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Aidan Stennett

Renewable Energy – Governance structures

1 Introduction

The following paper is intended to compliment Northern Ireland Assembly Research paper 301 – ‘Renewable generation data and policy within selected EU countries’ – by examining the national and sub-national governance structures of Denmark, Finland and Germany, and their relationship to renewable energy.

Key findings of the paper:

- Two of the three regions, Denmark and Finland, operate a unitary system of government. Germany operates a federal system.
- In all three regions there is a high level of decentralisation, with sub-national governments exhibiting a considerable amount of autonomy and contributing significantly to overall expenditure.
- Denmark – has a dedicated central government ministry with responsibility for energy and climate matters. The ministry has a number of agencies attached to it that have a remit for energy issues. Of particular significance is the Danish Energy Agency. The agency’s work includes: energy resources; energy supply; energy efficiency and international cooperation; and climate and energy economics. At a

local level, energy policy is implemented by sub-divisions within the five regional governments.

- Finland – at central level energy policy is the remit of a sub-division of the Ministry of Employment and Economic Affairs. A number of agencies are associated with the ministry, including the Energy Market Authority. At local level energy policy is implemented by municipal governments, of which there are 415. The Association of Finnish Local and Regional Authorities' action programme for sustainability sets out the key principles which inform sustainable development strategies at municipal level.
- Germany – at central level, the lead authority for sustainability is the Federal Chancellery. Energy policy is situated within this broad category. Actual energy policy matters are split across a number of ministries, with three in particular having greater responsibility for its delivery – the Ministry of Economics and Technology, the Ministry of the Environment, Nature Conservation and Nuclear Safety, and the Ministry for Transport, Building and Urban Affairs. There is a strong degree of horizontal integration on energy matters, with all relevant ministers reporting to and sitting on the State Secretaries' Committee on Sustainable Development.
- In practice legislation is generally made at federal level, with the Länder (state-government) responsible for its implementation. However, in the case of climate policy in general (including energy) they have few implementation responsibilities. The Länder can introduce their own measures (so long as they do not clash with federal measures). The Länder also have power of veto through the *Bundesrat*, the second chamber of the German parliament.

2 Denmark

Government Structure

Denmark is a constitutional monarchy that operates a unitary system of government within which power is held centrally. Despite the formally centralised structure, local government plays a significant role. As noted in the OECD's latest Country Note (2009):

*Central government collects over 70% of [Denmark's] revenues but represents about 33% of all expenditures, suggesting that most goods and service are provided by local governments. Much of the taxes collected at the central level are transferred to local governments, which still have relatively large powers to raise their own powers via taxes. Local governments represent a much larger share of expenditures in Denmark than average in the OECD, indicating that **Denmark is a very decentralised country**. (Emphasis added).¹*

¹ OECD *Government at a glance 2009 – Country Note: Denmark* (2009) <http://www.oecd.org/dataoecd/5/50/44124973.pdf>

Danish executive power is exercised by a cabinet, responsible to the *Folketing*, the region's national parliament. The executive branch of government is comprised of the Prime Minister's Office and 20 other ministries, with energy matters falling under the Ministry of Climate and Energy.² The Ministry of Climate and Energy also shares a Minister with the Ministry of Gender Equality.

In 2007, the 14 Counties that made up Danish local government were reorganised into five regions. These regions are further subdivided into 98 municipalities (270 under pre-2007 organisation). The principle remit of local government is the delivery of hospital and health services.³

In addition to the above, Copenhagen is governed by a city council.

Renewable energy governance at central government level

The Ministry of Climate Change and Energy stated 'vision' is to 'establish a society with a stable and efficient energy supply, capable of dealing with the effects of climate change'. The following areas of responsibility fall within its remit:

- energy supply and efficiency;
- mitigation of and, adaptation to climate change;
- research and development; and
- public outreach and services – including advice to citizens, enterprises and public institutions.

Figure 1 (below) outlines the organisational structure of the Ministry (note: the Minister for Climate Change and Energy is also the Minister for Gender Equality, hence the latter's inclusion in the figure). It is evident that, in carrying out its functions, the Ministry has both a domestic and international outlook.

Figure 2 (below) outlines the institutions the Ministry oversees. Looking at each institution in turn:

- **Danish Energy Agency** – established in 1976, the Agency has responsibility for the production, supply and consumption of energy (including oil, gas, conventional electricity and heat, and renewable electricity and heat). The organisation also has a specific remit to ensure the 'responsible development of energy in Denmark from the perspectives of society, the environment and security of supply'. Specific areas of work within the Agency include:
 - **Energy resource** – a subsection of the Agency comprising of an underground unit and offshore unit. The subsection specifically deals with: supervision of the exploration and extraction of underground energy resources; drafting regulations and guideline for underground works; approval of work programmes; supervision of

² Statsministeriet *The Ministries* http://www.stm.dk/a_2820.html (accessed 23/11/10)

³ Banks, A.S, *et al* – *Political Handbook of the World 2010* Washington DC: Congressional Quarterly, 2010

production; safety and working conditions; advice to the Ministry and associated bodies; national and international cooperation; and general legal functions.

- **Energy Supply** – a subsection of the agency which aims to ‘*develop a socioeconomically and environmentally optimal energy sector for the benefit of consumers*’. The subsection specific roles include: the development and administration of legislation; issuing permits for the construction of high-voltage plants, wind farms etc.; issuing licenses for grid-distribution and electricity production; planning; administration of CO₂ quotas; collecting data and statistics; and participation related international forums.
- **Energy Efficiency and International Cooperation** – an agency subsection with a role that includes: international energy policy work; energy-savings policies in Denmark and the EU; energy labelling of buildings and inspections regulations for boilers and ventilation units; energy-efficient products (Eco design) and energy labelling of energy-consuming products; energy savings in the public sector and energy companies’ savings efforts; administration of the CO₂ quota law for businesses; administration of energy efficiency agreements with businesses; and CO₂ reduction and energy efficiency in the transport sector, including bio fuels.
- **Climate and Energy Economics** – Agency subdivision with responsibility for: general climate and energy policy; energy planning; implementation of national climate targets; economic, energy studies and climatological analyses; EU climate and energy package; climate research; Arctic and Greenland climate cooperation; Secretariat of the Energy Technology Development and Demonstration Programme; coordination with other subsidy schemes for the development of energy technology; and international collaboration on energy technology.
- **Danish Energy Saving Trust** – the Trust has a remit to ‘ensure viable and effective energy savings based on campaigns, and by influencing the market to introduce new energy efficient products and services’. It works with business, domestic and public sector customers and operates under an independent board of directors. Funding is provided through an ‘energy savings charge’ which is paid by domestic and public sector customers (at a rate of DKK 0.006/kWh).⁴
- **The Energy Board of Appeal** – The board hears appeals in cases relating to heating, electricity supply and electricity generation subsidies, among other issues.
- **Energinet.dk** - an independent, state-owned company that owns Denmark’s electrical and natural gas grid. Energinet.dk is responsible for the control and maintenance of the region’s transmission and distribution grids.
- **Danish North Sea Fund** – a state-owned oil and gas company responsible for sourcing oil and gas in Denmark’s subsoil.
- **Danish Meteorological Institute** – provides meteorological data responsible monitoring weather, climate and related environmental conditions in the atmosphere and seas surrounding Danish territory.

⁴ The Energy Saving Trust, *About the Danish Energy Saving Trust* <http://www.savingtrust.dk/about-us/about-the-trust> (accessed 24/11/10)

- **Geological Survey of Denmark and Greenland** – an independent Danish research and consultancy agency operating in the areas of environmental geology, water resources, energy and mineral resources.

Figure 1: Ministry for Climate Change and Energy - Organisation chart

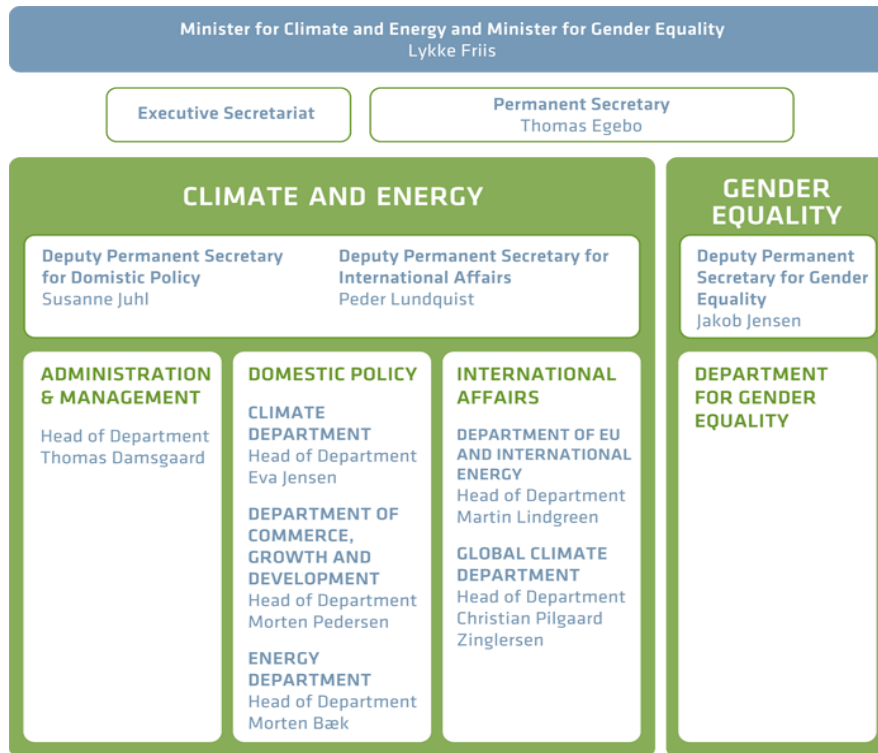
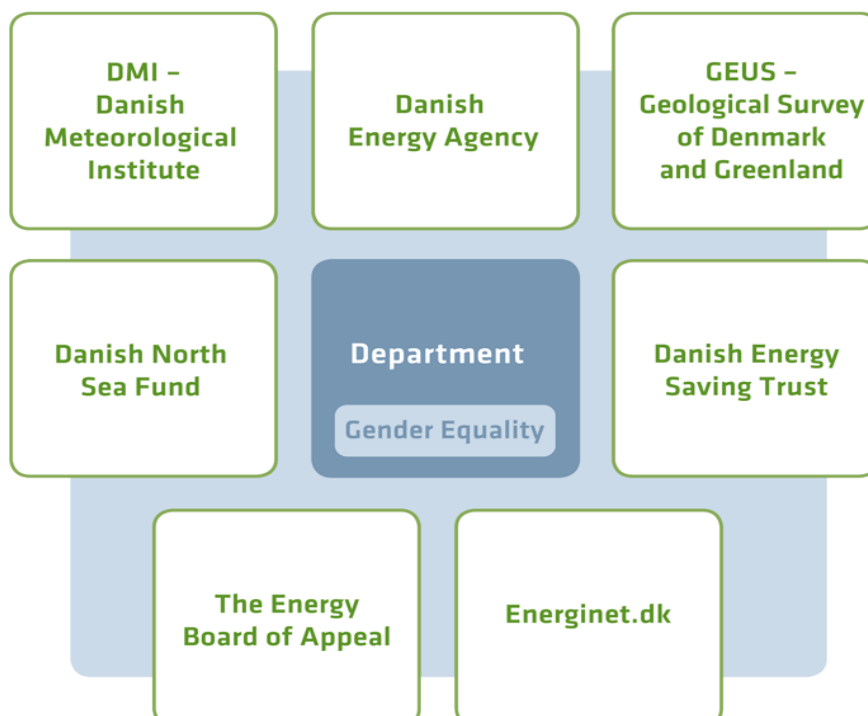


Figure 3: The institutions of the Ministry of Climate and Energy



Renewable energy governance at local government level

Details of renewable energy development at Denmark's regional government level are as follows:

- **Region Hovedstaden (Capital Region of Denmark Hillerød)** –energy falls under the remit of the region's Regional Development division. The latest regional development plan contains aims which seek to secure growth in renewable energy use in the production and consumption of both heat and electricity as well as in the transport sector. Key drivers of renewable development at regional level include reducing air pollution and business growth through the technological development and export of renewable technology.⁵
- **Region Midtjylland (Central Denmark Region)** – renewable energy penetration in the Central Region is currently at 22%, as such, the region is on course to meet national 2020 targets. The Central Denmark Development Forum division of the regional council is responsible for renewable energy matters. Current targets going forward are:
 - the maintenance and enlargement of the commercial and technological position of strength;
 - increased production and improved utilization of renewable energy (50% renewable energy of total consumption) and
 - reduction of the environmental impact.⁶
- **Region Nordjylland (North Denmark Region)** – in the North Denmark region, renewable matters again fall under the remit of the regional council's development division. The current development strategy (2007-2010) states:

North Denmark Region wants to be at the forefront in renewable energy and in preparing for climate changes and by this means achieve the national targets of 30% of energy requirements being met by renewable energy sources and a 30% reduction in CO2 emissions as soon as possible. In the near future, renewable energy and CO2 reduction will be highly significant competition parameters. The region will support collaboration in this field with participation of local authorities, research environments, businesses and other interest organisations.⁷

- **Region Sjælland (Region Zealand)** – the Regional Council of Zealand, in conjunction with the Local Government Regional Council for Zealand, have

⁵ Region Hovedstaden, *Regional Development Plan* (2008) http://www.regionh.dk/NR/rdonlyres/D07BBC02-EE45-4FDC-AEF7-0BFCA1ECA99C/0/080904_RUP_UK_net.pdf (accessed 29/11/10)

⁶ Region Midtjylland, *The Leading Energy and Environment Region* (2009) <http://www.rm.dk/regional+udvikling/v%c3%a6kstforum/indsatsomr%c3%a5der/energi+og+mili%c3%b8/english+version> (accessed 29/11/10)

⁷ Region Nordjylland *Regional Development Plan* (2007) http://www.rn.dk/NR/rdonlyres/46389D16-8094-4195-8C4E-1FB826318AA4/0/NorthDenmarkRegion_RegionalDevelopmentPlan2007.pdf (accessed 29/11/2010)

developed a regional climate strategy. The documents key energy objectives include:

- the *gradual* conversion of the regions energy system to renewables (specifically wind, biomass and combined heat and power);
 - the promotion of energy efficiency;
 - the *gradual* introduction of alternative fuels to promote energy efficient transport;
 - the development of agriculture from a net importer to net exporter of energy; and
 - the promotion of renewable energy in industry production.⁸
- **Region Syddanmark (Region of Southern Denmark)** – the Danish southern region regional development division’s current energy work is informed by its Sustainable Development Strategy. The strategy’s key actions include commitments to:
- ensure that the sustainability of all new construction projects is assessed with regard to operation, the environment, energy and physical location;
 - ensure purchases of electricity are from renewable resources;
 - carryout “Save energy” (working title) activities will be carried out, including information and communication campaigns intended for all employees of the Region of Southern Denmark as the primary target group.⁹

3 Finland

Government Structure

Finland is a republican parliamentary democracy that operates under a unitary system of Government.

Local government’s role is also significant, as noted in the most recent OECD report:

Central government collects roughly of total revenues but accounts of less than one third of expenditures, indicating that local governments play a large role in public service delivery. A large portion of the taxes collected by the central government are transferred to local governments and social security funds.¹⁰

The Finnish constitution places executive power in the President and the Government. The Government is comprised of the Prime Minister and no more than 18 other Ministries, and is scrutinised by a 200 member parliament.

⁸ Region Sjælland (Region Zealand), *Regional Climate Strategy* <http://www.regionsjaelland.dk/Sider/climateregion.aspx> (accessed 29/11/10)

⁹ Region Syddanmark *Sustainable Development Strategy* (2008) <http://www.regionsyddanmark.dk/wm235866> (accessed 29/11/10)

¹⁰ OECD *Government at a glance 2009 – Country Note: Finland* (2009) <http://www.oecd.org/dataoecd/35/39/43925746.pdf>

Currently, Finland's central government consists of the Prime Minister's Office and 11 other Ministries. Energy matters fall under the Ministry of Employment and the Economy. The Ministry's specific remit on such matters is '*energy policy and integration of the national preparation and implementation of climate policy*'.¹¹

Local government in Finland consist of 12 provinces, subdivided into municipalities (415 in total). The provincial level of government is an intermediate stage between local and national government and contains no elected offices. Compared to other countries, the provincial government is less extensive as many of the tasks typical of provincial government elsewhere are carried out at municipal level in Finland.¹² Municipal government in Finland exhibits the following features:

- A municipal council is elected by residents;
- The council has the general decision-making authority in local affairs;
- Local authorities have the power to levy taxes;
- Local government is separate from central government, and the municipal bodies are partly independent of the state;
- Municipal administration is based on the Local Government Act, which governs how municipalities may organise their administration.¹³

Renewable energy at central government level

Figure 3 illustrates the Ministry of Employment and Economic Affairs' organisational structure and outlines the various agencies that fall within its remit. 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.¹⁴

Of the agencies listed in the figure, the following have responsibility for energy:

- **The Energy Market Authority** – an agency which supervises and promotes the functions of electricity and gas markets in Finland. Specific tasks include: supervision of the pricing of transmission, distribution and other network services; promotion of the efficient competition in the electricity and in the natural gas trade; issuing network licences to organisations and utilities engaged in network operations; providing building permits for constructing power lines of 110 kV and

¹¹ Ministry of Employment and Economy Finland, *Energy* <http://www.tem.fi/index.phtml?l=en&s=2070> (access 25/11/10)

¹² US Library of Congress, *Finland – Provincial Government* <http://countrystudies.us/finland/119.htm> (accessed 25/11/10)

¹³ Local Finland, *Local self-government* http://www.kunnat.net/k_perussivu.asp?path=1;161;279;280;37558 (accessed 25/11/10)

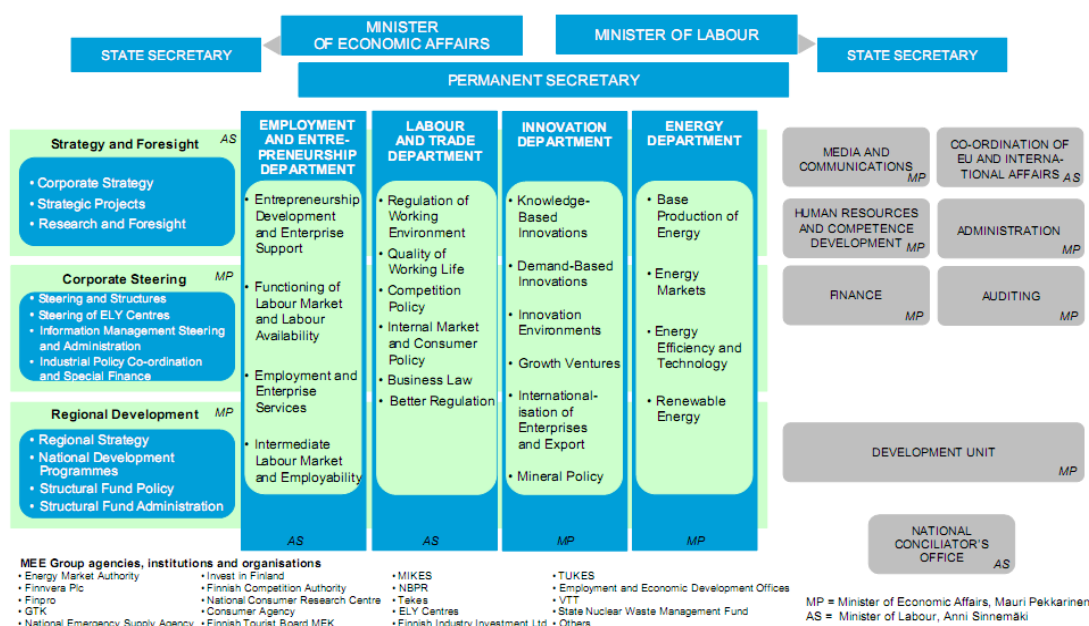
¹⁴ Ministry of Employment and Economy Finland, *Energy* <http://www.tem.fi/index.phtml?l=en&s=2070> (access 25/11/10)

higher voltage; supervision of the monitoring and reporting of emissions data; and maintenance the Emissions Trading Registry of Finland.¹⁵

- **Geological Survey of Finland (GTK)** – an agency responsible for production and dissemination geological information, with a specific focus on energy.¹⁶
- **MIKES – Finnish metrological institute; which works to** ensure that the measurements, tests and inspections carried out in Finland are reliable and internationally comparable; acts as the national accreditation service (FINAS) for laboratories, inspection and certification bodies; ins and develops the national measurement standards; and provides metrological services.¹⁷
- **TEKES (the Finnish Funding Agency for Technology and Innovation)** – provides funding for research and innovation, with a focus on renewable energy.¹⁸
- **VTT – Technical Research Centre of Finland**, conducts research into renewable energy, bioenergy, wind, fuel cells, and energy efficiency (as well as traditional and nuclear energy, as well as non-energy related areas other areas). The Centre provides support to government.¹⁹

The Ministry for the Environment has also a role to play in energy matters, specifically, providing a *‘viable, energy-efficient built environment that serves as a foundation for improving human wellbeing’*.²⁰

Figure 3: Organisation of the Finnish Ministry of Employment and Economic Affairs



¹⁵ The Energy Market Authority <http://www.energiamarkkinavirasto.fi/select.asp?qid=102> (accessed 25/11/10)

¹⁶ Geological Survey of Finland <http://en.gtk.fi/> (accessed 25/11/10)

¹⁷ MIKES Finland <http://www.mikes.fi/> (accessed 25/11/10)

¹⁸ TEKES <http://www.tekes.fi/en/community/Home/351/Home/473/> (25/11/10)

¹⁹ VTT <http://www.vtt.fi/?lang=en> (accessed 25/11/10)

²⁰ The Ministry for the Environment <http://www.ymparisto.fi/default.asp?node=21051&lan=en>

Renewable energy at municipal level

Amongst other areas 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. The action programme set out the key principles which should inform sustainable development strategies at municipal level.²¹ These were:

- Sustainable development (SD) should play a greater role in municipal strategies. It helps set targets and creates opportunities for sustainable ways of life and sustainable production.
- The aims of SD should be integrated into municipal planning systems so that the good principles and intentions can be translated into concrete actions.
- Support is needed to help local people engage in work for SD. A new culture of co-operation and participation needs support through information and encouragement.
- Co-operation between different spheres of government should be improved and the effects on the local prerequisites for SD should be taken into account.²²

The Association issued further guidelines on climate change policy to member authorities in 2008. This document called upon local authorities to:

- prepare a local or a regional climate strategy and incorporate it into local strategy work;
- prepare for and to tackle climate change in land use planning, construction, maintenance of urban infrastructure and local government procurement, and adapt to the changing circumstances caused by climate change;
- explore renewable energy potential and select the technically and economically most viable options from the broad range of renewable energy sources;
- apply energy efficiency measures and save energy.
- integrate existing regional and urban structures when locating local government functions and developing transport systems, and to promote the use of public transport, cycling and walking; and
- consider climate issues from a regional viewpoint when organising land use, transport, energy supply, waste management and services.²³

²¹ European Industrial Relations Observatory, *Finland – Greening the European economy: responses and initiatives by Member States and social partners* <http://www.eurofound.europa.eu/eiro/studies/tn0908019s/fi0908019g.htm> (accessed 29/11/10)

²² *Ibid*

²³ The Association of Finnish Local and Regional Authorities, *How Finnish local authorities can slow down and adapt to climate change – Policy guidelines by the Association of Finnish Local and Regional Authorities* (2008) http://www.kunnat.net/k_perussivu.asp?path=1;161;279;280;37564 (accessed 29/11/10)

4 Germany

Government Structure

The German state has a federal structure. Under the ‘*Basic law*’ areas of authority are shared between the country’s 16 component states (the *Länder*) and the federal government (the *Bundesregierung*).²⁴ On government revenue collection and spending the OECD have commented:

*The federal government plays a small overall role in raising revenues and expenditures compared to the average OECD country. Not including social security funds, the bulk of spending on programmes and policies occurs in the Länder and municipalities. In addition, the sub-federal levels of government have much greater power to tax than other OECD countries, suggesting higher levels of decentralisation*²⁵.

The federal government consists of the Federal Chancellors office and fourteen other ministries, responsible to the chambers of parliament (the *Bundestag* and the *Bundesrat*). Responsibility for energy issues at central level falls across a number of Ministries (see below).

The Bundesrat, the second chamber of the German parliament, is not directly elected – its 69 members are delegates from the Länder. In this sense the Länder governments directly influence Federal policy.

Renewable energy at central government level

At central government level the lead Ministry for sustainable development is the Federal Chancellery. The country’s key priorities under the broad sustainable development policy category are:

- Energy/climate
- Environmentally-friendly mobility;
- Healthy production and nutrition;
- Shaping demographic change;
- Innovation;
- Reducing land use, conserving open spaces; and
- Accepting global responsibility.²⁶

²⁴ Banks, A.S., *et al* – *Political Handbook of the World 2010* Washington DC: Congressional Quarterly, 2010

²⁵ OECD *Government at a glance 2009 – Country Note: Germany* (2009)

²⁶ The Federal Government, *Sustainability – priority fields of action*

http://www.bundesregierung.de/nn_208962/Content/EN/StatischeSeiten/Schwerpunkte/Nachhaltigkeit/nachhaltigkeit-2007-04-13-prioritaere-handlungsfelder.html

Specific responsibility German energy policy is spread across a number of ministries dependent upon the specific initiative involved. This is exemplified by Table 1 (below), which outlines initiatives introduced by the Integrated Energy and Climate Programme (2007) alongside the ministries tasked with taking them forward. Taking the “Energy research and innovation” as an example, responsibility for implementing this initiative is divided amongst five ministries as follows:

- Ministry of Economics and Technology – responsible for overall approach;
- Ministry for the Environment, Nature Conservation and Nuclear Safety – responsible for renewable energy and climate protection aspects;
- Ministry of Education and Research – responsible for the high-tech strategy;
- Ministry of Transport, Building and Urban Affairs – responsible for sub programmes; and
- Ministry of Food, Agriculture and Consumer Protection – responsible for sub programmes.²⁷

Key to this arrangement is the concept of ‘*horizontal integration*’, which refers to cross-sectoral or cross-ministerial mechanisms that enable the integration of policy.²⁸ Within the area of energy this achieved through the State Secretaries’ Committee on Sustainable Development, which specifically mandated to deal with sustainability policy (as defined by the key priorities outlined above). Relevant ministries sit on and report to the Committee (see Figure 4 at the end of this document for further details).²⁹

Of the ministries with responsibility for the delivery of the Integrated Energy and Climate Strategy (as listed in Table 1), three, in particular, are involved in the majority of initiatives – the Ministry of Economics and Technology (responsible for 17 out of 32 initiatives), the Ministry of the Environment, Nature Conservation and Nuclear Safety (responsible for 19 out of 32 initiatives), and the Ministry for Transport, Building and Urban Affairs (responsible for 17 out of 32 initiatives). It is worthwhile examining each of these ministries in more detail.

The Federal Ministry of Economics and Technology

The German Ministry of Economics and Technology is internally split into seven sub-divisions, or directorates, of which energy is one. The directorate plays a central role in energy policy development, based upon the themes of ‘*economic efficiency, security of supply and environmental compatibility*’.³⁰ Key policy areas include:

²⁷ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, *Integrated Energy and Climate Programme* (2007) http://www.bmu.de/files/pdfs/allgemein/application/pdf/klimapaket_aug2007_en.pdf (accessed 30/11/10)

²⁸ Beck, S, et al. Climate policy integration, coherence and governance in Germany http://ccsl.iccip.net/peer2_germancase9792.pdf (accessed 29/11/10)

²⁹ European Sustainable Development Network, *Country profile – Germany* <http://www.sd-network.eu/?k=country%20profiles&s=single%20country%20profile&country=Germany>

³⁰ Federal Ministry of Economics and Technology, *Energy Policy* <http://www.bmwi.de/English/Navigation/energy-policy.html> (accessed 29/11/10)

- liberalisation of electricity and gas markets and the fostering of competition;
- ensuring a diverse mix of energy sources and energy suppliers;
- increasing energy savings and energy efficiency;
- promoting the rational use of energy and increasing the share of renewable energies in overall energy supply.

Consideration of energy issues, particularly the development of renewable resources, also informs the remit of the ministry's directorate of industrial policy. The directorate has, amongst other tasks, responsibility for environment and resources, emissions control, energy taxation and environmental innovation.³¹

The Ministry of Economics and Technology with the Ministry of Transport, Building and Urban Affairs cooperates on the Federal Government Joint Unit for Electricity Mobility

With regard to external agencies associated with the ministry:

- the **German energy agency** focuses on the development of sustainable energy systems through the development of energy efficiency and renewable energy markets. The agency works with stakeholders in government, business and the wider population and develops consumption and demand side initiatives;³²
- the **Federal Network Agency** is responsible with the further liberalisation of gas and electricity markets;³³
- the **Federal Office of Economics and Export Control** issues grants to renewable and energy efficiency projects;³⁴
- the **National Metrology Unit** measure climate, approves design measurement devices and researches measurement technology; and
- the **Federal Institute for Geosciences and Natural Resources** secures supplies of minerals and energy fuels, and conducts research relating to raw materials, geo-environmental issues and geo-risk.³⁵

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Climate Protection, Environment and Energy, Renewable Energies, International Cooperation is one of six internal directorates within the Ministry for the Environment, Nature Conservation and Nuclear Safety.³⁶ The directorate has responsibility for:

- Climate protection through the promotion of climate protection measures for increased energy efficiency and greater use of renewable energies; maintenance or

³¹ *Ibid*

³² The German Energy Agency <http://www.dena.de/en/infos/about-dena/> (accessed 29/11/10)

³³ The Federal Network Agency http://www.bundesnetzagentur.de/EN/Home/home_node.html (accessed 23/11/10)

³⁴ The Federal Office of Economics and Export Control <http://www.bafa.de/bafa/en/index.html> (accessed 29/11/10)

³⁵ The Federal Ministry of Economics and Technology, *Agencies*, <http://www.bmwi.de/English/Navigation/Ministry/agencies.did=161280.html> (accessed 29/11/10)

³⁶ The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, *Organisational Chart - Minister and State Secretaries* http://www.bmu.de/english/the_ministry/tasks_organisation_financing/organisational_chart/doc/35037.php (accessed 30/11/10)

improvement of the adaptability of natural, social and economic systems; conservation of biodiversity; and consumer information.³⁷

- Emissions trading;
- The '*Climate Initiative*' which aids consumers, industry local authorities and schools to maximise their current potential for CO₂ reductions;
- Delivering renewable heat and electricity; and
- Energy Efficiency.³⁸

With regard to external agencies the ministry oversees the work of the

- **The Federal Environmental Agency**, which works in the fields of climate protection, air quality control, noise abatement, waste management, water resources management, soil conservation, environmental chemicals and health-related environmental issues;³⁹
- **The Federal Agency for Nature Conservation**, which is the central scientific authority at federal level for national and international nature conservation and landscape management;⁴⁰ and
- **The Federal Office for Radiation Protection**, which is responsible for the safety and protection of humans and the environment from ionising and non-ionising radiation.⁴¹

The Federal Ministry of Transport, Building and Urban Affairs

The Federal Ministry of Transport, Building and Urban Affairs energy responsibilities fall under the internal subdivision '*Environmental Policy and Infrastructure*'. Notably, energy is one of a number of further subdivisions of this directorate. The Ministry is responsible for energy matters that impact transport policy, building and housing policy, and integrated transport policy, including:

- Energy efficiency in housing;
- Electric mobility;
- Alternative fuels and 'power trains';
- Sustainable development; and

³⁷ The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, *General Information - Climate Protection* http://www.bmu.de/english/climate/general_information/doc/4311.php (accessed 30/11/10)

³⁸ The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, *Climate and Energy* http://www.bmu.de/english/climate_energy/doc/41327.php (accessed 30/11/10)

³⁹ The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, *The Federal Environmental Agency* http://www.bmu.de/english/the_ministry/subordinate_authorities/federal_environmental_agency/doc/3097.php

⁴⁰ The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, *The Federal for Nature Conservation* http://www.bmu.de/english/the_ministry/subordinate_authorities/federal_agency_for_nature_conservation/doc/3099.php (accessed 30/11/10)

⁴¹ The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, *The Federal for Radiation Protection* http://www.bmu.de/english/the_ministry/subordinate_authorities/federal_office_for_radiation_protection/doc/3102.php (accessed 30/11/10)

- Aviation and shipping emissions.⁴²

The Ministry of Transport, Building and Urban Affairs cooperates with the Ministry of Economics and Technology on the Federal Government Joint Unit for Electricity Mobility.

Table 1: Integrated Energy and Climate Programme – Ministerial Responsibility

Initiative	Ministerial Responsibility
Combined heat-and-power generation	Ministry of Economics and Technology
Expansion of renewable energies in the power sector	Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Transport, Building and Urban Affairs Ministry of Economics and Technology
CCS technologies	Ministry of Economics and Technology Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Transport, Building and Urban Affairs Ministry of Education and Research
Smart metering	Ministry of Economics and Technology
Clean power-station technologies	Ministry for the Environment, Nature Conservation and Nuclear Safety
Introduction of modern energy management systems	Ministry of Finance
Support programmes for climate protection and energy efficiency (apart from buildings)	Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Economics and Technology Ministry of Transport, Building and Urban Affairs Ministry of Food, Agriculture and Consumer Protection
Energy-efficient products	Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Economics and Technology
Provisions on the feed-in of biogas to natural gas grids	Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Economics and Technology
Energy Saving Ordinance	Ministry of Transport, Building and Urban Affairs Ministry of Economics and Technology Ministry for the Environment, Nature Conservation and Nuclear Safety
Operating costs of rental accommodation	Ministry of Transport, Building and Urban Affairs Ministry of Economics and Technology Ministry for the Environment, Nature Conservation and Nuclear Safety
Modernisation programme to reduce CO2 emissions from buildings	Ministry of Transport, Building and Urban Affairs Ministry of Finance Ministry of Education and Research Ministry of Economics and Technology Ministry for the Environment, Nature Conservation and Nuclear Safety

⁴² The Federal Ministry of Transport, Building and Urban Affairs *Overview* http://www.bmvbs.de/EN/Home/home_node.html (accessed 30/11/10)

Table 1: Integrated Energy and Climate Programme – Ministerial Responsibility (cont.)

Initiative	Ministerial Responsibility
Energy-efficient modernisation of social infrastructure	Ministry of Transport, Building and Urban Affairs
Renewable Energies Heat Act	Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Transport, Building and Urban Affairs Ministry of Economics and Technology
Programme for the energy-efficient modernisation of federal buildings	Ministry of Transport, Building and Urban Affairs Ministry for the Environment, Nature Conservation and Nuclear Safety
CO2 strategy for passenger cars	Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Transport, Building and Urban Affairs Ministry of Finance
Expansion of the biofuels market	Ministry of Finance Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Education and Research
Reform of vehicle tax on CO2 basis	Ministry of Finance
Energy labelling of passenger cars	Ministry of Economics and Technology
Reinforcing the influence of the HGV toll	Ministry of Transport, Building and Urban Affairs
Aviation - emissions trading air traffic	Ministry for the Environment, Nature Conservation and Nuclear Safety
Aviation - Single European Sky	Ministry of Transport, Building and Urban Affairs
Aviation - emissions trading landing charges	Ministry of Transport, Building and Urban Affairs
Shipping - emission trading	Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Transport, Building and Urban Affairs
Shipping - limit values	Ministry of Transport, Building and Urban Affairs
Reduction of emissions of fluorinated greenhouse gases	Ministry for the Environment, Nature Conservation and Nuclear Safety
Procurement of energy-efficient products and services	Ministry of Economics and Technology
Energy research and innovation	Ministry of Economics and Technology Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Education and Research Ministry of Transport, Building and Urban Affairs Ministry of Food, Agriculture and Consumer Protection
Electric mobility	Ministry of Economics and Technology Ministry of Transport, Building and Urban Affairs Ministry of Education and Research Ministry for the Environment, Nature Conservation and Nuclear Safety
International projects on climate protection and energy efficiency	Ministry for the Environment, Nature Conservation and Nuclear Safety Ministry of Economics and Technology
Reporting on energy and climate policy by German embassies and consulates	Federal Foreign Office
Transatlantic climate and technology initiative	Federal Foreign Office Ministry of Economics and Technology

Renewable energy in the Länder

The constitution of Germany allocates certain legislative powers to the Länder – for example, education, culture, media and natural resources. The majority of legislative responsibilities are concurrent competencies, meaning the Länder can only legislate when the federal government has not already done so.

In practice legislation is generally made at federal level, with the Länder responsible for its implementation.⁴³ 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.⁴⁴

The Länder are represented at Federal level in the “*Bundesrat*”, the second chamber of the German parliament, which has a power of veto against federal government initiatives.⁴⁵

Significantly, the “Länder” act as research funding bodies – contributing €269m in funding (across all areas) during 2007.⁴⁶

In addition, policy making in Germany is characterised by consultation and consensus.⁴⁷ For example, the country’s sustainable development strategy, although devised by the federal government, involved input from the Länder during the formulation process. The Länder have also been involved in contributing to strategic progress reports. Figure 4 (below) provides an overview of this policy development process. The figure demonstrates the role of the Federal Committee of State Secretaries for Sustainable Development, as well as the input of the Länder and other stakeholders in the process.⁴⁸

Support for climate change policy in general and renewable energy policy in particular, differs from Länder to Länder. It is often the case that specific Länder supports policy that fit with their specific interests and capabilities. This is evident with renewable energy, those Länder with established renewable industries - Schleswig-Holstein (wind power), Lower Saxony (windpower and biogas), Bavaria (hydro power and photovoltaic), Brandenburg (biomass), and North Rhine-Westphalia (waste and landfill

⁴³ Happarets, S. *Comparing subnational governance systems for sustainable development: degrees of autonomy and challenges to vertical policy integration*, Institute for International and European Policy, Katholieke Universiteit Leuven (2009)

⁴⁴ Weidner H, *German Climate Change Policy: A Success Story With Some Flaws* (2008) *The Journal of Environment Development* 17: 356

⁴⁵ *Ibid*

⁴⁶ Research in Germany, the Länder <http://www.research-in-germany.de/research-landscape/rpo/41822/l-nder-institutions.html> (accessed 29/11/10)

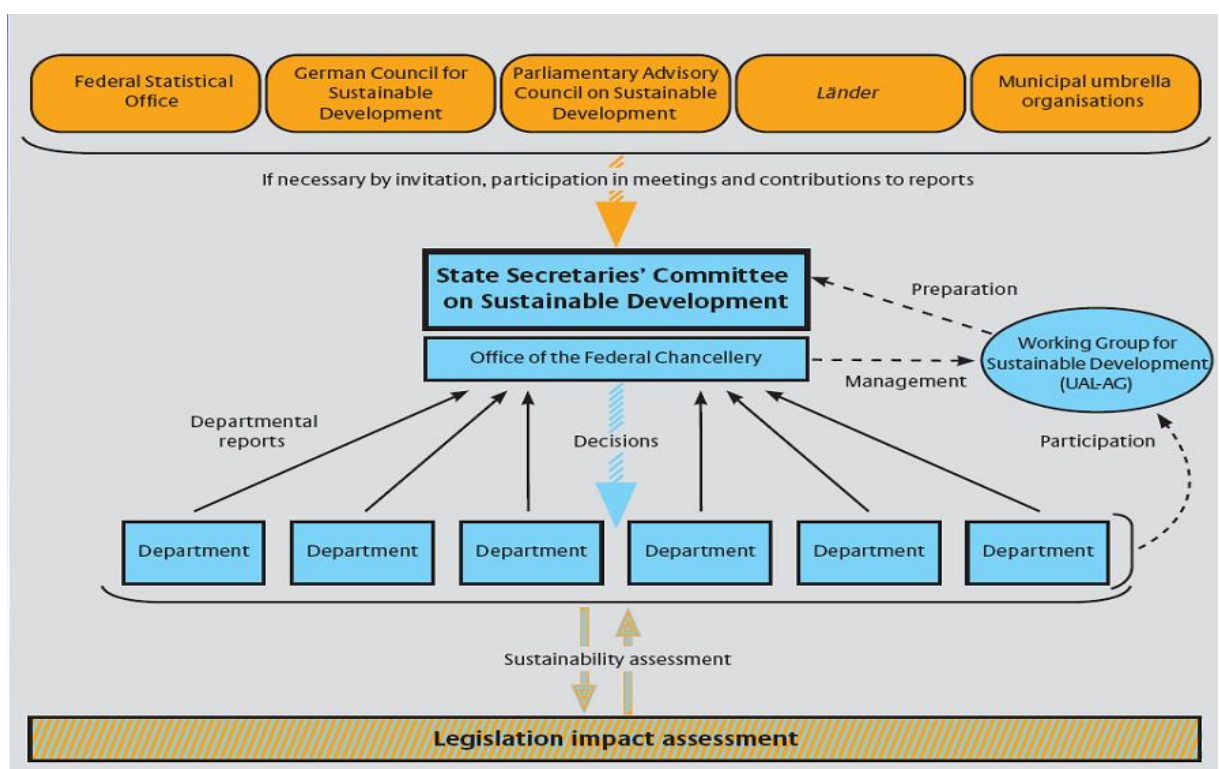
⁴⁷ Beck, S, et al. Climate policy integration, coherence and governance in Germany http://ccsl.iccip.net/peer2_germancase9792.pdf (accessed 29/11/10)

⁴⁸ Budenskanzlermt, Germany: *State Secretaries’ Committee for Sustainable Development – “New Drive for Sustainable Development Strategies – The Power of Smart Linkages”* (2009) http://www.sd-network.eu/pdf/doc_workshops/2009%20brussels/Bauernfeind.pdf

gas) – have been stronger in demanding regulations for renewables (particularly for subsidies).⁴⁹

At Länder level, all state governments have their own Ministry or subdivision of a ministry responsible for energy issues. State-wide energy or environment agencies are also common. For example, a sub-division of the Brandenburg Ministry of Environment, Health and Consumer Protection has responsibility for energy⁵⁰, with the arms-length body, the Brandenburg Economic Development Board, also working on energy issues.⁵¹ Similarly, the state of Baden-Württemberg's Ministry of the Environment, Nature Conservation and Transport and its associated body, the Climate Protection and Energy Agency, has responsibility for energy matters.⁵²

Figure 4: Governance of Sustainability Germany⁵³



⁴⁹ Weidner H, *German Climate Change Policy : A Success Story With Some Flaws* (2008) *The Journal of Environment Development* 17: 356

⁵⁰ Brandenburg Ministry of Environment, Health and Consumer Protection, *Organisation Chart* http://www.mugv.brandenburg.de/cms/media.php/lbm1.a.2315.de/mugv_en.pdf (accessed 30/11/10)

⁵¹ Brandenburg Economic Development Board <http://www.zab-brandenburg.de/en/28.aspx> (accessed 30/11/10)

⁵² Baden-Württemberg's Ministry of the Environment, Nature Conservation and Transport http://www.uvm.baden-wuerttemberg.de/servlet/is/1539/Flyer_Ministry_of_the_Environment_BW.pdf?command=downloadContent&filename=Flyer_Ministry_of_the_Environment_BW.pdf (accessed 30/11/10)

⁵³ Budenskanzlermt, *Germany: State Secretaries' Committee for Sustainable Development – "New Drive for Sustainable Development Strategies – The Power of Smart Linkages"* (2009) http://www.sd-network.eu/pdf/doc_workshops/2009%20brussels/Bauernfeind.pdf