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Climate Change Legislation and Targets

The following paper in response to a request from the Environment Committee and gives an overview of legislation containing climate change targets in other jurisdictions throughout the UK, Europe and further afield. It gives a brief account of current commitments throughout the UK and Republic of Ireland and considers in more detail the legislative targets in other countries.

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Introduction

The following paper gives an overview of legislation containing climate change targets in other jurisdictions. It gives a brief account of current commitments throughout the UK and Republic of Ireland and considers in more detail the legislative targets in other countries.

For the purpose of this paper, focus is orientated on countries with targets provided in primary legislation, however, there are a number of occasions where regulations and regional or state level legislation has been referred to for illustrative purposes. The paper does not in any way give a definitive list of countries; it considers some of those that provide examples of the use of climate change targets namely in the form of greenhouse gas emissions targets, both in the long-term and short-term, and at national/federal or regional/state level.

Current Commitments

According to the Northern Ireland Action Plan from the DOE, while Climate Change is a devolved issue, how it is addressed in Northern Ireland is influenced by EU and UK legislation and policy.[1]

From the EU

At the EU level the target is a reduction of 20% in greenhouse gas (GHG) emissions by 2020 on 1990 levels, although a commitment has been suggested for a 30% reduction target. Other directives include the EU Emissions Trading Scheme Directive 2003/87/EC aimed at emissions reductions and energy efficiency by issuing a EU wide cap and trade scheme that limits emissions from intensive industry.

From the UK

From the UK, the Climate Change Act (2008) extends to Northern Ireland with the consent of the Northern Ireland Executive and Assembly. It sets a long-term framework for the UK to reduce its GHG emissions. However, there are no specific emissions targets set for Northern Ireland under the 2008 UK Climate Change Act.

The Action Plan for NI states the while there is no specific target or carbon budget for Northern Ireland in the Climate Change Act 2008, it is implicit that Northern Ireland contributes to the UK effort.

At NI Level

All government Departments bear a collective responsibility in achieving the Northern Ireland Executive's Programme for Government target to continue to work towards a reduction in greenhouse gas emissions by at least 35% on 1990 levels by 2025; set out in a Public Sector Agreement. [2]

In 2011, the Executive approved the Northern Ireland Greenhouse Gas Emissions Reduction Action Plan which was delivered by the Cross Departmental Working Group (CDWG) which is under the auspices of the Department of Environment. The Action Plan highlights the steps currently being taken and recommends the areas where commitments need to be stepped up to 2025.[3]

[1] DOE, NI Action Plan http://www.doeni.gov.uk/northern_ireland_action_plan_on_greenhouse_gas_emissions_reductions.pdf
[2] PfG 2011-2015 http://www.northernireland.gov.uk/pfg (p.9)
[3] DOE, NI Action Plan http://www.doeni.gov.uk/northern_ireland_action_plan_on_greenhouse_gas_emissions_reductions.pdf

In a report by the Committee on Climate Change (CCC)[4], commissioned by the Environment Minister Mr Alex Attwood, it was advised that Northern Ireland could benefit from the development of legislative targets to help deliver emission reductions.[5] According to Cross Departmental Working Group's First Annual Report (2012), the Minister has proposed the development of policy proposals for a Bill, and that subject to Executive approval, the introduction of a Climate Change Bill could be expected in the 2013/14 Assembly session.[6]

Legislative Targets

UK

The Climate Change Act was passed in 2008 and made the UK the first country in the world to have a legally binding long-term framework for an emissions reduction path to tackle climate change under commitments to the Kyoto Protocol.

The Climate Change Act 2008

2050 Target:

Part 1 sets a target which commits the UK to reducing emissions by at least 80% in 2050 from 1990 levels. This target was based on advice from the Committee on Climate Change (CCC) report: *Building a Low-carbon Economy*[7]. The 80% target includes GHG emissions from the devolved administrations, which according to the CCC, currently accounts for around 20% of the UK's total emissions.

Carbon Budgets:

Part 1 of the Act requires the Government to set legally binding 'carbon budgets'. A carbon budget is a cap on the amount of greenhouse gases emitted in the UK over a five-year period.

[4] The Committee on Climate Change (CCC) is an independent statutory body established under the 2008 Climate Change Act to advise the UK Government on setting carbon budgets, and to report to Parliament on the progress made in reducing greenhouse gas emissions: http://www.theccc.org.uk/

[5] CCC (2011) *The Appropriateness of a Northern Ireland Climate Change Act – Northern Ireland Report* http://www.theccc.org.uk/publication/the-appropriateness-of-a-northern-ireland-climate-change-act-northern-ireland-report/

[6] CDWG First Annual Report (2012). Available at http://www.doeni.gov.uk/index/protect_the_environment/climate_change.htm (P.11)

[7] http://www.theccc.org.uk/publication/building-a-low-carbon-economy-the-uks-innovation-challenge/

Part 2 establishes the Committee on Climate Change to advise the Government on emissions targets including carbon budgets, and to report to Parliament on progress made in reducing greenhouse gas emissions.[8]

Each carbon budget is split into:

- the traded sector - which is based on the UK's share of the EU Emissions Trading System (EU ETS)[9] limit for the period and covers power and heavy industry; and
- the non-traded sector, which covers everything else such as road transport, agriculture and buildings

Specifically, the carbon budgets limit greenhouse gas emissions to:

- 3,018 million tonnes of carbon dioxide equivalent (MtCO2e) over the first carbon budget period (2008 to 2012)
- 2,782 MtCO2e over the second carbon budget period (2013 to 2017)
- 2,544 MtCO2e over the third carbon budget period (2018 to 2022)
- 1,950 MtCO2e over the fourth carbon budget period (2023 to 2027)[10]

Progress:

The latest projections from the Department of Energy and Climate Change suggest that the UK is on track to meet its first 3 climate change budgets; however there is an expected shortfall of 205 MtCO2e over the fourth carbon budget.[11]

Adaptation:

The Act also created a framework to develop the Uk's ability to adapt to climate change. Part 4 of the Act requires:

- A UK wide Climate Change Risk Assessment to take place every 5 years;
- A national Adaptation Plan which must be reviewed every 5 years to address the most pressing climate change risks to the UK;
- Critical organisations or 'bodies with functions of a public nature' and 'strategy undertakers' (e.g. water and energy utilities) to do the same by reporting on their actions to address the risks to their work.[12]

[8] The UK Climate Change Act 2008 http://www.legislation.gov.uk/ukpga/2008/27/contents

[9] For more information on EU ETS see https://www.gov.uk/government/policies/reducing-the-uk-s-greenhouse-gas-emissions-by-80-by-2050/supporting-pages/eu-emissions-trading-system-eu-ets

[10] https://www.gov.uk/government/policies/reducing-the-uk-s-greenhouse-gas-emissions-by-80-by-2050/supporting-pages/carbon-budgets

[11] DECC, Updated Energy and Emissions Targets (2012) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/65717/6660-updated-emissions-projections-october-2012.pdf

[12] ibid

The Act also introduced an Adaptation Sub-Committee (ASC) of the Committee on Climate Change. It provides advice on adaptation to national authorities (England, Wales, Scotland and Northern Ireland), assists and advises the preparation of the UK Climate Change Risk Assessment and the implementation of the Adaptation Programme for England and reserved matters.[13]

Scotland

The Climate Change Act 2008 extends to Scotland in the same way described for Northern Ireland. However, Scotland has passed its own legislation known as the Climate Change (Scotland) Act 2009.[14] The Scottish Act received Royal Ascent on the 4 August 2009 and is described by the Scottish Government as the most far-reaching environmental legislation considered by the Parliament during the first ten years of devolution.

The Climate Change (Scotland) Act 2009

The Act includes long term targets to reduce emissions relative to 1990 levels and also provides for the setting of annual emission targets:

Long-term targets

Part 1 creates the statutory framework for greenhouse gas emissions reductions in Scotland by setting targets which include:

- An interim reduction of 42% for 2020, and
- A 80% reduction for 2050.

The Scottish Ministers, by order, can vary the interim reduction based on advice from the advisory body (the UK Committee on Climate Change).

Annual targets

To help ensure the delivery of the targets, Part 1 also requires the Scottish Ministers to set annual targets in secondary legislation for emissions from 2010 -2022 set in 2010, 2023-2027 in 2011 and further batches set every five years thereafter.

[13] For more information see http://www.theccc.org.uk/tackling-climate-change/preparing-for-climate-change/how-the-uk-is-progressing/

[14] The Climate Change (Scotland) Act 2009 http://www.legislation.gov.uk/asp/2009/12/contents

The following table details the annual targets already set out in the Climate Change (Annual Targets) (Scotland) Order 2010 and the Climate Change (Annual Targets) (Scotland) Order 2011.

Scottish Annual Targets

2010 Order (2010-2022)		2011 Order (2023-2027)	
Year	**Target (tonnes of carbon dioxide equivalent[15])**	**Year**	**Target (tonnes of carbon dioxide equivalent)**
2010	53,652,000	2023	37,161,000
2011	53,404,000	2024	35,787,000
2012	53,226,000	2025	34,117,000
2013	47,976,000	2026	32,446,000
2014	46,958,000	2027	30,777,000
2015	45,928,000		
2016	44,933,000		
2017	43,946,000		
2018	42,966,000		
2019	41,976,000		
2020	40,717,000		
2021	39,495,000		
2022	38,310,000		

The Scottish Ministers can take advice on the targets they set. This advice is to be provided by the UK Committee on Climate Change, however **Part 2** allows the Scottish Ministers to establish a Scottish Committee on Climate Change or to designate an existing body to exercise advisory functions.

Part 3 places duties on the Scottish Ministers requiring that they report regularly to the Scottish Parliament on Scotland's emissions and on the progress being made towards meeting the emissions reduction targets set in the Act.

Part 4 places climate change duties on Scottish public bodies and contains powers to enable the Scottish Ministers, by order, to impose further duties on public bodies in relation to climate change.

Part 5 includes provisions on adaptation, forestry, energy and waste reduction. Part 6 deals with public engagement and carbon assessment.

[15] A "tonne of carbon dioxide equivalent" is defined in section 18(2) of the Climate Change (Scotland) Act 2009: A "tonne of carbon dioxide equivalent" means one metric tonne of carbon dioxide or an amount of any other greenhouse gas with an equivalent global warming potential (calculated consistently with international carbon reporting practice).

Issues

Part 3 of the Act requires Scottish Ministers to report to the Parliament on Scotland's emissions and progress towards meeting the targets. The Scottish Greenhouse Gas Emissions Annual Report (2010) reported that the annual 2010 target was exceeded by 1,061,907 tCO2e. It also informed that Scotland's emissions rose by 1.9% in 2010 on the previous year, however, the longer term trend shows a substantial emissions reduction of 24.3% since the 1990 baseline, illustrating that the Scottish Government is over half way to achieving its Climate Change Act target of 43% by 2020.

The report explained these differences by stating that annual fluctuations in emissions are to be expected (i.e. in 2010 due to extreme cold weather) and that longer term trends give a different picture showing that emissions are in fact reducing in Scotland.[16]

Data collection:

In order to report on annual emission figures, accurate data needs to be readily available. During committee consideration of the Climate Act it was pointed out to the Transport Infrastructure and Climate Change Committee that accurate emissions data can take 20 months to 12 months to obtain. Another point to consider is the gathering of data; with annual targets there needs to be mechanisms in place for the speedy and constant collection of data, this can require substantial resources.[17]

Annual targets versus multi-year emissions budgets

The Scottish approach differs from the approach in the UK Climate Change Act 2008 which introduced a system of carbon budgeting constraining the total amount iof emissions in a given time period. The carbon budget periods set out in the UK Act last five years, beginning with the period 2008-2012 and must be set three periods ahead.

During the Transport Infrastructure and Climate Change Committee's evidence sessions, the Royal Society of Edinburgh said in written evidence,

> *'There is much to be said for smoothing the assessment of emissions trends by making running mean estimates of emissions rather than using the last year's data as the gauge of progress. Our principal concern should be to see trends rather than be over-influenced by strong annual fluctuations…. A 3-year running mean might be most appropriate, which also argues for the timely release of emissions data'*[18]

[16] Annual Target Report 2010 http://www.scotland.gov.uk/Topics/Environment/climatechange/scotlands-action/climatechangeact/reporting

[17] Transport, Infrastructure and Climate Change Committee, Stage 1 Report http://www.scottish.parliament.uk/parliamentarybusiness/Bills/16147.aspx

[18] Ibid (p.16)

According to the chief executive of the UK Committee in Climate Change, the arguments made in favour of multi-year emissions budgets in the UK Act over annual targets included,

> *'they might not provide adequate flexibility, given the year-on-year changes in emissions because of the weather, for example—emissions rise in a cold winter because people use more heating and we must burn more coal in our power stations. Such factors can mean that reductions go off track from year to year, although they are not off track in the five-year context.'*[19]

COSLA remarked that councils were concerned that unforeseen factors might affect abilities to achieve reductions. It was therefore suggested that a five year rolling target would enable inevitable ups and downs, for example due to weather, to be averaged out.

However it was argued by Scottish Renewables that 'it would be a big mistake to use weather patterns as a justification for missing a target' in fact, the Association for the Conservation of Energy told the Committee that the variability that a cold winter would bring would not be sufficient to knock Scotland out of the 3% threshold.

In light of this, the Scottish Government's position according to the Policy Memorandum was,

> *'Multi-year emissions budgets would provide flexibility within the long-term emissions reduction trajectory. However, annual targets provide greater certainty as to the magnitude of emissions reductions that need to be made at any given time. A large number of the responses to the Bill consultation expressed a preference for annual targets.'*[20]

Wales

In addition to the provisions of the Climate Change Act 2008, under its Climate Change Strategy, the Welsh Assembly Government has made a commitment from 2011 for Wales to reduce annual GHG emissions by 3%. [21]

Republic of Ireland

On the 26th February 2013, the Minister for the Environment, Community and Local Government released *Draft Heads* of a Climate Action and Low –Carbon Development Bill 2013. The Minister stated that the production of the heads was a first step in enacting a milestone in the Government's two year Programme (2012) for the

[19] Ibid (p.16)
[20] Ibid (p.17)
[21] Wlesh Climate Change Strategy (2011) http://wales.gov.uk/topics/environmentcountryside/climatechange/emissions/?lang=en

development of national climate policy and legislation. The outline heads of the Bill have been sent to the Oireachtas Joint Committee, for which it is hoped the Committee will consider the heads and submit a report to Government my mid 2013 to help with the formulation of key legislation towards the end of 2013.[22]

The draft headings of the Bill include:

- That the Bill does not affect, exempt, or relieve the State from existing and future obligations under EU law and any international agreement.
- A statutory obligation on Government to adopt and implement plans (in the form of national and sectoral roadmaps) that enable the State to transition to a low carbon, climate resilient and environmentally sustainable economy in the period to 2050.
- The Minister for the Environment, Community and Local Government is to prepare a National Low Carbon Roadmap which is to include:
  - a national vision for the transition to a low-carbon, climate resilient and environmentally sustainable economy, and
  - address, and specify policy measures required to ensure compliance with any climate related existing obligation under EU law or international agreement
- Sectoral road maps are to be prepared by the relevant Ministers.
- The establishment and functions of a National Expert Advisory Body that is not a stakeholder/representative body.
- Ministers producing national and sectoral roadmaps are to report annually on their progress.
- Public bodies are to integrate into their strategic planning and daily decision making the objectives of the national roadmap.[23]

Targets/budgets

The Minister emphasised the importance that the Bill would have in placing Ireland among the leading countries both within the EU and at a wider international level. However concerns have been expressed by a number of stakeholders such as Friends of the Earth and Trócaire in relation to the fact that the Bill does not include statutory emissions targets or budgets,

> *"A climate bill with no targets is like a compass without a needle. It doesn't show you the way. We cannot support a climate Bill with no targets. It fails the most basic test. It is too weak to deliver the low-carbon Ireland it promises"*[24]

[22] http://www.environ.ie/en/Environment/Atmosphere/ClimateChange/News/MainBody,32466,en.htm
[23] ibid
[24] http://www.foeeurope.org/Irish-government-publishes-weak-climate-bill-260213

In 2009, the Irish Government produced a draft Climate Change Bill which included binding emissions targets such as 3% annual reduction targets with an 80% reduction on 1990 levels by 2050.[25] However, this Bill was never presented and according to Trócaire there has not been any similar form of targets reproduced in the headings of the recent Bill.[26]

France

As well as its 2020 EU commitments, France developed the Energy Policy Framework ("Loi de Programme fixant les orientations de la politique énergétique") in 2005. This Framework sets an annual target of reducing emissions by 3% a year and reducing total emissions by 75% by 2050.

To help achieve these targets, in 2010 France passed a major bill that transformed environmental laws, including the country's approach to climate change. The Grenelle 2 Bill includes various measures to reduce greenhouse emissions which include:

- reducing GHG emissions of public buildings by 50% by 2020.
- New buildings built after 2012 are to consume less than 50 Kilowatts per square meter, and those built after 2020 must produce more energy than they consume.
- From 2013 old buildings are to be renovated at a rate of 400,000 buildings per year.
- Implementing urban tolls for cities of more than 300,000 inhabitants.[27]

Germany

As well as the EU 2020 commitment of a reduction of GHG emissions of 30% by 2020 compared to 1990 levels, The German government developed a domestic target to reduce GHG emissions by 40% below 1990 levels by 2020 through flagship legislation known as the Integrated Climate and Energy Programme 2007 and 2009.[28]

United States

Federal Level

Being one of the top five GHG emitters in the world, the United States' targets are relatively modest in comparison to other economies. The US has a commitment under

[25] NI Action Plan http://www.doeni.gov.uk/northern_ireland_action_plan_on_greenhouse_gas_emissions_reductions.pdf
[26] http://www.thejournal.ie/climate-change-bill-ireland-825061-Mar2013/
[27] Ibid. For information on France follow the link right hand side of the page
[28] Ibid. Follow link on right to Germany.

the United Nations Framework Convention on Climate Change (UNFCCC)[29] of 17% reduction by 2020 in relation to 2005 levels. At federal level there have been many attempts to pass a climate change bill, such as the American Clean Energy and Security Bill which failed in 2009.

The Obama Administration and Environment Protection Agency have consistently voiced their support for the passing of climate change legislation, however, due to the lack of support from Congress climate change has had to be dealt with through regulations. The EPA therefore developed regulations under the Clean Air Act, such as requirements to regulate pollutants for their effects as GHGs and emission standards for cars and light trucks. However this was met by opposition where Congress attempted on a number of occasions to introduce legislation to restrict the EPA from regulating GHGs, however this was not supported by the President and as such the EPA's ability was not affected.

State Level

However, while there appears to be on-going debate in relation to the introduction of federal legislation in the US, at state level there is a consortium of policies and legislation. As an example, California introduced the Global Warming Solutions Act and the California Environmental Quality Act with GHG emission provisions which provide for a state level target of reducing emissions to 1990 levels by 2020, and to 80% below 1990 levels by 2050.[30]

Canada

After a number of failed attempts to introduce legislation, climate change remains unlegislated for at the federal level in Canada. For example, in 2007 an Act was passed to implement Canada's targets under the Kyoto Protocol from 2008-2012, however, in December 2011 Canada announced its decision to withdraw from the Kyoto Protocol and repealed the Act in June 2012. Despite this, the following section explores targets that were proposed.[31]

[29] For information on the UNFCCC see http://www.theccc.org.uk/tackling-climate-change/the-legal-landscape/climate-change-act-and-uk-regulations/

[30] Gerrard, M.B., 2009. Comment on developing a comprehensive approach to climate change mitigation policy in the United States: Integrating levels of government and economic sectors. Environmental Law and Policy Annual Review, August 2009. [URL: http://www.law.columbia.edu/null/download?&exclusive=filemgr.download&file_id=162333].

[31] Global Legislators Organisation (Globe International), *3rd Climate Legislation Study*: (2013). Produced in partnership with the Grantham Research Institute, London School of Economics. Available at: http://www.globeinternational.org/index.php/climate-study-home For information on Canada, follow hyperlink right hand side of page.

Medium/ short - term targets

Attempts to introduce the Climate Change Accountability Act began in 2006, and again in 2010 when it passed the House of Commons but not the Senate. June 2011 the Bill was reintroduced by the Democratic Party, however no progress has been made with this. It would have required the introduction of medium-term targets to bring GHG emissions to 25% below 1990 levels by 2020, and long term targets of 80% below 1990 levels by 2050.

Annual targets

Targets were originally proposed in the Conservative Party's climate change plan in 2007 known as "Turning the Corner: Action Plan to Reduce Greenhouse Gases and Air Pollution" and provided the groundwork for Canada's approach to tackling climate change. The action plan also suggested the need for annual intensity base targets for a number of industrial sectors, which included a reduction of 6% per year between 2007 and 2010, with a further 2% reduction each year to 2015.

Mexico

In April 2012 Mexico became the first developing country in the world to produce climate change legislation. At the time, the legislation which sets targets on reducing greenhouse gas emissions and increasing the use of renewable energy was the second of its kind in the world behind the UK Act of 2008.[32]

The targets include:

- Reducing greenhouse gas emissions by 30% below business as usual by 2020; and
- 50% by 2050.[33]

South Africa

Under the National Climate Change Response Policy (NCCRP) approved in 2011, greenhouse gas emissions are set to stop increasing at the latest by 2020-2025, to stabilise for up to 10 years and then to decline in absolute terms.

During discussions surrounding the 2012-2013 budgets, the Minister of Finance suggested a proposed carbon tax on annual emissions for all sectors including

[32] WWF (2012) *Mexico climate law important step in the fight against climate change* http://www.wwf.org.uk/what_we_do/press_centre/?unewsid=5895

[33] Global Legislators Organisation (Globe International), *3rd Climate Legislation Study*: (2013). Produced in partnership with the Grantham Research Institute, London School of Economics. Available at: http://www.globeinternational.org/index.php/climate-study-home Follow link right hand side of page for information on Mexico.

electricity, petroleum, iron, steel and aluminium. The policy proposal aims to impose a carbon tax of R120 (approx. £7.70) per tonne of CO2e above the basic tax-free threshold of 60%, with annual increases of 10% until 2019-20.[34] Draft legislation providing for the proposal is hoped to be finalised by the end of 2013/14, with the aim that the tax would take effect in 2015.[35]

[34] Ibid. Follow link on right to South Africa

[35] Linda Ensor for Business Day Live (June 2013) *DA opposes plans to introduce carbon tax* http://www.bdlive.co.za/national/science/2013/06/04/da-opposes-plans-to-introduce-carbon-tax