a priority for the Department. At the previous evidence session, I mentioned the independent review of economic policy (IREP) report. One of that report's recommendations was for DETI to examine how it is structured. As a result, we placed more emphasis on policy areas, and an organisational review is ongoing. The Department has already taken some actions and is considering further plans. An economist, for example, is now involved. We are conscious that areas of the Department need extra support, and we hope that we can do something about that. However, we must do so in the context of a budget aim to reduce the administrative costs, which creates problems for the Department.

1486. The Chairperson: I understand that. However, in a crucial policy area such as renewable energy, the money that is spent on additional resources and additional expert staff to assist you with your task will be money well spent. There seems to be a heavy work commitment, and there is a wide range of issues across the board.

1487. Mrs Hepper: I agree. The work for the whole energy division is heavily loaded. I have been in DETI for a number of years, but I am new to the energy division. I have been

extraordinarily impressed with the quality and efforts of the staff and with what they will deliver over the next few years.

1488. Olivia's side works on the Northern Ireland renewables obligation (NIRO). The fact that that has been structured and negotiated with a lower obligation level has tripled the amount of renewables that have been delivered in Northern Ireland and has done so with the appropriate level of incentives. Moreover, on Alison's side, a significant amount of work has been done to reach the point at which we are able to talk realistically about a renewable heat incentive in Northern Ireland. In the context of David's comments, we must get the most bang for our buck with our existing staff. We have to decide what will have the greatest impact and prioritise that.

1489. The team on the energy side is working on the restructuring of the division. We are doing some key pieces of work on the transposition of complex European directives, and that work will come to an end in spring 2011. Will that release any resources internally for us to prioritise? As civil servants, our normal work is to consider where we can best position our resources, and we will do that. However, there is, unquestionably, no shortage of work to be done, particularly on the renewables side.

1490. Mr Cree: As I listened to your comments, I wondered whether there is a clear definition of renewable heat. However, my questions are on a wider front. The renewable energy policy is based mainly on wind generation. Is anything happening to try to speed up the planning process for the North/South interconnector, bearing in mind the need to shape that before the 2020 target? If the interconnector is not ready within that time frame, is there a plan B? I have been interested in and concerned about other grid reinforcing for a long time. Is that happening, or are there plans for that to happen in the rest of Northern Ireland?

1491. The Chairperson: Some of Mr Cree's questions were addressed last week when he was, unfortunately, unavailable because of other political duties.

1492. Mr Cree: Sorry, I did not know that. That information was not included in last week's minutes.

1493. Mrs Hepper: That is fine; I am happy to cover those points again. The first part of the question was on wind. Although the target is not purely a wind target, realistically, the lion's share of renewables used to meet our target will be delivered by onshore wind. However, the NIRO is in place. That will not only incentivise the wind element but will bring other technologies on board. As I said last week, the Department is technology neutral, and we incentivise a range of technologies such as photovoltaic (PV) power, anaerobic digestion (AD) and other forms of biomass. We want all of those to play their part. However, we are realistic about the percentage that they will deliver, particularly in the short term. They will be dwarfed by what wind can deliver, largely because wind is a more established technology. The development of the equipment needed to deliver that is well embedded in the supply chain, but other technologies will start to make their play. This year, through our NIRO consultation, we propose to uplift the number of renewables obligation certificates (ROCs) available for anaerobic digestion based on our call for evidence earlier in the year.

1494. I hope that the energy from waste will start to develop. When I was with the Committee previously, we talked about the plans of some conglomerations of councils, such as Arc21 and the Southern Waste Management Partnership (SWaMP) to bring forward ideas, and those will develop over time. Likewise, our Crown Estate call in the spring of next year will focus on offshore energy, and offshore wind and some of the marine and tidal technologies will start to come forward. Again, those are subject to slightly different timescales and will develop over time.

1495. Last week, I mentioned that I had scheduled a meeting with the chief executive of the Planning Service in the early part of the new year to discuss whether there is anything that DETI can do in conjunction with NIE to smooth the path for the interconnector, albeit within the statutory requirements of the planning appeals process and its inquiry.

1496. I have a blunt answer to your question: the bottom line is that, should the interconnector not materialise, there is no plan B. If the interconnector is turned down by the Planning Service, we will have to consider why that was the case. If it was the case that more information was required and a mere tweak was required, the application could be resubmitted. If it is something more fundamental, NIE and EirGrid will already be looking at whether they are getting the maximum out of the existing interconnector and calculating how much more they can squeeze out of it. The bottom line, however, is that the interconnector is needed to enable us to bring forward —

1497. The Chairperson: I will just stop you there. I asked this question of the Utility Regulator, who was probably an inappropriate person to ask, but is there no way in which Government can prioritise the public inquiry? I know that the Planning Appeals Commission (PAC) is an independent body, and properly so. However, to deal with the issue quickly, so that we know whether there will be an interconnector on the route outlined, is there any way in which Government can prevail upon the PAC to deal with the matter as a top priority?

1498. Mrs Hepper: That is one issue that we want to cover when we talk to Ian Maye in January. We will give our view, which is that it is a strategic piece of economic infrastructure and a high priority in facilitating the delivery of the strategic energy framework. We need to find out, from the other side of the table, the issues that surround Planning Service and planning appeals. At present, nothing in that process is being held up. NIE has submitted its application, which is being considered by the Planning Service. PAC is asking various questions and has requested some additional information.

1499. The Chairperson: So, the gathering of information has not yet been concluded?

1500. Mrs Hepper: No. I understand that NIE hopes to submit the rest of the requested information in January. That is not holding up the process, but we will keep an eye on it. The Minister strongly supports the work coming forward as soon as possible and has already spoken to the Minister of the Environment. We will keep that level of conversation going, albeit that we do not want get in the way of the statutory and perfectly reasonable inquiry that has to be undertaken.

1501. Mr Cree's final question was about the grid and the bringing forward of other grid investment and infrastructure. NIE is working on a number of scenarios for how the grid needs to develop over the next 10 years or so. At this stage, it is working through a large number of scenarios to determine where it can squeeze more capacity from the existing infrastructure using new technology. That is the short-term plan. NIE's medium-term plans are looking at what 110kV lines need to be developed. The third process is to find out where the 275kV infrastructure should be.

NIE will whittle down those scenarios to their preferred one or two options, and that is on schedule for early spring of next year. They will then have formal discussions and negotiation with the regulator, because the regulator will play a major role in relation to how much it will cost. Likewise, NIE is already engaging with the Department on the various scenarios.

1502. We are working on some of our strategic environmental assessments, which have to be done to ensure that there is no adverse environmental impact should the grid plans come

forward. All of that work is ongoing and forms part of the current price review. There is, at present, no slippage on that.

1503. Mr Cree: You are aware that the departing regulator lambasted progress on the power line.

1504. Mrs Hepper: Yes, I saw the reports of that. I think that he was talking specifically about the interconnector and the fact that the tentative date for the Planning Appeals Commission to sit on that is not until late 2012. However, that is only a rumour at the moment. The Planning Appeals Commission has not decided, nor is it in a position to have decided, when that will happen. Iain Osborne's point was that, if it slips to the end of 2012 or into 2013 before the PAC takes evidence, that means that a further year or two will have passed without the interconnector being constructed.

1505. The Chairperson: How long will it take to build the interconnector?

1506. Mrs Hepper: I am not entirely sure.

1507. The Chairperson: It will take several months, anyway.

1508. Mrs Hepper: I think that it will take a year or two.

1509. The Chairperson: Could it take two years?

1510. Mrs Hepper: Yes.

1511. Mr Cree: I also asked about the definition of renewable heat.

1512. Ms Clydesdale: Put simply, renewable heat is heat from renewable sources, including solid biomass, bio-liquids, biogas, air, source heat pumps, ground-source heat pumps, solar, thermal —

1513. Mr Cree: Does renewable heat cover the whole range?

1514. Ms Clydesdale: Yes

1515. Ms J McCann: On the back of what Leslie's question on renewable heat, did you say £22 million or £25 million?

1516. Mrs Hepper: It is £25 million.

1517. Ms J McCann: That is not really a large amount of money. I just wonder how you could get best value from that money. You mentioned that the domestic sector is the largest user of heat. Is there any way in which we can look at what was done in, for example, Kirklees in England? I know that it was not a renewables project, but perhaps we could focus on an area where fuel poverty is more concentrated, such as a social housing setting. Working alongside the Department for Social Development, could we consider providing renewable heat in those homes and investing that money in tackling fuel poverty? Although £25 million might sound like a large amount of money, it is not, particularly if it is scattered. Therefore, I wonder whether it would be better spent tackling fuel poverty in places where it is most acute.

1518. Ms Clydesdale: The Housing Executive is already trialling a number of biomass installations in social housing settings to determine whether they bring genuine benefits. Money could be

targeted at an area of fuel poverty, but energy efficiency is the first step in tackling fuel poverty. Therefore, that should always be the first step prior to introducing renewable technologies.

1519. Ms J McCann: It could be done by working with the warm homes scheme through other Departments.

1520. Ms Clydesdale: Absolutely. The only issue of which we must be mindful is that a renewable heat incentive would have to be available to the entire population, regardless of whether they are in fuel poverty. If we targeted the scheme purely at fuel poverty, it might give rise to some equality issues, because other households would want to avail themselves of renewable heat. Their location might influence their decision, as might whether they are on the gas network. That would be a major influencing factor as to whether they take up renewable heat. Useful trials have been carried out in Housing Executive social housing settings, but it would also be useful for renewable heat to be available to a larger percentage and wider range of the population.

1521. Ms J McCann: I understand the equality implications. Many older people, for instance, die each year through fuel poverty and cold-related problems. Of course, they might have underlying health problems. You would get better value for money in the longer term if there were a targeted group.

1522. Ms Clydesdale: The Executive would need to give a commitment that there will be capital funding available, because capital investment is required for renewable heat technologies. If a householder is in fuel poverty and is not able to make that investment, there would need to be a funding stream to get the technology installed. Perhaps that would be a matter for the DSD.

1523. The Chairperson: I do not think that anyone else has a question, but I have a few. The Committee heard from Mr Tom Clarke from the Department of the Environment, and he dealt with the planning aspects of renewable energy. He talked about approval for 41 projects for wind farms, with a potential output of 638 megawatts. You reflected that in your evidence. He said that 638 megawatts was 19% of the 40% target. He also said that another 43% of applications were being processed for projects and that that was capable of producing a further 700 megawatts. In his evidence, he said:

"adding the two together, we get 38·9%."

1524. He went on to say:

"The strategic target for renewables is 40%. We are saying that, if all the approved applications and all the applications that are being processed come to fruition, they will contribute 38·9% of our electricity."

1525. I asked if they were close to meeting the target. He said:

"Yes, if all of the applications go through."

1526. I asked if that took into account the fact that turbines on wind farms run at 30% efficiency.

1527. The impression given by Mr Clarke was that the applications that were approved and about to be approved would achieve the 40% target. However, according to what you are telling us, and what Ms Clydesdale said last week, that is not the full story, is it?

1528. Mrs Hepper: No. Alison will come in on this.

1529. The Chairperson: Can she reconcile this for us?

1530. Ms Clydesdale: I can give the Committee some numbers around it. The derivation of the 40% target equalling 1,600 megawatts comes from an estimated demand in 2020 of 11,000 gigawatt hours, which is equivalent to an installed capacity of 4,000 megawatts. Therefore 40% of the 4,000 megawatts anticipated in 2020 equates to 1,600 megawatts.

1531. The Chairperson: So, it is 1,600 megawatts; right.

1532. Ms Clydesdale: In our strategic environmental assessment, we are estimating that the 1,600 megawatts are made up of a number of technologies, not only wind. We have various scenarios for minimum, low, medium and high levels of wind being supplemented by other technologies, such as biomass and small-scale generation. The 40% is based on an estimated demand profile in 2020.

1533. The figures that the Planning Service is quoting relate to installed capacity, but we need to look at demand. We also need to be mindful of the fact that even though a project for a wind farm gets planning permission, it may not go through to design and build. So, although there might be 1,500 megawatts in the planning system, and 1,500 megawatts, or most of it, might get planning permission, only half might proceed to design and build stage. Even though planning permission is granted, it is up to the developer as to whether something is built. There is always ambiguity around the exact figures, because we will not know whether the wind farms will be built.

1534. The Chairperson: Assuming that they are built, is Mr Clarke right? Will we meet, or almost meet, the target?

1535. Ms Clydesdale: If everything that is in planning comes to fruition, is built, and is not curtailed by the current network, then the majority of the 40% target could be met by onshore wind, if the grid were in place. However, if the interconnector does not go ahead, then the curtailment levels of the current grid, even if all of the wind power resources are built, would probably restrict the amount of wind energy produced to about 800 megawatts until 2015.

1536. The Chairperson: Mr Clarke's evidence is, in essence, correct assuming that we get the grid connection — and that is big assumption — and assuming that we get the interconnector, which, again, is a big assumption. However, he is correct that, if the bulk of the applications are accepted, approved and become operational, we could reach the target.

1537. Ms Clydesdale: That is correct.

1538. The Chairperson: That is very helpful. I have one final point about geothermal energy. The Committee heard evidence that there are ample — I think that that word was used — resources of geothermal energy in Northern Ireland. Do you agree with that assessment?

1539. Ms Clydesdale: Yes. There are deep and shallow geothermal energy resources in Northern Ireland. A lot of the shallow geothermal resources have been realised in the past few years. Between 2006 and 2008, the Department promoted the Reconnect scheme, through which quite a few ground-source and air-source heat pumps were connected. That was positive, and a lot of householders have done that. There are certainly some deep geothermal resources available in Northern Ireland.

1540. The Chairperson: Are deep geothermal resources the ample source of renewable energy?

1541. Ms Clydesdale: Deep geothermal energy is slightly less developed than shallow geothermal energy at the moment. That resource is more expensive to harness because it is so much further down in the earth. Therefore, very high capital costs are associated with its development, and that can be a barrier to the speed of its development. That is why, at the moment, more types of shallow geothermal energy technologies are coming on to the market.

1542. The Chairperson: Therefore, it is not an exaggeration for someone to tell the Committee that there are ample resources of geothermal energy. Is that correct? That power source is highly capital-intensive, but will it provide us with renewable energy sources in the future?

1543. Ms Clydesdale: It could do. The current figures suggest that around 10 megawatts could be developed. The cost of development is the issue. As time passes and technology improves, the cost will fall and it will, hopefully, become a more attractive project. Again, it depends what we will do with that geothermal energy. Will we generate electricity or heat from it? Those issues have to be addressed. The NIRO currently provides two ROCs for electricity generation, and the heat incentive will, in due course, look to provide for geothermal heat as well. Electricity from geothermal energy is still in its infancy and is an earlier technology than the generation of heat from geothermal energy.

1544. The Chairperson: Do I detect a preference for heat technology?

1545. Ms Clydesdale: Heat technology would be easier and, perhaps, cheaper to develop and easier to use.

1546. The Chairperson: Will the state be able to obtain royalties from the extraction of geothermal energy?

1547. Ms Clydesdale: There is no definitive judgement on ownership rights to geothermal energy at the moment. There are a number of scenarios. The rights could be owned by the landowner, by a holder of mineral rights or by the Crown. There is another scenario in which the rights are not owned by anyone. The situation is similar to water; heat will be extracted, potentially, from a number of areas involving a number of landowners. Therefore, there would be an issue concerning who owns the rights.

1548. In GB, geothermal energy has proceeded with landowners' agreement, and developers have struck up individual agreements with landowners. If the Crown or the state had ownership of the land and the power to extract heat from that land, it would, quite rightly, be able to get royalties. However, given that this is such a highly capital-intensive industry, which, at the minute, offers a relatively low return, there is a chance the development of the industry could be slowed down if the Crown did take royalties. We might want to set the royalties at zero.

1549. The Chairperson: Mr Thomson, you did not really touch on the industrial aspect of renewable energy. How big is the potential for job creation, not just employing people to generate renewable energy, but through the manufacture of renewable energy products and equipment and research and development in universities?

1550. Mr David Thomson (Department of Enterprise, Trade and Investment): There is a very big potential, with one caveat. If you read the European strategies or look at what is being said in Ireland, Scotland or England, everybody is saying that it is a very competitive market. That means that you have to look at what competitive advantage you have. As I said briefly earlier, I think that Northern Ireland has a competitive advantage. We have skills in manufacturing and skills in things like composites. We are close to the market, which is useful both for onshore and

offshore generation. When we talk about offshore it is not just Northern Ireland offshore, but the Irish Sea and Wales, for example.

1551. We certainly have potential. I know that Invest NI is doing quite a lot of work and is engaged with a number of potential inward investors at the moment. Of course, if we got big inward investors, that would have supply chain consequences. As you know, Harland and Wolff is keen to develop the market and has been relatively successful to date. It certainly sees a large potential in using the facilities of Belfast port. The economic strategy, on the basis of IREP, is focusing on research and development. We should encourage innovation and R&D, and renewable energy is one of the areas mentioned. I know that both universities are doing work on renewable energy.

1552. Mrs Hepper: Invest NI hosted a very successful supply chain event, alongside the Crown Estate, in March, which was well attended. Another is scheduled for March 2011 — I think around 3 March or 4 March — which will be just ahead of the Crown Estate call for the projects for Northern Ireland waters. That is being shaped at the moment. There is also some discussion about a renewables event in the United States to coincide with the St Patricks Day event. So, we have a number of very good opportunities to promote the product offerings of Northern Ireland and start to get our differential market offerings out into the wider world. Invest NI has done some work on that. As David said, it sees particular opportunities on the surveying, design, manufacture and assembly side of things, as well as the installation, operation and management.

1553. If we get projects coming forward for the waters off Northern Ireland shores, and an installation is going into the water, at some point it will have to be decommissioned, and there will have to be work done on that. There are a number of different supply chain opportunities, and we will be pursuing those through Invest NI.

1554. The Chairperson: Nigel McClelland of Invest Northern Ireland, when giving evidence to the Committee, spoke about an estimated 31,000 jobs in Northern Ireland across the low-carbon sector, which includes building and environmental technologies. He also said that, in the renewable energy sector in particular, it was estimated that there were approximately 3,800 jobs: that is at the moment, I understand.

1555. Mrs Hepper: That is right.

1556. The Chairperson: He said that, given the projected growth figures, there could be as many as 15,000 jobs by 2015. Do you agree?

1557. Mrs Hepper: The figures that he quoted come from a piece of work done on a UK-basis a couple of years ago by the Department of Business, Innovation and Skills. It stated that around 3,000 to 4,000 was the baseline for jobs in Northern Ireland, building to around 15,000 or 16,000 by around 2015 or 2016. Invest NI thought that was a credible range.

1558. The Chairperson: So, none of that is far-fetched?

1559. Mr Thomson: No; it is not far-fetched. I would not like to say that it is a DETI projection; I am not sure that I would go as far as that. However, there is certainly potential.

1560. The Chairperson: Thank you very much. Once again, I am sorry for bringing you back.

1561. Mrs Hepper: It was a pleasure.