

Why Legislate? Designing a Climate Law for Ireland. © 2012 The Institute of International and European Affairs.

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EXECUTIVE SUMMARY

Issues

Background

There is broad political agreement on the desirability of climate change legislation in Ireland. There is no consensus, however, about what the content of a climate bill should be, perhaps due to a lack of consensus about what a climate law should seek to achieve. This study aims to explore this issue. We outline three published models of climate legislation, and assess the implications of these bills for the design of a climate law for Ireland.

Challenges

Ireland has a considerable challenge ahead to reduce greenhouse gas emissions if it is to meet its EU obligations for 2020. The two sectors considered most challenging from an emissions mitigation perspective – transport and agriculture – account for 70 per cent of Ireland's domestic sector emissions, and on current projections Ireland's targets will be overshot by 2014 if further measures are not implemented.

A challenge associated with climate policy is that by its nature it tends not to be prioritised, because benefits are diffuse and marginal for most citizens, or may only be felt by future generations. On the other hand, the costs are often immediate and can affect specific groups disproportionately. Many OECD countries have therefore been faced with an implementation gap in climate policy, and Ireland is not immune from this common challenge. This pattern can be detrimental to the public interest.

Why Legislate?

A climate law could address the policy implementation gap by creating a framework within which an effective policy cycle can emerge. This could be the focus of legislation, as opposed to the introduction of binding emissions targets or detailed policy measures into legislation. A climate law could also increase the likelihood of an optimal policy mix being agreed, and therefore has the potential to ensure the least-cost and socially optimal implementation of Ireland's medium and long-term climate obligations. On the other hand, if not designed carefully a climate law could add an unnecessary regulatory burden on the public service, and increase the cost to society of delivering Ireland's obligations.

Options

We assess three legislative options in the form of previously published climate bills, all of which contain lessons for the future design of climate legislation for Ireland. These are: the UK Climate Change Act (2008), the Irish Joint Oireachtas Committee on Climate Change and Energy Security's Climate Change Bill (2009), and the Climate Change Response Bill (2010) proposed by the Fianna Fáil-Green Government. In each case we evaluate the extent to which they addressed five key challenges of climate policy-making.

The five key areas are:

- Target setting and establishing a framework within which effective and efficient policy can be developed and implemented;
- Integrating expert independent advice into climate policy-making and policy evaluation;

- Ensuring competitiveness risks are identified and an optimal sectoral balance is achieved;
- Provisions for compliance and accountability; and
- Ensuring a legislative process through which an effective climate bill can be agreed.

Implications

Combining the key components in each bill, aspects which might be considered in the design of legislation include:

- Focusing on delivering a management framework for greenhouse gas mitigation efforts, rather than target setting. While it may be beneficial to enshrine a long-term target (for 2050) in legislation, excessively complex or onerous target setting might be avoided. One option which might be considered is setting a target solely for the sector of the economy not covered by the EU Emissions Trading Scheme (ETS), as ETS emissions are already regulated at EU level.
- Dividing medium-term targets into 5-yearly compliance periods. This could serve to strike a balance between flexibility and certainty, and to enhance political accountability for policy delivery.
- Establishing an independent expert body (whether a new organisation, or seated in an existing body) with responsibility for publishing a preliminary draft climate strategy. This has the potential to frame the ensuing political debate in terms of what is in Ireland's best interests, and could serve to strike a balance between this interest and the interests of mobilized sectoral interests. A draft "strategy" could establish indicative sectoral pathways based on the principle of cost-effectiveness and considering the competitiveness implications for each sector.
- Empowering the new expert body to conduct annual reviews and monitor progress in relation to the emissions pathway (a "red flag" type mechanism); this could serve to increase the likelihood of policies being implemented in a timely fashion, and increase the level of engagement from civil society.
- Facilitating the optimal use of international credits: too much flexibility may result in high carbon lock-in, making compliance with medium-term targets impossible, while too little flexibility could have serious competitiveness implications. One approach to consider is for Government to decide the proportion of domestic offsets to be used at the beginning of each budgetary period (or strategy) on the basis of expert advice received.
- Ensuring the publication of all expert advice and opinion and the scrutiny of such advice by the
 Oireachtas, in order to enhance transparency and provide strong democratic underpinnings for climate
 action.
- Allowing independent monitoring and public reporting to act as the main compliance levers.

A transparent and inclusive legislative process can enhance the likelihood of producing an effective bill, capable of gaining widespread support.

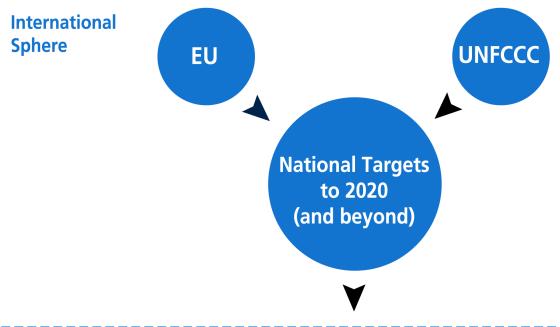
Conclusions

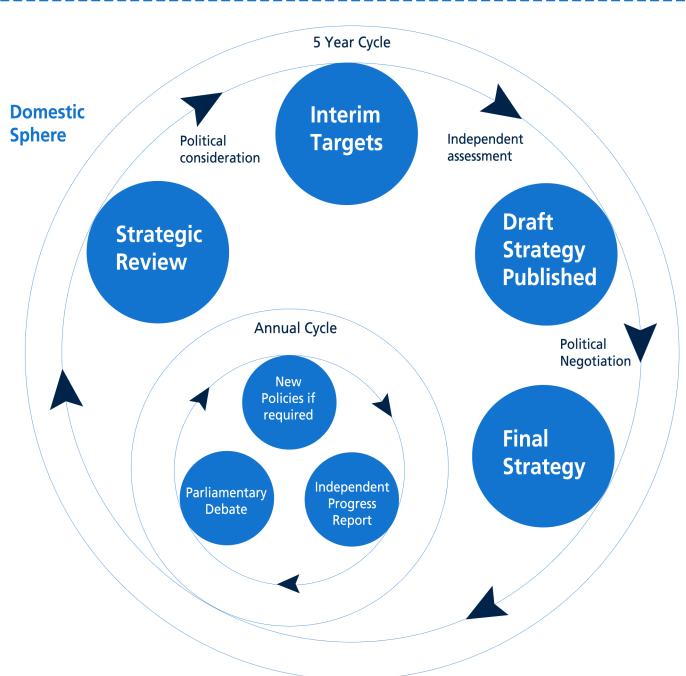
The key purpose of a climate law could be to facilitate the emergence of an effective policy cycle (see Fig 1.1) that prompts long-term thinking, increases the likelihood of policy implementation based on an assessment of cost, and enhances accountability and transparency.

A legal framework which does not address the historical weaknesses in climate policy-making risks adding an additional regulatory burden for little gain. Vague or excessively onerous target setting, weak reporting and accountability mechanisms, insufficiently independent ex ante or ex post policy assessment, and lack of transparency or democratic accountability could weaken the proposed legislation.

By drawing on the positive lessons of the Oireachtas Joint Committee Bill, the Irish Climate Change Response Bill and the UK Act, a future climate law could be framed in such a way as to address potential challenges, enabling the enactment of an effective and tailored climate policy for Ireland.

Fig 1.1 AN EFFECTIVE CYCLE FOR POLICY DELIVERY





INTRODUCTION

There is broad political agreement on the desirability of climate change legislation in Ireland. All political parties committed to passing a climate bill in the new Dáil in their General Election 2011 manifestos. The current Fine Gael-Labour Programme for Government commits the coalition to the publication of "a Climate Change Bill which will provide certainty surrounding government policy and provide a clear pathway for emissions reductions, in line with negotiated EU 2020 targets." The Minister for the Environment, Community and Local Government, Phil Hogan T.D., has announced a Roadmap for Climate Policy and Legislation. Key milestones include the launch of a public consultation on climate legislation in February 2012, and agreement by Government on the broad outline of this legislation by the end of the year.

A climate law could have the potential to ensure the least-cost, timely and socially optimal implementation of policy consistent with meeting Ireland's medium and long-term climate obligations. This can be achieved by creating a framework within which an effective policy cycle can emerge. There are also potential pitfalls associated with introducing a climate law, however, which if not avoided could add an unnecessary regulatory burden on the public service, and increase the cost to society of delivering climate policy objectives.

An impartial assessment of Ireland's climate policy to date may provide a useful lens through which the design of a climate law might be considered. Just as a physician would only make a prescription based on a thorough examination of his patient, so too might government consider if the climate challenge has been grappled with effectively in the past, and if not, why not? It is on the basis of such an analysis that the debate on the introduction of a climate law might be framed. In this manner design pitfalls are more likely to be avoided.

It may not be necessary to reinvent the wheel in designing a climate law for Ireland – several international and domestic options for climate legislation exist which could be drawn upon as models. This paper therefore sets out to learn lessons for the design of a future Irish climate law by assessing how three published bills addressed the key climate policy challenges. The first is the UK Climate Change Act 2008 (henceforth the UK Act), which was chosen as it is a model of comprehensive legislation in a neighbouring jurisdiction with a broadly similar governance structure. Two published Irish Bills are also assessed: the 2009 Climate Change Bill of the Joint Committee on Climate Change and Energy Security (henceforth JCB), and the Climate Change Response Bill 2010 (henceforth CCRB).

In Part 1 of this paper we therefore outline the key issues in Irish climate policy. We first assess the magnitude of the challenge facing Ireland in meeting its climate change commitments in the period to 2020 and beyond; second, we present a brief overview of climate policy-making in Ireland since 2000.

Based on this analysis, in Part 2 we outline five key considerations in designing a climate law and assess how three legislative options (the UK Act, the JCB and the CCRB) addressed these considerations in turn. In Part 3 we assess the implications for the design of a climate law for Ireland. A brief conclusion follows.

Why Legislate? Designing a Climate Law for Ireland.

PART 1: POLICY ISSUES

1.1. Ireland's Climate Policy Challenge

The agreement of the Kyoto Protocol in 1997 was a watershed in the development of Irish climate policy. Under the Protocol, the EU15 agreed to cut GHG emissions by 8 per cent on 1990 levels for the period 2008–2012, and Ireland agreed to limit emissions to a 13 per cent increase on 1990 levels as its share of the target.

Ireland's emissions commitments for the 2013-2020 period are underpinned by the EU's Climate and Energy Package, adopted by the European Council in 2008, which sets an ambitious agenda to reduce EU emissions by 20 per cent on 1990 levels by 2020.

Domestic Sector

Under the terms of this agreement, Ireland faces a significant mitigation challenge, particularly in relation to emissions from those areas of the economy not covered by the EU Emissions Trading Scheme (ETS). The Irish non-ETS or so-called 'domestic' sector, comprising transport, agriculture, residential and waste activities, accounts for 72 per cent of total emissions. This sector must deliver at least a 20 per cent reduction on 2005 emission levels by 2020. According to the Climate Policy Review, published in November 2011 by the Department of the Environment, Community and Local Government, this target is "almost certain to increase in the context of ongoing EU policy development". The key difficulty for Ireland to overcome is that the two sectors considered most intractable from an emissions mitigation perspective – transport and agriculture – account for 70 per cent of Ireland's domestic sector emissions.

Even assuming the unlikely scenario that no upward revision of Ireland's target occurs, according to Environmental Protection Agency (EPA) projections⁴ Ireland will not meet its target, even with the implementation of all existing and planned policy measures to reduce emissions. It is anticipated that Ireland will breach its annual targets by 2016 without the implementation of previously announced policy measures and the introduction of new policy measures to achieve further reductions.⁵ As the Review of National Climate Policy puts it: "in order to align national policy with the stated level of European and global ambition in the medium to long-term, a substantial downward deviation from these trends is urgently required".⁶

EU-ETS Sector

The 'cap and trade' EU Emissions Trading Scheme (ETS) covers the remaining 28 per cent of total Irish territorial emissions. It includes over 100 installations in the Irish energy, cement, metal processing and paper sectors. It is important to emphasise that these emissions are not covered by Ireland's 20 per cent emissions reduction target for 2020. Overall, installations will be required to reduce emissions by an aggregate 21 per cent by 2020 across the EU, and the European Commission will control the allocation of an ever-decreasing number of permits over this period. The reductions will occur where they are most cost-effective, and there is therefore no guarantee that this sector will deliver 21 per cent to any putative national target.

The ETS sector is regulated from Brussels as far as climate policy is concerned, and will not therefore be the central focus of domestic climate policy in the coming period. It cannot, however, be ignored entirely within the context of a national target. A key issue within the context of designing an Irish Climate Bill (discussed further

below) is how to count emissions from the ETS sector toward a national target? Indeed does a national target which covers all of Irish territorial emissions make sense within the context of an EU-wide ETS which covers 28 per cent of Irish emissions?

Beyond 2020

The EU has not yet agreed binding targets beyond 2020. In response to the scientific advice from the Inter-Governmental Panel on Climate Change (IPCC), the European Council has, however, concluded that greenhouse gas emissions from developed countries as a whole must be reduced by 80-95 per cent by 2050, compared to 1990 levels. While these are not official targets, indicative trajectories towards an 80 per cent reduction have been set out in the European Commission's Roadmap for Moving to a Low Carbon Economy in 2050. The Roadmap established that the cost efficient pathway to 2050 would require domestic emission reductions of 40 per cent below 1990 levels by 2030 and a 60 per cent reduction by 2040.

While the 2050 target and pathways are indicative at present, the 2020 target is legally binding under EU law.

The key immediate challenge for Irish climate policy is therefore to meet 2020 targets for the domestic sector, and to prepare for the likelihood of increasingly onerous mitigation targets in the post-2020 period.

1.2. Irish Climate Policy-making

Political economy theory suggests that because of the inherent nature of climate policy, it will tend to face an implementation challenge. This is primarily because of how the costs and benefits of climate policy are distributed in society. Benefits are generally incremental and distributed evenly across society, and will in some cases only be felt by future generations. Costs can, on the other hand, often be immediate, and can in some cases disproportionately affect specific groups in society. Where this dynamic exists, it creates the classic conditions for the under-provision of a public good (in this instance, climate protection), and can be harmful to the public good, in a manner seminally described by Mancur Olsen.⁸

International experience would certainly appear to suggest that implementation of climate policy is a key challenge for many OECD countries. Countries as diverse as Canada, Norway, the US, Australia, the UK, Israel, and New Zealand have all faced climate policy implementation challenges, and indeed several have had recourse to climate legislation to address the issue.

Ireland has not been immune from this common challenge, and a historical implementation gap in climate policy has been in evidence since the first National Climate Change Strategy of 2000. The objective of this and the subsequent National Climate Change Strategy of 2007 was to ensure that climate commitments would be met in a coherent and cost-efficient manner. These documents were formulated on the basis of expert analysis of what was possible; indeed many of the measures contained therein proved radical and forward-looking.

While several components of these documents have been implemented as planned, in other cases the implementation of commitments was subject to delay, and in some cases policy commitments have not been implemented (See Box 1.1 for an overview of policy implementation since 2000). In many cases the mobilisation of special interests was a decisive factor. Had the measures contained in the documents been implemented in a timely fashion, Ireland's climate commitments could have been met from domestic measures.

The net result of this implementation gap, coupled with a rapid increase in economic growth to 2008, is that

emissions continued to rise in Ireland. By 2007, according to the Environmental Protection Agency (EPA), emissions were 25 per cent above 1990 levels, twice the Kyoto target increase of 13 per cent by 2012. It appeared this would cost the taxpayer €270 million, which was designated under the National Development Plan 2007–2013 for the purchase of carbon credits. It is only the onset of severe economic contraction that will ensure Ireland's Kyoto commitment will be met at a reduced cost.¹⁰

This paper does not attempt to address the validity or otherwise of particular policy decisions –certain policies may have been altered with good reason (political, technical or economic). The challenges of implementation identified above can in part, however, be attributed to an inadequate framework for policy delivery. Alternative policies were not required to be identified, nor were decisions publicly assessed for their implications for Ireland's targets, and the biennial review that might have underpinned this process, provided for in the first Strategy, was not conducted after 2002.

Box 1.1: The Climate Policy Implementation Gap

The first National Climate Change Strategy promised "appropriate tax measures, prioritising CO2 emissions, …introduced from 2002 on a phased, incremental basis across a broad range of sectors of greenhouse gas emissions". This proposal was based on strong ex post and ex ante evidence that carbon taxation is the most cost-effective instrument for mitigating emissions.¹¹ The proposal proved difficult to implement as planned and was introduced in 2009.

In the area of residential energy use, the first Strategy promised "more efficient new buildings – building regulations will be reviewed to reduce energy use in new housing by up to 20 per cent in 2002, with further reductions in 2005." Building regulations were revised in 2002 as planned. "Further reductions" promised for 2005 were delivered in 2008 (250,000 house completions later). The minimum efficiency standard was increased by 40 per cent in these revised regulations, which is enough to save the average homeowner between €500 and €800 on their energy bill per annum.

Promises in the energy sector for "measures supportive of ceasing of coal use at Moneypoint by 2008; an enhanced demand side management programme under the Irish Energy Centre reduction" and "comprehensive strategies to deal with energy-inefficient housing" were not implemented as planned. Although the switch from coal did not come about, possibly for good reasons, the Sustainable Energy Authority of Ireland (SEAI) launched demand side management programmes in 2008.

The commitment to rebalance vehicle registration tax (VRT) for cars was met in the summer of 2007. The seven-year implementation delay in this instance came amid industry concerns that "any sudden unexpected negative changes to the VRT structure could be disastrous for the industry and subsequently the exchequer." The new scheme has been very successful in reducing fuel bills for drivers. A commitment to a modal shift to public transport has not been effectively delivered, nor have the "higher residential densities" envisaged.

A commitment to overhaul the planning system including "Improved spatial and energy use planning (Residential Density Guidelines, the National Spatial Strategy, Strategic Planning Guidelines)" was not achieved. A National Spatial Strategy was introduced, but the difficulties of planning policy over this period have been well documented.¹⁴ The European Environmental Agency had begun using Dublin's urban sprawl as an example of a 'worst-case scenario' of the impacts of poor planning by 2005.¹⁵

In the agriculture sector the development of "best practice guidelines...to encourage changing farming practices; and of short-rotation biomass and anaerobic digestion of animal wastes for energy generation" have been limited in their delivery. Biomass cultivation is restricted to 3,000 hectares, and anaerobic digestion is restricted to a handful of plants. The appropriate advice, information and incentives to enable reduced on-farm greenhouse intensity have not been delivered on a wide scale.

A climate law could potentially address the challenge of implementation by enshrining a framework for emissions reduction efforts that can give rise to an effective policy cycle. Such a policy cycle may not, by definition, require a legal architecture to underpin it. It should be noted that there are countries which have managed to achieve climate policy objectives without going down the legislative route. A good example is Germany, where the successes in implementing climate commitments can be attributed to the positive experiences in dealing with air pollution in the 1970s (strong regulation was found to create competitive advantage), widespread support in civil society for ambitious climate policy, and, perhaps most importantly, to the pre-existence of an effective policy cycle of the type that legislation would seek to create. Given Ireland's mixed history of implementation since 2000 and its very different policy landscape, however, policy alone may be insufficient to ensure timely and cost-efficient policy delivery in an Irish context.

In conclusion, a climate law could potentially deliver significant advantages. Based on an analysis of Irish climate policy-making since 2000, the primary rationale for enacting a climate law, and the focus in designing a bill, should be to bridge the policy implementation gap. A poorly designed legal framework could, however, increase the regulatory burden or alienate key stakeholders for little gain. The following section therefore analyses three models of climate legislation, which have attempted to address some of the key issues identified above, with a view to identifying implications for the design process.

PART II: LEGISLATIVE OPTIONS

In this section we explore how three legislative proposals - the UK Act, the Oireachtas Joint Committee Bill (JCB) and the Climate Change Response Bill (CCRB) – address five key climate policy challenges. These are:

- Target setting and establishing a framework within which effective and efficient policy can be developed and implemented;
- Integrating expert independent advice into climate policy-making and policy evaluation;
- Ensuring competitiveness risks are identified and an optimal sectoral balance is achieved;
- Provisions for compliance and accountability; and
- Ensuring a legislative process through which an effective climate bill can be agreed.

2.1. Targets and a framework for policy-making

As outlined above, the nature of climate policy itself may create an inherent tendency to postpone or abandon the implementation of climate policy. The mixed success in implementing climate policy in Ireland and other countries suggests that medium and long-term targets may be insufficient for effective policy implementation, especially when there is no built-in and transparent review process to monitor and benchmark progress. The UK Act, the JCB and CCRB took different approaches to creating a framework for policy delivery.

The UK Act

The UK has created a framework for managing the implementation of climate policy and established in law an overall target that emissions should be least 80 per cent lower than the 1990 baseline by 2050. The overall delivery framework rests on the principle of carbon budgeting. Carbon budgets set interim five-yearly emission ceilings consistent with the overall medium-term trajectory. These ceilings are set three budgetary periods (equivalent to eleven and a half years) in advance, in order to prompt medium-term thinking from policy makers and to give certainty about the medium-term policy landscape to investors.

The medium-term focus of the carbon budget framework embeds political accountability in the system. Five-yearly budgets ensure that most governments will have to deliver concrete results on a binding cap during their term of office. This coordination of policy-making with the electoral cycle reduces the chance that potentially unpopular decisions will be postponed and is more likely to prompt action than long-term targets alone.

The five-year time horizon also presents several other advantages. It strikes a balance between flexibility and certainty. It is short enough to ensure political accountability and policy delivery but long enough to accommodate annual variations in emissions due to external factors (such as the cold winter of 2010, or the effects of the recession). Flexibility is allowed within the five-year envelope, so that emissions can go up and down between years as long as the overall cap is met for the period.

When deciding on the ceiling for carbon budgets, a range of factors must be taken into account, including climate science, available technologies, competitiveness impacts, fiscal circumstances, fuel poverty impacts and the international situation.¹⁹ This broad focus ensures well rounded policy-making based on a wide range of factors.

The final decision on the carbon budget is a political one. Once the carbon budget is decided by Government,

it must report to Parliament on its proposals and policies for meeting the targets set. The report must include timescales for these measures and must explain how they impact on different sectors of the economy. This provides a democratic underpinning for carbon budgets.

The Act provides for annual review of the UK's emissions, with an independent report prepared by the Committee on Climate Change (CCC), which is laid before Parliament. The review assesses progress made and if a "distance to target" is emerging. This provides a kind of early warning or red flag mechanism, which highlights if carbon budgets are likely to be met and enables corrective policy measures to be identified and implemented where required.

Because emissions mitigation is a lagging indicator of progress, a number of specifically developed forward indicators, including investment in green technology, or implementing policy with a long lead time (such as the Green Deal which will deliver finance to homeowners to retrofit their home) have also been developed to monitor progress. A nuanced approach to monitoring progress has therefore been established to ensure that meeting subsequent budgets is feasible.

If, at the end of each budgetary period, the ceiling has been exceeded, the government must also provide an explanation to Parliament and announce measures to compensate for the excess.

The duties to publish and lay before Parliament the independent annual and publicly available review, and the proposals for meeting the carbon budget contained within, ensures high public visibility and democratic accountability for UK climate policy-making, and civil society engagement in the process.

While establishing a long-term national target to 2050 in law certainly has the advantage of providing an overall long-term strategic policy objective, one challenge posed by the adoption of such a target is how emissions reductions within the EU-ETS are to be counted. In the UK, the UK's share of the cap (i.e. the amount of allowances allocated to UK industry by the European Commission) is used to measure whether emissions in the EU-ETS sector comply with carbon budgets. This is a sensible approach, which avoids double counting of emissions and ensures compatibility between a national target and the EU framework. It should be noted, however, that by implication, the UK's 'national target' no longer refers to UK territorial emissions.

The Irish Bills

In Ireland both the JCB and the CCRB also proposed to adopt into law a commitment to reduce overall emissions by 80 per cent by 2050. The framework for implementation of this commitment differed substantially between the two Bills, however.

The JCB proposed a framework analogous to the UK model, consisting of carbon budgets prepared on five-year cycles, which set interim targets for meeting the trajectory. These were complemented by five-yearly National Climate Change Strategies, which outlined the strategic direction of climate policy, proposed policy measures for implementing the interim targets and assigned responsibility for the delivery of these measures.

By contrast, the CCRB did not set out interim targets, but opted instead for overall targets for 2020, 2030 and 2050 (annualised as a 2.5 per cent reduction to 2020). In addition, it provided for the publication of seven-yearly National Climate Change Plans, setting out policy measures to deliver on the overall targets. This seven-year timeframe was perhaps weaker than the five-year timeframe of the UK and JCB models. Although the emissions trajectory to 2020 was set out in the CCRB, the medium-term policy landscape would only have become clear when the Plan was published because the CCRB did not require draft Plans to be outlined significantly in advance.

It may therefore have been less successful in prompting longer-term strategic thinking in policy-making, or in enhancing certainty for investors than the other two models.

There is a tension in the design of a law between creating a clear pathway, as was the case with the UK and JCB approach, and providing for a very flexible trajectory to the headline targets.

The danger of allowing the degree of flexibility envisaged under the CCRB is that it could lead to a tendency to delay taking decisions until the last moment, in the hope of preferable or lower cost options emerging, or simply to postpone unpopular measures and to leave them for future governments. This can also lead to high carbon lockin, whereby investment is made in carbon intensive technologies or assets that may have a long lifespan, ultimately making the targets more difficult or more expensive to deliver.

The CCRB's approach to target setting could have served to add several layers of complexity and ambiguity to a policy sphere which already suffers from a proliferation of targets. Indeed, there was much confusion in the debate on whether the Bill's targets coincided with or constituted a departure from Ireland's existing EU commitments.²⁰ An excessively complex or onerous approach to target setting could also introduce an additional regulatory burden on the public service, increase the cost of compliance, and affect the competitiveness of all sectors of the economy.

Another design consideration highlighted is how Ireland should approach the counting of emissions from within the EU-ETS.²¹ The UK approach means that additional measures targeting industry in the traded sector would not be counted towards a national target (it is the allocated number of permits which counts). One potential option for an Irish climate law would be to set a long-term target in legislation for the 'domestic sector' alone. This could be done by assuming the cap for the EU-ETS sector will be zero by 2050, and thereby establishing in legislation a slightly less onerous (than the 80 per cent envisaged for the overall economy) target for the domestic sector. This domestic target could be adjusted in line with medium and long-term EU commitments, should they be agreed or revised.

In terms of identifying and addressing distances to target, the JCB provided for the systematic review of the National Climate Change Strategy. In addition, both the JCB and the CCRB provided for an annual transition statement to the Oireachtas, assessing progress made and requiring Government to introduce remedial measures if policy instruments were considered ineffective. These provisions constituted an improvement on the status quo by prompting policy-makers to identify and make provision for any implementation gaps. However, where the JCB provided for publication of an independent annual report, the CCRB did not envisage that the annual report of the independent expert advisory body would be laid before the Oireachtas as a matter of course, which is significantly weaker in accountability terms than the other models.

2.2. Independent Expert Advice

The policy framework described above touched on the integration of independent, expert advice into the policy process. This may serve as a central cog in the climate policy cycle, as it ensures that the best available independent advice is provided to policy makers upon which they can base their decisions. The structured integration of independent advice might therefore overcome some of the climate policy challenges identified such as: providing a clear framework for constructive debate; helping to strike a balance between protecting the rights of mobilised interest groups and the wider public interest; and potentially enhancing accountability for policy delivery.

The UK Act

The establishment of an independent expert advisory body is a cornerstone of the UK Act. The CCC has a wide remit. It must provide advice and make recommendations on: headline targets; the ceiling for carbon budgets and policy measures to achieve the targets; sectoral abatement opportunities; aviation and international shipping; and any other issues on an ad hoc basis.

It also has an important reporting and review function. It conducts the annual review of emissions and has a duty to lay annual progress reports on implementation of the carbon budget and distance to target before Parliament, to which Government is required to respond.

The independence of the CCC from Government is paramount and it has a central role in enhancing transparency and democratic accountability in the climate policy framework. It has a duty to publish its advice and progress reports, to which Government is required to respond. This ensures that its recommendations remain free from political interference, enabling it to hold the government to account. It also ensures transparency in the policy process. If Government deviates from the advice of the CCC, it must give a clear explanation for doing so. This reduces the likelihood of evidence-based, effective policy measures being abandoned for political advantage.

The CCC has used its annual progress reports to Parliament to effectively highlight important considerations to Government. Its published progress reports have, for example, provided evidence that emissions remain flat once the effects of the recession and the cold winter in 2010 are stripped out.²² While the independence of the CCC can be seen as a constraint on government, it equally provides justification for decisions that may impose short-term costs, but may be in the long-term interest of the country.

The CCC is an "expert" rather than a stakeholder body – ensuring that its advice is scientifically rigorous and free from what could be interpreted as competing agendas. The academic stature of the CCC's members, who are all leading authorities in their fields, lends its advice serious weight. The expertise and knowledge represented in the Committee is broad – encompassing business competitiveness, economics, climate science and policy, energy, technology – as required under the legislation.²³ This range of perspectives is important to ensure that policy is made in the round and yet the scale of the Committee (9 members at present) ensures that the decision-making process is not unwieldy.

The Irish Bills

Broadly analogous expert advisory structures to the UK's CCC were envisaged in the JCB and the CCRB. However, the Joint Committee Bill split the advisory functions in two, while the CCRB's envisaged Expert Advisory Body (EAB) had a more limited remit and weaker independence from government than the UK model.

The JCB established a dual advisory structure – the Office of Climate Change and Renewable Energy (the "Office") and the Climate Change Commission ("the Commission".) The Office was required to advise on carbon budgets and National Climate Change Strategies and to prepare an annual progress report, to which the Taoiseach was required to respond. The advice of the Office was to be published as a matter of course. The Commission's role was to review climate change policy annually and to establish required mitigation and adaptation measures to meet targets set out in the law. It was required to lay its report before the Oireachtas. This model guaranteed the routine integration of independent and expert advice.

The EAB's remit under the CCRB was to provide advice and recommendations to government on national and sectoral plans and policies. It was also required to produce a periodic review within a year of the fifth IPCC

Assessment report. In addition, it had the discretion to produce other periodic reviews as it saw fit. In terms of annual reporting, the EAB was required to produce an annual report for government on progress made under the Act looking retrospectively and prospectively and providing any advice that the EAB deemed necessary to achieve targets.

Its remit was more limited than the UK or Joint Committee model because its advice was not integrated as a matter of course into the policy framework. The government was not required to consult the EAB on the preparation of its national or sectoral plans. Rather, the Bill stipulated that the Minister "may consult with the Expert Advisory Body."²⁴

Nor was the independence of the EAB from government guaranteed as the Bill did not provide for its advice or annual review to be published. The independent publication of advice as a matter of course is a key lever to boost transparency and accountability and to ensure that unpopular findings are not ignored by government. Under the CCRB, any advice or annual reports could only be published "subject to the consent of the government...in such a manner as the government determines."²⁵

With respect to expertise, the JCB specified a balance of perspectives, although neither Irish bill defined required expertise by contrast to the UK Act. A range of expertise, including economic and scientific knowledge, is desirable in order to ensure well-rounded advice and to bolster the advisory body's credibility.

2.3. Competitiveness Risks and Sectoral Balance

A key challenge for Government is determining sectoral responsibility for mitigating emissions, and the manner in which this is achieved can have impacts on the competitiveness of Irish exports. This has been one of the key difficulties identified in Irish climate policy where sectoral interests may feel that their interests are being unfairly threatened.

The UK Act

Under the UK Act, competitiveness and carbon leakage risks are assessed as part of the carbon budgeting process, both economy wide and in specific sectors. In its advice to Government, the CCC has a duty to take into account "economic circumstances, and in particular the likely impact of the decision on the economy and the competitiveness of particular sectors of the economy."²⁶

While the UK Act itself is agnostic on the issue of the appropriate sectoral balance to allow for flexibility and to avoid the risk of increased costs for individual sectors,²⁷ the CCC has an important role to play in sectoral scenario building. This allows least cost policy options to be identified between different sectors.

While the CCC does not prescribe sector-specific targets or paths per se, the scenarios it describes for each sector amount to de facto reduction pathways. This advice enables the government to form an opinion of the least-cost, most effective apportionment of mitigation across sectors prior to input from sectoral interests. However, the decision about which sectors will bear the highest burden is ultimately a policy decision for the government to make. It could in principle make a decision that deviates from the advice, though this would require an alternative measure to be brought forward to make up for the shortfall. In that case, it would be required to explain its reasons for deviating from the published recommendations of the Committee.

Under the Act, the CCC is required to advise on the appropriate contributions to be made by the traded sector

(taken as a whole) and the non-traded sector (taken as a whole). It is also required to advise on sectors that have particular abatement opportunities that would contribute towards the attainment of the budget.²⁸ In addition, it is required to identify the level of international offset credits (the flexibility mechanisms under the Kyoto Protocol) that should be purchased. Such credits can assist in reducing the costs of meeting commitments, thereby alleviating immediate competitiveness concerns, while promoting decarbonisation in the developing world. However, an overreliance on the purchase of credits can prevent countries from preparing for more onerous targets in the medium to long-term.

Deciding on the appropriate balance between domestic action and the purchase of international credits is therefore a key competitiveness issue. The UK Act would appear to have found a useful formula where the proportion of domestic offsets to be used is set out at the beginning of each budgetary period. This decision is made by Government, but the Minister must consider the advice of the CCC (although in the case of the most recent UK budget, the government decided not to follow the advice of the Committee, and clearly set out its reasons²⁹).

In addition, though not explicitly provided for under the Act, the UK climate policy framework provides for a 'whole of government' approach to emissions reduction, as set out in Carbon Plan announced by the UK government in December 2011.³⁰ While a number of departments inevitably take the lead in meeting the carbon budget due to the nature of their activities, all departments are involved at minimum through the reduction in emissions from their departmental estate. The progress of policy delivery in lead departments (for instance The Department of Energy and Climate Change, or the Department of Business, Innovation and Skills) is tracked against established indicators, and regular reports on implementation are issued by Government.

The Irish Bills

Both the CCRB and the Joint Committee Bill provided for a whole of government approach to climate policy-making. The CCRB envisaged that sectoral plans would be prepared by relevant Ministers, which would set out proposed climate policy measures within individual departments. This would share responsibility for mitigation and adaptation between departments, enhancing the likelihood of policy-making that is consistent with the overall aims of the Bill and avoiding a 'silo' mentality. These provisions could be enhanced, however, by clear mechanisms for reporting and benchmarking for individual departments as per the UK model.

Like the UK Act, both the Irish Bills envisaged that assessment of the economic, fiscal and competitiveness impacts of proposed plans and targets would occur, with the objective of ensuring a least cost response.³¹ Both were agnostic in terms of sectoral balance, with the JCB requiring an assessment of the impact of carbon budgets across various sectors. The broad thrust of the provisions, therefore, ensured that a scientific and economic evidence-based perspective could be developed, which would be tailored to mitigate foreseen risks to particular sectors, so that measures would be implemented where costs are least and benefits greatest.³² Concerns amongst several stakeholders that the sectoral burden would fall proportionately on all sectors under the CCRB, with knock on competitiveness impacts for those sectors, were not borne out in the published Bill. However, the somewhat confusing manner in which targets were expressed contributed to this misperception, which proved to be divisive.³³

Where the JCB provided a central role for the advisory body in assessing sectoral balance, the role of the advisory body under the CCRB was limited in this respect. As negotiations between government departments and sectoral interests on this issue can be divisive, framing this discussion within the boundaries of an independently prepared draft strategy could potentially address a key issue in Irish climate policy-making.

The CCRB did not explicitly address the important issue of determining the proportion of international credits to be used in meeting targets. The JCB reflected the UK Act: the Office advises the government on the quantity of

credits to be used over a particular budgetary period, and the government makes the final decision. An additional element of the JCB is that it sets in legislation that a maximum 40% of the reduction over a budgetary period can come from flexible mechanisms. It is debatable the extent to which targets of this nature should be contained in legislation or left for government to decide on the basis of expert advice.

2.4. Compliance and Accountability

The compliance and enforcement levers contained within a climate law are central to ensuring that the law's provisions are met.

The UK Act

In terms of enforceability and sanctions, the UK Act is far from clear-cut. It does not contain any sanctions for ministers who fail to deliver, or any explicit enforcement mechanisms. But the duties enshrined in the legislation are seen by government as legally enforceable insofar as their statutory basis "carries the risk to Government of judicial review, with sanctions at the discretion of the Courts."

A review of the Act by Client Earth finds the potential for enforcement through judicial review to be very restricted, however: "In practice, judicial review in the UK is generally restricted to challenges related to procedural issues in this kind of case, and recent case law confirms that such a challenge is likely to have little chance of success." ³⁵

In any event, the instances in which legal enforcement could be pursued are very limited under the Act, considering the leeway it affords Government to adopt different targets and carbon budgets from those advised by the CCC and to make amendments to previously enshrined targets. If the government chooses not to accept the CCC's advice, the Secretary of State must simply publish a statement setting out the reasons for this decision.³⁶

The UK Government chose to exercise this privilege in the case of the fourth carbon budget. Contrary to the CCC's advice, it decided not to strengthen the second and third budgets, not to set an indicative 2030 target, and to leave open the option of meeting the fourth carbon budget through the use of credits. It did accept the core of the Committee's advice regarding the overall ceiling, however. As required under the legislation, it provided clear rationales for rejecting the advice of the Committee.³⁷

Though the compliance levers could be seen as limited, the most important levers for ensuring that the Act is implemented are the transparency and accountability mechanisms it contains. These include the annual progress reports to Parliament, the publication of the CCC's advice and the duties on the Minister to ensure that targets and carbon budgets are met. Ultimately, the enforcement of the Act rests on political pressure from Parliament, stakeholders and the general public to ensure that its provisions are delivered.

The power of political pressure was evident in the debate around the fourth carbon budget. Despite reported opposition from several government departments and Ministers, the mere threat of judicial review from Greenpeace was ostensibly crucial in securing acceptance of the budget.³⁸

The Irish Bills

In Ireland, the CCRB was notable in compliance terms in that it explicitly made the targets in the Act non-justiciable, though it did provide for enforcement by the courts in very limited circumstances related to non-compliance with national/sectoral plans by Ministers or public bodies.³⁹

The requirement for such a provision is not immediately clear, as the circumstances in which legal enforcement could be pursued would be very limited if the Bill were to mirror the UK version with respect to flexibility. The possibility of vexatious litigation should be all but eliminated if the law gives flexibility to government to alter targets, budgets and Plans or accept or reject advice in view of, for instance, changed economic circumstances (with the caveat that ample justification is required for deviating from the advice).

While enabling justiciability would strengthen compliance and may have advantages in an Irish context given the historical implementation gap, if it cannot be provided for, an effective accountability and compliance regime can still be developed through duties of independent monitoring and reporting by an independent advisory body to Parliament.

The Joint Committee Bill had an additional lever designed to strengthen compliance over and above that of the UK model. It situated duties for target delivery and policy implementation with the Taoiseach and his department, rather than with a line minister. This was designed not only to bolster the 'whole of government' approach to climate policy, but also to situate climate policy at the key locus of power within the political system. This has the potential advantage of enhancing coordination and making a political statement about the centrality of climate policy in Ireland, but on the other hand it could potentially overburden an already busy department and miss an opportunity to strengthen the Department of the Environment's role in coordinating Ireland's response to the climate challenge.

2.5. Process

The legislative process involved in agreeing a bill can have a significant impact on the prospective outcome.

The UK Act

The passage of the UK Climate Change Act followed a number of stages, which resulted in increasing buy-in from stakeholders.

In the pre-legislative phase, a draft law was produced for public consultation and pre-legislative scrutiny by Parliament, which took place over a period of six months. The draft law provided a concrete document on which to comment and to make suggested improvements to the drafting and language, as well as to the substance, of the Bill.

The level of interest in the Bill was evidenced by the high number of responses (over 17,500) received to the consultation. The three parliamentary committees that had scrutinised the Bill also made a series of recommendations on how to improve and strengthen the legislation.

A response to the public consultation and the parliamentary committees' recommendations was published by the government in October 2007. 40 It dealt systematically and comprehensively with concerns raised or recommendations made. While not all recommendations were taken on board, a rationale was provided throughout for why certain changes were accepted or rejected. The thinking behind the Act was therefore thoroughly transparent.

The formal legislative process began in November 2007, when the Bill was introduced in the House of Lords. Consideration of the Bill began in the Commons in 2008, and the Bill was given Royal Assent in November 2008.

The pre-legislative and legislative processes were seen to have strengthened the Bill significantly and were considered

useful by Government and other interested parties.⁴¹

The Irish Bills

While not included in the original Fianna Fáil-Green Party Programme for Government in 2007, a commitment to a climate law was included in the coalition's Renewed Programme for Government of 2009.

A Framework Document was published by government in December 2009, which set out the shape and principal provisions of a climate law. This document was not subject to a formal consultation process, although informal consultations were held with a range of stakeholders.

Political support for the principle of climate legislation was widespread and strong. In the Oireachtas, the Joint Committee on Climate Change and Energy Security made a strong case for a law in a report produced in 2008. It followed this with a full draft bill in 2009, which had many positive and constructive provisions. Both reports received cross-party support in the Oireachtas. This consensus added to the sense of momentum around the issue, even in the midst of economic crisis.

A climate law was published in December 2010, in the final months of the Fianna Fáil-Green government. In spite of an apparent consensus on the need for a climate law, the debate on the CCRB was divisive, creating cracks in the consensus and polarising positions on many issues. This can in part be attributed to the polarised political context at the time, but the legislative process itself also had a role to play. There was no opportunity for formal pre-legislative scrutiny due to the time constraints involved in the passage of the legislation. Instead, a month-long consultation process ran in tandem with the passage of the Bill through the Oireachtas. The short timeframe and the optics of the consultation raised concerns amongst many stakeholders that the Bill would be enacted without thorough consideration of the impacts, and without an opportunity for constructive amendment by opposition parties and stakeholder bodies, who had by and large lent their support to the principle of a Bill.

By the time the consultation was completed, it had become clear that the legislative process would not continue. Nonetheless, the outcome of the consultation was published by the Department of the Environment on its website. 509 submissions were received on the CCRB, which were generally welcoming of the Bill, though criticisms were raised about certain elements of the approach.

Why Legislate? Designing a Climate Law for Ireland.

PART 3: IMPLICATIONS FOR AN IRISH CLIMATE LAW

In this section we draw together preliminary lessons for the design of climate legislation from the three models of legislation assessed in Part 2.

3.1. Targets and a framework for policy-making

Whatever legislative approach is taken, an important design implication is that a climate law could focus on creating an effective framework for the implementation of already existing legally binding EU commitments, rather than on setting targets.

While it may be beneficial to enshrine a single long-term target in legislation, excessively complex or onerous target setting (envisaged to some extent in the CCRB) might have disadvantages. One option that might be considered is to set a target for the 'domestic' sector of the economy alone, as the traded sector is already regulated at European level.

All three Bills established a framework for policy delivery, but the UK and JCB approach, based on carbon budgets and robust annual review and monitoring, has a number of advantages. They provide a clear strategic direction, strike a balance between flexibility and certainty, enable distance to target to be identified and addressed, and enhance political accountability for policy delivery.

3.2. Independent Expert Advice

Independent expert review and monitoring of progress in relation to the emissions pathway (in combination with other more "lagging" indicators) can increase the likelihood of timely policy implementation. A 'red flag' mechanism, or an early warning mechanism which identifies an emerging distance to target, can help to ensure progress in this regard. The publication of expert advice and the scrutiny of such advice by Parliament can also enhance civil society engagement, enhance transparency, and provide strong democratic underpinnings for climate action

The incorporation of independent expert advice into the policy cycle has proved particularly successful where there are competing agendas within society and the branches of government. The CCRB, the Joint Committee Bill and the UK Act all prima facie followed the same approach to achieving this objective. However, the UK Act and JCB did so very effectively

In the policy cycles created by the UK Act and the JCB, the power to frame the debate on the basis of what is in society's best interests is devolved to the expert body, through the carbon budget. If sectoral interests have a strong case for deviating from this framework, they must make that case to the elected representatives under the full public scrutiny of parliament and of civil society. In the CCRB, the Expert Advisory Body's autonomy was less robust, as its input into National Climate Change Strategies was at the Minister's behest and there was no requirement to publish advice either on the overall strategy or the annual review. This differs from the model envisaged for the independent Irish Fiscal Advisory Council, which publishes its advice to Government on its website.

In these straitened economic times, the provision for a dual advisory structure in the JCB may be unnecessary for the effective delivery of expert advice. Indeed, UK experience has shown that a well-resourced expert Committee has the capacity to produce carbon budgets, ad hoc scientific and policy advice, and annual progress reports. Such a Committee might be seated in an already-existent independent body as was envisaged in the CCRB, once its independence is guaranteed.

3.3. Competitiveness Risks and Sectoral Balance

An advantage of a climate law for Ireland is that it could provide a framework for assessing the appropriate contribution of different sectors of the economy to the overall mitigation targets, taking into account the vulnerabilities of key sectors of the Irish economy. Such a framework could be beneficial for business, enabling the identification of the least-cost pathway to climate mitigation.

Draft strategies or carbon budgets could establish indicative sectoral pathways based on the marginal abatement costs and the competitiveness implications for each sector. If an independent expert authority plays a role in proposing a strategy based on what is economically desirable and technically feasible, this can help to frame the subsequent debate in terms of what is in Ireland's best interests and to facilitate constructive negotiation between sectors and competing interests.

Determining the proportion of international offsets is also an important issue in competitiveness terms: too much flexibility may result in high carbon lock-in, making compliance with medium-term targets impossible, while too little flexibility could undermine competitiveness. One approach to consider is for Government to decide the proportion of domestic offsets to be used at the beginning of each budgetary period, on the basis of expert advice received.

3.4. Compliance and Accountability

Ultimately, a climate law is designed to enshrine a virtuous policy cycle and a robust management framework for abatement and adaptation, rather than to put legal pressure on government through enforceability in the courts. If robust and transparent independent review and parliamentary monitoring is enshrined in the legislation, this can act as a strong compliance lever.

3.5. Process

Gaining and maintaining public support for a climate law may be assisted by a transparent and inclusive legislative process

Ireland is now well placed to be able to deliver an effective climate law. The outcome of the consultation on the CCRB provides clear lessons for the design of a future law and the JCB could also contribute to its design. An inclusive and transparent legislative process, involving pre-legislative scrutiny on a draft Bill, could also enable the legislation to be strengthened before it is published.

Considering the cross-party consensus on a climate law in Ireland, and a commitment to it within the Programme for Government, there is every hope that the kind of legislation that Ireland needs to overcome a policy implementation gap can be delivered by optimising the legislative process.

CONCLUSION

Ireland has a considerable challenge ahead to reduce GHG emissions and will have to take decisive action if it is to meet its EU obligations to 2020. The two sectors considered most difficult from an emissions mitigation perspective – transport and agriculture – account for 70 per cent of Ireland's domestic sector emissions, and on current projections the target for this sector will be overshot by 2014 if previously announced and further measures are not implemented.

In Ireland, as in many other OECD countries, a climate policy implementation gap has been evident to some extent. Climate policy by its nature tends not to be prioritised, as benefits often are diffuse and difficult to quantify, or are only felt in the future, whereas the costs are often immediate, and can affect specific groups disproportionately.

Extensive policy measures to address Ireland's climate challenge were outlined in the National Climate Change Strategies of 2000 and 2007, but many measures were subject to delay or non-implementation, such as the overhaul of the spatial planning system or upward revision of energy standards for buildings. In this context, the public interest can suffer; many of the measures contained in both Strategies could improve the quality of life of Irish citizens.

A legally defined climate policy framework has the potential to bridge the historical implementation gap, and deliver a least-cost response to Ireland's climate challenge. It could: facilitate the emergence of an effective policy cycle that prompts long-term thinking; increase the likelihood of policy implementation based on assessment of cost; and enhance accountability and transparency.

A legal framework which does not address the historical weaknesses in climate policy-making may risk adding a regulatory burden, and alienating key stakeholders for little gain. Other pitfalls to avoid include vague or excessively onerous target setting, weak reporting and accountability mechanisms, insufficiently independent ex ante or ex post policy assessment, and lack of transparency or democratic accountability.

By drawing on the positive aspects of the three options for legislation identified – the JCB, the CCRB and the UK Act – a future climate law could be framed in such a way as to address potential challenges, enabling the enactment of an effective and tailored climate policy for Ireland.

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²Roadmap for Climate Policy and Legislation, 2012, available at: http://www.environ.ie/en/Environment/Atmosphere/News/MainBody,29241,en.htm, last accessed 30 January 2012

³Department of Environment, Community and Local Government (2011) A Review of National Climate Policy, available: http://www.environ.ie/en/Environment/Atmosphere/ClimateChange/ClimatePolicyReview2011/News/MainBody,28331,en.htm, last accessed, 15 November 2011.

⁴EPA (2011) Ireland's Greenhouse Gas Emissions Projections 2010-2020, available at: http://www.epa.ie/downloads/pubs/air/airemissions/EPA%20GHG%20Emission%20Projections_FINAL.pdf, last accessed 15 November 2011

⁵According to the EPA's projections, Ireland is anticipated to breach its 2020 commitments by 4.1 -8.8 Mtonnes CO2e. However, if forest sinks are accounted for in the 2020 projections (currently under consideration by the European Commission), they will count for 4.8 Mtonnes of emissions removal, which would close the gap significantly. There is no certainty at this point in time that forest sinks will be included in the accounting regime, however.

⁶Department of Environment, Community and Local Government (2011) A Review of National Climate Policy, available: http://www.environ.ie/en/Environment/Atmosphere/ClimateChange/ClimatePolicyReview2011/News/MainBody,28331,en.htm, last accessed, 15 November 2011.

⁷European Commission (2011): Roadmap for Moving to a Low Carbon Economy, COM(2011) 112/4, available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011DC0112:EN:NOT, last accessed 9 January 2012.

⁸Olsen argues that small distributional coalitions tend to form over time in countries to influence policies in their favor. These policies will generally generate selective benefits concentrated amongst the few members of the coalition, while the costs are diffused throughout the whole population; the "Logic" therefore dictates that there will be little public resistance to them. Hence as time goes on, and these distributional coalitions accumulate in greater and greater numbers, the nation burdened by them will fall into economic decline. See: Olson. M. (1971) [1965]. The Logic of Collective Action: Public Goods and the Theory of Groups (Revised edition ed.). Harvard, Harvard University Press.

⁹For a discussion of the role of interest groups in shaping Irish climate policy, see Coughlan, O. (2007) 'Irish climate change policy from Kyoto to the carbon tax – a two level game analysis of the interplay between knowledge and power.' Irish Studies in International Affairs, Vol. 18, pp131-153

¹⁰The NTMA ceased the purchase of carbon credits in February 2009, as the recession reduced the envisaged need for credits from 3.6 MTonnes per annum to 1.3-1.6 MTonnes CO2e per annum between 2008 and 2012. NTMA Carbon Fund Annual Report 2010, available at http://www.ntma.ie/Publications/2011/NTMA_Carbon_2010_English.pdf, last accessed 17 November 2011.

¹¹This was made clear in the consultant's report to government: Government of Ireland (1998), Limitation and Reduction of CO2 and Other Greenhouse Gases in Ireland, report prepared by Environmental Resources Management in association with Byrne Ó Clérigh and the Economic and Social Research Institute for the Department of Public Enterprise and the Department of Environment. The findings have been substantiated in the most comprehensive analysis of introduction of a carbon tax in European countries: M.S. Andersen, T. Barker, E. Christie, P. Ekins, J. Fitz Gerald, J. Jilkova, S. Junankar, M. Landesmann, H. Pollitt, R. Salmons, S. Scott and S. Speck (eds.) (2007), Competitiveness Effects of Environmental Tax Reforms, Aarhus, National Environmental Research Institute.

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¹²SIMI Pre-Budget Submission 2002 – "Restoring Consumer Confidence", p 25, available at: http://eforecourt.com/suprious/docs/simi_pre_budget_2002_submission.pdf, last accessed 9 January 2012...

¹³Sustainable Energy Authority of Ireland, 'Transport Energy Usage in Ireland' (2010), available from: http://www.seai.ie/Power_of_One/Getting_ Around/HCIYC/Transport_Energy_Usage, last accessed 15 September 2010

¹⁴See, for example, R. Kitchin, J. Gleeson, K. Keaveney, and C. O'Callaghan (2010), 'A Haunted Landscape: Housing and Ghost Estates in Ireland,' Maynooth, The National Institute for Regional and Spatial Analysis (NIRSA) pp. 37–46.

¹⁵Irish Times, 'European Environment Agency Cites Dublin as a Worst-Case Scenario of Urban Planning', 4 October 2006.

¹⁶Weidner, H., Mez, L., 2008. German Climate Change Policy. A Success Story With Some Flaws. The Journal of Environment & Development 17(4), 356-378, p 357

¹⁷UBA (Federal Environment Agency) (2010), Umweltbewusstsein in Deutschland 2010. Ergebnisse einer repräsentativen Bevölkerungsumfrage, Dessau-Roßlau.

¹⁸OECD (Forthcoming) Environmental Performance Review: Germany. Paris: OECD.

¹⁹The full range of factors includes: climate science, available technologies, economic circumstances and competitiveness impacts, fiscal circumstances, social circumstances and fuel poverty impacts, energy policy, differentiated national circumstances, European and international circumstances, and aviation and shipping emissions. See: UK Climate Change Act 2008, Part I, Section 10.

²⁰The Department of the Environment published a clarification document regarding the 2020 figures, available at: http://www.environ.ie/en/Publications/Environment/Atmosphere/FileDownLoad,25196,en.pdf, last accessed 17 November 2011.

²¹If a national target is set in legislation for the entire economy, how emissions under the EU ETS should be counted to meet Ireland's economy-wide target needs further consideration. The EU ETS will deliver an aggregate 21% reduction in aggregate EU emissions by 2020. One option would therefore be to attribute a 21% reduction on 2005 emissions, which will be the aggregate EU-wide reduction, to Ireland. The problem with this approach is that there is no guarantee that the required reduction in emissions would occur in Ireland, as it may be more cost-effective for Irish companies to purchase emission permits from abroad than to reduce their own emissions. Another option (probably the preferable approach) would be to use the allocated permits to Irish companies (subtracted from verified emissions) as the contribution to the national target, though again the target would then not coincide with territorial Irish emissions. Yet another option is to count what actual emissions are in the ETS sector in 2020, but this would involve double counting of emissions reductions which may occur elsewhere in the EU.

²²See for instance the Committee on Climate Change (2011) 'Third Progress Report to Parliament', available at http://www.theccc.org.uk/reports/3rd-progress-report, last accessed 17 November 2011

²³Indeed, the legislation requires appointments to be made such that the Committee as a whole has experience of/knowledge in: business competitiveness, climate policy, climate science, economics, emissions trading, energy, financial investment and technology. (Schedule 1, 3).

²⁴Section 5, Sub-Section 12.

²⁵Section 10, Sub-Section 7

²⁶Section 10, Sub-Section 2

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²⁷Taking Forward the UK Climate Change Bill (2007), available at: http://www.official-documents.gov.uk/document/cm72/7225/7225.pdf), last accessed 17 November 2011

²⁸Section 34, Sub-Section1, c.

²⁹See: http://www.theccc.org.uk/news/press-releases/923-ccc-advises-that-government-meets-carbon-budgets-through-domestic-action-alone-and-not-through-use-of-offset-credits-22-march-11, last accessed November 2011.

³⁰http://www.decc.gov.uk/en/content/cms/tackling/carbon_plan/carbon_plan.aspx, last accessed 9 January 2012

³¹Section 5, Sub-Section 9: the requirement to be able to act quickly in response to economic occurrences and circumstances; the likely economic impact of a national plan or sectoral plan, as the case may be; the need to secure and safeguard the economic development and competitiveness of the State; the need to take advantage of economic opportunities both within and outside the State; that the objectives of a national plan are achieved at the least cost to the national economy and that any measures adopted to achieve those objectives are cost-effective; the need to maximise economic efficiency at a national level and within particular sectors of the economy.

³²See SEAI (2009) "Ireland's low carbon opportunity", for an analysis of relative abatement costs across sectors, available at: http://www.seai.ie/Publications/Low_Carbon_Opportunity_Study/Irelands_Low-Carbon_Opportunity.pdf, last accessed 15 November 2011.

³³The Bill set out an annualised reduction target to 2020, prompting much debate as to whether or not this constituted an additional burden beyond the 2020 commitments. Several stakeholders misinterpreted the targets as amounting to more than the EU 2020 target, and pointed to the competitiveness impacts for Ireland of taking on targets over and above those of the EU burden sharing decision. Additionally, much of the debate assumed proportional burden sharing between sectors, which was not contained in the Bill's provisions.

³⁴ Taking Forward the UK Climate Change Bill' (2007), p23

³⁵Client Earth (2009) 'The UK Climate Change Act 2008: Lessons for national climate laws,' available at: http://www.clientearth.org/reports/climate-and-energy-lessons-from-the-climate-change-act.pdf, last accessed 15 November 2011

³⁶See Section 1, Sub-section 3.6

³⁷UK Government (2011) 'Implementing the Climate Change Act 2008: The government's proposal for setting for fourth carbon budget,' available at http://www.decc.gov.uk/assets/decc/What%20we%20do/A%20low%20carbon%20UK/Carbon%20 budgets/1683-4th-carbon-budget-policy-statement.pdf, accessed 17 November 2011

³⁸BBC News, Richard Black 'Chris Huhne briefs MPs on long-term carbon budget,' 17 May 2011, available at: http://www.bbc.co.uk/news/uk-politics-13417997, last accessed 15 November 2011.

³⁹Section 3, Sub-Section 2

⁴⁰ Taking Forward the UK Climate Change Bill (2007)

⁴¹For a full account of the process see Client Earth (2009).