Ireland's Response to the

EU's 2030 Energy and Climate Change Targets

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EXECUTIVE SUMMARY

The Minister for the Environment has said it is no secret that Ireland is not going to meet the EU's legally binding greenhouse gas emissions reduction targets by 2020. The EPA has cautioned that Ireland is not on track towards decarbonising the economy in the long term and will face steep challenges post-2020 unless further policies and measures are put in place over and above those envisaged between now and 2020. It is also likely that Ireland will not meet its legally binding EU targets for renewable energy penetration.

In the knowledge that we have a major compliance gap, Ireland heads off to the Paris Conference of the Parties in a few weeks time aware that regardless of the outcome of this important UN event, the EU has already agreed to introduce even tighter emissions reduction, renewable energy and energy efficiency targets in the decade from 2020. There are solid arguments to support the case that Ireland's share of the EU's emissions reductions effort post-2020 should be much lower than the current target of minus 20%.

Failure to meet these legally binding targets is not without consequence. The Government (i.e. the taxpayer) faces fines if we fall short. One Government estimate suggests billions of euros of taxpayers' money may have to paid unless significant additional investment is committed to measures to reduce emissions, expand energy efficiency and increase the penetration of renewable energy. Given the magnitude of the projected fines (and the assumptions underpinning them, especially the forecast carbon price) and the potential cumulative negative impact on the Exchequer's position, a detailed risk analysis and an economic impact assessment of potential Exchequer exposure should Ireland fail to meet its current never mind its post-2020 targets for emissions reductions, renewable energy and energy efficiency should be carried out as a matter of urgency. To this end, the National Expert Advisory Council on Climate Change might be asked to prepare a report on Ireland's carbon budget through to 2030 under several scenarios.

A primary objective of the Government's forthcoming Energy White Paper will be, it is assumed, to re-position and re-align national energy policy to 'fit' with what in all probability will become legally binding targets at EU level for energy emissions, use of renewable energy and energy efficiency post-2020. As well as setting policy priorities, a clear, costed and comprehensive delivery action plan is also needed.

A National Mitigation Plan will be published sometime next year to identify the additional measures that are necessary to ensure Ireland meets its international climate change obligations. To have credibility, it should be based on a detailed national Regulatory Impact Assessment of the Commission's 2030 proposals; investment priorities should be set with reference to a risk assessment and a Marginal Abatement Cost Curve for each of the four sectors involved; mitigation measures should not be approved unless the agency(ies) tasked with their delivery have a budget to

support their actions; and the plan should cover the period to 2030 and anticipate how Ireland will be impacted by tougher emissions targets after 2020.

As things stand, the farming sector is, arguably, set to get a free ride at the expense of other sectors of the economy and the general taxpayer. The Climate-Smart Agriculture project should consider a few additional options to the current policy menu which suggests that near zero mitigation for agriculture emissions is the preferred approach, including: determine to what extent statistical transfers (offsets) could be used to buy compliance pre- and post 2020 and the costs of such an option; assess the impacts and competitiveness implications of having a carbon price on agriculture emissions from 2020; and, carry out an economic appraisal of applying a carbon tax on Irish beef and dairy exports and domestic consumption to reflect the true cost of agriculture emissions.

There are some positives. In electricity, for example, Ireland is pioneering how to adapt systems and wholesale markets to accommodate unprecedented penetration of intermittent renewable generation. But the climate change challenge is undoubtedly daunting. While there will be massive costs new investment opportunities will arise. The overarching policy priority should be to meet our binding international obligations at least long term cost to the consumer and to best exploit our comparative advantages to this end.

A detailed business case could be carried out on following four flagship projects to see if they meet this overarching priority: convert Moneypoint to a full biomass plant; have the necessary infrastructure in place so that every new car in Ireland in 2030 will be an electric vehicle; by 2030, the Government (through Coillte and private operators) should invest in a much enhanced level of afforestation that will generate some 45 Mt in carbon sinks between 2035 and 2050; and plan for the investments needed to achieve deep retrofitting across the entire economy by 2030. If cost effective solutions can be demonstrated (and implementation achieved by 2030) these four flagship projects would go a very long way in securing Ireland's future as a low carbon economy.

Policy targets on climate change and energy have been set at EU level. The reality is that Ireland is a policy-taker on these targets. What is absent is an accountable, funded and cost effective low carbon action plan to 2030. There is a compelling case that the next Government should drive this agenda by appointing a senior Minister with responsibility for the task of de-carbonising the Irish economy across the whole of Government. The Sustainable Energy Authority of Ireland could be designated as the over-arching State agency with responsibility for coordinating the implementation of this vast agenda of national strategic importance. Business leaders too need to pay more attention to the risks inherent in climate change not least because it is a defining issue for financial stability.. Business, the agri-food sector, the construction industry, energy companies and consumer representatives should set up a Low Carbon Task Force to assist Government turn its policy aspiration to become a low carbon economy into reality.

We acknowledge the feedback we received on earlier drafts of this paper from Eimear Cotter (SEAI) and members of the PPAN.

Introduction

This paper takes as a starting point the conclusions of the European Council on the EU's 2030 energy and climate policy framework agreed on 23/24 October 2014 as this is the EU's contribution to the forthcoming UN negotiations in Paris on climate change.[1] More importantly, and regardless of the outcome of the Paris negotiations of the Conference of the Parties (**COP**), these conclusions will shape and have a profound influence over Ireland's climate change, renewable energy and energy efficiency policies over the next 15 years.

Among the issues facing the next Government covered in the paper are the following:

1. The likelihood that Ireland may fail to meet its legally binding greenhouse gas (**GHG**) emissions reduction and renewable energy targets in the period to 2020.
2. Securing at EU level a more equitable (i.e. lower) GHG emissions reduction effort share for Ireland after 2020.
3. Adopting a National Mitigation Plan covering the period to 2030 that has precise sub-sector targets with identified measures, actions and approved budgets.
4. Implementing the EU's October 2014 decisions on renewable energy and energy efficiency reflecting policy priorities set out in the White Paper on energy.
5. The social and economic case for the agriculture sector not being given a free pass.
6. The potentially significant impacts of the EU's climate and energy 2030 package on the Exchequer's position.
7. Driving the low-carbon agenda beyond mere compliance.
8. Climate change leadership.

Before addressing these issues in turn, the current policy situation and EU and at national level is set out below.

Policy Context at EU Level

In **October 2009**, the EU set itself the objective of reducing GHG emissions by 80-95% by 2050 compared to 1990 levels.

In **October 2014**, the EU agreed a binding EU target of at 40% domestic reduction in GHGs by 2030 compared to 1990. The Emissions Trading System (**ETS**) sector will contribute 43% of this target and the non-ETS sectors 30%. The European Council has also agreed an EU target of at least 27% for the share of renewable energy consumed in the EU by 2030 and a similar indicative percentage for energy efficiency. Based on these conclusions, the EU submitted its intended nationally determined contribution (**INDC**) to the United Nations Framework Convention on Climate Change (**UNFCCC**) in March 2015.

In **July 2015**, the Commission tabled its proposals to adjust the ETS to take account of the October 2014 decision. [2] A higher annual linear reduction (**ALR**) of 2.2% (up from 1.74%) has been proposed

[1] Conclusions of the European Council (23 and 24 October 2014).
[2] Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments, COM (2015) 337 final, 15 July 2015.

as have important changes to the way Member States spend the revenue they receive from the auctioning of ETS allowances.

A revised Effort Sharing Decision (**ESD**) (to be published in 2016) will determine Ireland's and other Member State's burden share in the non-ETS sector.[3] The proposals will be based on *a fair sharing of efforts between Member States which reflect their specific circumstances and capacities.*[4]

In **September 2015**, EU Environment Ministers adopted the EU's negotiating mandate for the Paris UN Climate Change Conference.[5] They noted that to stay below 2° C, global GHGs need to peak by 2020 at the latest; to be reduced by at least 50% by 2050 compared to 1990; and be near zero or below by 2100.

Given that over 150 of the 186 nations attending the COP, including China, the US, India and many other large economies, have tabled INDCs; as the US and China share common policy objectives; and as some $77 billion towards the $100 billion Climate Fund has been committed, there is an expectation that there will be agreement in Paris but that this may well fall short of a binding international treaty. In previous COPs the Parties sought to preserve their strategic and competitive advantages. In the face of the compelling scientific evidence, there are signs that a new approach to global climate change is now needed. However, the pledges tabled to date (if fully implemented) will result in global temperature rising by at least 2.5°. This is an obvious matter of concern.

In summary, building on the current EU 20-20-20 energy and climate package (i.e. the package that agreed a 20% reduction in GHGs by 2020 and a 20% penetration rate for renewable energy), there is unanimity at EU level as regards the strategy to be adopted post-2020.

Meeting ETS and Non-ETS Targets

Before looking at the situation post-2020, it is essential to assess whether Ireland will meet its current targets and once that is done then the scale of the challenge post-2020 become apparent.

The following Table shows Ireland's current, target and forecast emissions through to 2030 for both the ETS and non-ETS sectors under the 'With Measures' (**WM**) scenario. [6]

[3] Decision 406/2009/EC of the European Parliament and of the Council on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020, 23 April 2009.

[4] European Commission, Communication to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, *A policy framework for climate and energy in the period from 2020 to 2030,* COM (2014) 15 final, January 2014, page 4. The public consultation on the Commission's proposals ended on 18 June 2015. Bear in mind that the EU accounts for just 11% of global emissions.

[5] From 30 November to 11 December 2015 Paris will host the 21st session of the Conference of the Parties (**COP**) to the UNFCCC and the 11th session of the meeting of the Parties to the Kyoto Protocol.

[6] The 'With Measures' scenarios is based primarily on SEAI's baseline energy forecast which incorporates the anticipated impact of policies and measures that were in place (and legislatively provided for) by the end of 2013. 'With Additional Measures' is based on the NEEEP/NREAP energy forecast and includes planned policies and measures. As no specific Exchequer funding has been allocated to any mitigation measures (apart from energy efficiency) the assumption is that the WM scenario is the most realistic when it comes to estimating Ireland's 'emissions distance to target gap' for both the ETS and non-ETS sectors.

Table 1 - Ireland's GHG Emissions (Million tonnes (Mt))

	2005	2013	2020	2025	2030
Ireland's ETS target (-20/40%)			17.8		13.4
ETS emissions	22.3	15.7			
Forecast ETS emissions (WM)			16.9	18	18.8
ETS Distance to Target			1.1		4.7
Ireland's target non-ETS (-20/40%)			38.7		29
Non-ETS emissions	48.4	42.6			
Forecast non-ETS emissions (WM)			43.9	45	45
Non-ETS Distance to Target			5.2		16
Total emissions	70.8	58.3	60.7	63	63.8

Source: EPA GHG Emission Projections 2013-2035 (May 2015) and own calculations

From 2005 to 2013, Ireland's overall GHG emissions fell by an impressive 12.5 Mt, or by nearly 18%. However, these emissions reductions had more to do with the slump in economic activity (and the commensurate fall in electricity production) than the delivery of targeted mitigation measures.

What the latest EPA projections (WM) suggest is that by 2020 non-ETS emissions will have fallen by 4.5 Mt or by 9% with reference to the 2005 base year. Current EPA estimates are that a significant cumulative shortfall will inevitably build up given the sharp forecast rise in transport emissions in particular.

It is a matter of concern (with four years to go to 2020) that the updated assessment of Ireland's progress towards achieving its GHG emission reduction targets shows that the 'distance to target' for non-ETS emissions in the year 2020 (excluding banking from previous years) may be 5.2 Mt and this may rise to 16 Mt by 2030 should the EU impose a 40% burden share on Ireland. A 30% burden share would require non-ETS emissions to be at 34 Mt by 2030; on the basis of the EPA's forecast the distance to target gap in the year 2030 could be 11 Mt.

The EPA has cautioned: *Ireland is not on track towards decarbonising the economy in the long term and will face steep challenges post-2020 unless further policies and measures are put in place over and above those envisaged between now and 2020.*

Furthermore, by falling short of the pre-2020 targets this makes the post-2020 targets even more challenging. In short, Ireland is nowhere near (despite all the rhetoric) of being on a low carbon pathway.

This is also the view of the Minister for the Environment, Community and Local Government who recently said: *it is no secret that Ireland is not going to meet the EU GHG emissions targets for 2020*.[7] The Minister did not explain what precise additional measures are needed this side of 2020 to close this compliance gap.

[7] Interview with Harry McGee, the *Irish Times*, 21 October 2015.

National Mitigation Strategy

Ireland's first and only National Climate Change Strategy was adopted in 2007. [8]

Since then numerous policy initiatives and research reports have been published, including the following:

1. *Towards a New National Climate Policy.*[9]
2. *Ireland and the Climate Change Challenge: Connecting 'How Much' with 'How To'.* [10]
3. *Low Carbon Energy Roadmap for Ireland*.[11]
4. *Climate Action and Low Carbon Development National Policy Position* that sets the fundamental national objective of achieving a transition to a competitive, low carbon, climate resilient and environmentally sustainable economy by 2050.[12]
5. *The Potential for GHG Mitigation within the Agriculture and Forestry Sectors*.[13]

These documents have helped shape the debate, have re-stated and clarified policy and strategic objectives but none has determined the policy signals at a sufficient level of detail that is critical to convince households, business and the public sector to invest or (more importantly) the precise costs of the proposed mitigation measures that need to be implemented before 2020.

The scale of challenge in relation to the interdependent issues of climate and energy could be summarised as follows.

Table 2 - Ireland's Low Carbon Roadmap to 2050

Sector	2030 relative to 1990		2050 Relative to 1990	
	BAU	Low Carbon	BAU	Low Carbon
Electricity	45%	-56% to -58%	31%	-84% to -94%
Buildings	-11%	-53%	-11%	-75 to -99%
Services	5%	-33%	-6%	- 70% to -99%
Residential	-16%	-59%	-13%	-77% to 98%
Transport	226%	104% to 122%	285%	-72% to -92%
Agriculture	?	?	?	?

Source: ERSI, E4sma and UCC (2013)

While a National Low Carbon Transition and Mitigation Plan (**NMP**) will be published by the next Government, the reality is that no fully resourced action plan has been adopted since 2007 to put Ireland on a pathway towards sustainable climate neutrality. It is no wonder then that Ireland may fail to meet its GHG emission reduction targets and if this happens the taxpayer will have to meet the bill.

[8] Department of the Environment, Heritage and Local Government, *National Climate Change Strategy 2007-2012*, April 2007.
[9] Interim Report, NESC, June 2012.
[10] NESC, December 2012.
[11] ESRI, E4sma and UCC, December 2013.
[12] National Policy Position, Department of the Environment, Community and Local Government, April 2014.
[13] Discussion Document, Department of Agriculture, Food and the Marine, January 2015.

KEY MESSAGE

For the NMP to have credibility:

1. **It should be based on a detailed Regulatory Impact Assessment of the Commission's 2030 proposals.**
2. **Investment priorities should be set with reference to a risk assessment and a Marginal Abatement Cost Curves for each of the four sectors involved.[14]**
3. **Mitigation measures should not be advanced unless the agency(ies) tasked with their delivery has/have a budget to support their actions.**
4. **A Business-As-Usual scenario for agriculture is no longer an option.**
5. **A multi-annual Carbon Budget needs to be introduced.**
6. **The NMP should cover the period to 2030 and in so doing should anticipate how Ireland will be impacted by a revised ESD and the agreed linear cuts in our ETS emissions.**
7. **More public funding needs to be allocated to communication and awareness raising with the aim of altering consumer and business behaviour.**
8. **An economic appraisal of the potential of buying compliance through statistical transfers and other available offset options should be completed.**
9. **The economy-wide benefits that will accrue should Ireland exceed its targets should be identified as an alternative to a 'compliance only approach'.**
10. **The Sustainable Energy Authority of Ireland should be designated as the statutory body for the coordination and delivery of Ireland's NMP.**

We should not forget the adage: *what is measured can be managed*.

The Case for a Fairer Effort Share for Ireland

In 2008, and using GDP per capita as the primary criteria, Ireland, Denmark and Luxembourg agreed to a burden share of minus 20% in relation to non-ETS emissions reduction. Twelve Member States were allowed to increase their non-ETS emissions by 2020 with reference to the 2005 baseline; while the EU's overall reduction target for the non-ETS sector was 10%. In the intervening six years Ireland's GDP fell by 16.8% and debt/GDP rose from 25% to 124%.

A major gap in the Commission's Impact Assessment of the 2030 climate and energy package is the absence of any quantification with respect to the distribution of effort between Member States in relation to non-ETS emissions so as to ensure a more equitable effort sharing arrangement and to what extent flexibility mechanisms can contribute to the achievement of national targets.[15]

[14] Policy makers in many countries around the world are confronted with the challenge of finding affordable means of reducing GHG emissions. MACCs, pioneered by McKinsey & Company, are frequently used to illustrate the economic and technological feasibility of climate change mitigation. A MACC is defined as a graph that indicates the marginal cost (the cost of the last unit) of emissions abatement for varying amounts of emissions reduction. The construction and interpretation of MACCs has been criticised *inter alia* by the UCL Energy Institute (paper by Paul Ekins, Fabian Kesicki and Andrew Z.P. Smith, April 2011).

[15] European Commission Staff Working Document, Impact Assessment accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: a policy framework for climate and energy in the period from 2020 to 2030, SWD (2014) 15 final, 22 January 2014.

Therefore there is no policy-based research evidence to hand to support changes in the current effort share formula.

What are the arguments for Ireland securing a much lower non-ETS GHG emissions reduction target post-2020?

1. Member States with a GNI level at or above Ireland should currently be bearing a commensurately higher effort share. [16] Using Gross National Income (PPP adjusted), Ireland's GNI has fallen 4% between 2008 and 2012, whereas the GNI of Austria, Belgium, Finland, Germany, the Netherlands and Sweden – Member States will a lower effort sharing target – has risen.
2. The second reason why the current effort share matrix should be changed is that give the significant reduction in national GDP (and GNI) and rising debt to GDP ratio (until 2014), Ireland did not have the resources required to invest in GHG emissions reduction measures (nor energy efficiency or renewable energy to the extent required by binding EU targets) and should not as a consequence be penalised for not meeting its 2020 target.
3. Using historic GDP per capita only as the basis for determining Member State's effort share is clearly inequitable and does not reflect fully *the specific circumstances and capacities of Ireland* for one (as was agreed in the October 2014 conclusions).
4. The Commission's assessment is that the EU-28 will exceed its 2020 non-ETS GHG emissions reduction target of 20% by six percentage points; GHG emissions at EU level are expected to fall by 30% in 2030 over the 2005 baseline.[17] Given this generous margin there are grounds not to impose targets at Member State level much in excess of minus 10% for the period post 2020.
5. The revision of the ESD should be based on Member States' past, current and forecast performance in reducing emissions in **both** the ETS and non-ETS sectors. The collective effort of a Member State's track record to set its economy on a low carbon trajectory using all policy instruments (ETS, non-ETS, renewable energy and energy efficiency) should be taken into account in the determination of the effort share.
6. Even if Ireland could make a strong case based on GDP/GNI performance, this on its own will not help Ireland arrive at a more equitable effort share post-2020 unless other desiderata such as the contribution of agriculture in the economy and the potential of carbon sinks are taken into account. So what might these include? Allowances (percentage reductions in the standard effort sharing 'key') might be added for Member States with agriculture production output above the EU average; where the fall in GDP in the period 2008 to 2014 has been higher than the EU average; where the debt to GDP ratio increased by more than 50% (thereby preventing that Member State from investing in low carbon mitigation measures); and, where renewable energy and energy efficiency targets will be met by 2020.

[16] World Development Indicators, April 2014. GNI (Gross National Income) is based on a similar principle to GNP. The World Bank defines GNI as: the sum of value added by all resident producers plus any product taxes (minus subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad.

[17] European Commission, *Sixth National Communication and First Biennial Report from the European Union Under the UN Framework Convention on Climate Change*, 2014.

The rationale for such a flexible approach - a move away from a GDP per capita formula - is based on the Commission's express policy principle that there should be a fair sharing of effort between Member States which reflect their specific circumstances and capacities.

As the EU's 'distance to target' in meeting a 40% GHG emissions reduction target by 2030 in a Business-As-Usual scenario is just 10%, it would be helpful to know the potential additional contribution that could be made if a 25% EU-wide energy efficiency target was agreed for 2030 and if the share of renewable energy as a proportion of final energy consumed was increased, from its current (2012) penetration of 13% to 25% by 2030.

KEY MESSAGE

There are solid arguments to support the case that Ireland's share of the EU's non-ETS GHG emissions reduction effort post-2020 should be much lower than the current target of minus 20%. Securing a more equitable effort share of the EU's overall burden implies that Ireland will apply the same principle and apply an equitable arrangement so that all parts of the economy contribute to meeting Ireland's non-ETS targets through to 2030.

Agriculture Emissions

A dominant debate in Ireland in the area of climate change is about agriculture, with the agri-food lobby arguing for 'Climate-Smart Agriculture' and others making the case that agriculture should not be given a free pass at the expense of other sectors of the economy and most importantly the general taxpayer.

The discussion on possible mitigation measures takes place in the knowledge of Teagasc data that suggests agriculture emissions in 2030 will be 19.7 Mt or just 0.3 Mt lower than 2020 levels. [18] Using the current effort share arrangement, a 40% reduction in agriculture emissions by 2030 would imply a further 7.5 Mt reduction in agriculture emissions if the farming sector was to contribute its fair share of the national burden; the figure falls to 6.2 Mt if a 30% effort share was used. To put this 2030 distance to target figure in context; it is higher than current emissions from all Irish households.

One has also to factor in the cumulative annual impact of near zero agriculture mitigation over the decade to 2030.

The current EU legal position is that the Exchequer i.e. the general taxpayer will have to pay fines if agriculture and other non-ETS GHG emissions are not reduced. If, for example, agriculture emissions stayed as predicted, fines (at a carbon price of €10/tonne) in the range €500m to €750m may have to be added to the budget arithmetic in the medium term.

The cost of dairy GHG emissions is €0.02 per litre and €0.46 per kilo for beef; or 6.5% and 10.7% respectively of the sales value of these products.[19] If the pollution pays principle applied, all

[18] op cit EPA (2015).
[19] Alan Matthews, Professor Emeritus of European Agricultural Policy, Trinity College Dublin, *Incentivising Climate-Smart Agriculture*, presentation to the IIEA, 5 June 2015.

consumers of dairy and beef should in theory pay the full economic cost of food reflecting Irish agriculture's compliance gap in meeting the sector's emission reduction targets.

But passing on these costs to consumers by way of price increases will not result in any significant abatement. If the compliance cost was collected by way of a carbon tax then it would only work if the monies collected by the Exchequer were used to purchase credits to cover the 'distance to target' shortfall represented by dairy and beef emissions.

The Intergovernmental Panel on Climate Change (**IPCC**) has pointed out that forestry can contribute both to reducing emission sources and to increasing sinks. Due to the direct link between land-use decisions and sustainable development, forestry plays a key role when addressing the climate change problem in the broader context of global change and sustainable development.[20] In Ireland, as has been accepted by DAFM, the forestry sector is a net carbon sink and therefore with much increased afforestation levels, it has the potential to offset **some** agriculture emissions post-2020.[21]

Reflecting the views of Council and the European Parliament on the adoption of the ESD the Commission was asked to submit a report assessing how to include emissions and removals related to land use, land use change and forestry (**LULUCF**) in the Community and to propose how to include this sector in the Community's overall reduction commitment. The proposal of including LULUCF into the 2030 framework was acknowledged in the Commission's Impact Assessment (page 47) and policy options, including the setting up of a new 'land sector pillar', were assessed in a positive manner (page 113). Following extensive consultation, the Commission will bring forward in 2016 a legal instrument that may combine agriculture emissions with other LULUCF emissions and in so doing - from Ireland's perspective - potentially ring-fence agriculture from the proposed additional emissions reduction target in the non-ETS sector. [22]

There is a significant time-lag between planting and the forest becoming a source of carbon. In fact, when the ground is broken to plant a tree carbon is emitted. Therefore the likelihood of new forest sequestration becoming a significant net offset to agriculture emissions is slim this side of 2030. At a very minimum the Exchequer would need with immediate effect to at least triple the premiums and grants to promote afforestation over a decade to generate a forest carbon sink that might be capable of offsetting some of the forecast agriculture 'distance to target' shortfall by 2030.

If the current projected level of forest sinks was included in the calculation and as part of a wider LULUCF envelope an offset of 3.5Mt of carbon offsets could be factored in. This would rise to 5.2Mt if the rate of afforestation was increased to 20,000 hectares. This is an unrealistic level of planting given recent levels of afforestation.[23] However, if a price was put on forest carbon (as has been suggested by Coillte) then this has the potential to change the market dynamics and policy mix.[24]

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[20] IPCC (2007), *Climate Change Synthesis Report, Summary for Policy Makers*, Fourth Assessment Report.
[21] *op cit* DAFM (page 58).
[22] European Commission, consultation on addressing GHG from agriculture and LULUCF in the context of the 2030 EU climate and energy framework, 26 March 2015. The consultation period closed on 18 June 2015.
[23] House of the Oireachtas, Joint Committee on Climate Change and Energy Security, *Report on the European Commission's Green paper on Protecting Europe's Forests Against Climate Change*. The data was provided by Coillte, July 2010.
[24] Presentation by Coillte to the Joint Committee on Climate Change and Energy Security, 10 November 2010.

Another scenario - one less favourable to Ireland - suggests that by allowing such flexibility, we may be given a tougher effort sharing target in the period from 2020 to 2030 which would, in practical terms place a much higher burden of compliance on the non-farming non-ETS sectors, including transport, business and households.

KEY MESSAGE

The Climate-Smart Agriculture project should consider a few additional options, as follows, to the current policy menu which suggests that near zero mitigation for agriculture emissions is the preferred approach.

1. **Determine to what extent statistical transfers could be used to buy compliance pre- and post 2020 and the costs of such an option.**
2. **Assess the impacts and competitiveness implications of having a carbon price on agriculture emissions from 2020.[25]**
3. **Make the case as to why subsidies to the farming community should not be cut to match the fine that the Exchequer (and general taxpayer) will have to pay if net agriculture GHG emissions are not reduced in compliance with binding EU targets.**
4. **Carry out an economic appraisal of applying a carbon tax on Irish beef and dairy exports and domestic consumption to reflect the true cost of agriculture GHG emissions.**
5. **Assess the potential for and consequences of a forest carbon price.**
6. **Quantify the investment needed in afforestation so that forest carbon could completely offset agriculture emissions by 2030.**
7. **Attempt to quantify the specific mitigation measures suggested in the Strategic Environmental Assessment (SEA) of *Food Wise 2025* and the economy wide costs implicit in these measures.[26]**

The very proposition that food producers should make a payment to support the national effort to help our transition to a low carbon economy is anathema to many. If a carbon tax applies to fuel why should it (or a carbon price) not apply to the products that result in Ireland (2015) having one of the world's highest per capita GHG emissions (12.7 tonnes per person) and the second highest in the EU after Luxembourg?

Trading Annual Emission Allocations

The next biggest challenge for Ireland is the required reduction in transport emissions.

Even with significant technological change and some public capital spending, transport emissions will continue to rise (as is forecast by the EPA). A 30% reduction in transport emissions between 2005 and 2030 would require emissions to fall by 4 Mt to 9.2 Mt. However, the EPA is forecasting that

[25] To date, 40 countries have put a price on carbon or are in the process of doing so. On 19 October 2015, several Heads of State joined forces with leaders of states, cities and corporations to call for wider adoption of carbon pricing policies ahead of the Paris COP. German Chancellor Angela Merkel, Philippines President Benigno Aquino III and French President Francois Hollande were among the world leaders who issued a joint statement through the World Bank urging governments and businesses to set up carbon markets and tax carbon emissions.

[26] Department of Agriculture, Food and the Marine, *Agri-food Strategy 2025, Strategic Environmental Assessment, Draft Environmental Report*, June 2015.

2030 transport emissions will be 17 Mt. The detailed measures to achieve a target for a reduction in transport emissions have not been published.[27]

This begs the question as to whether Ireland's motorists should pay for the cost of purchasing carbon credits that can be used to offset the shortfall in meeting the national transport emission targets.

Ideally, this would need to be an Exchequer neutral solution.

The critical question is whether this can be done under the ESD.[28] The Decision allows a Member State which is exceeding its non-ETS annual emission allocation (**AEA**) to transfer up to 5% of its allocation to other Member States. There is no limit on the amount of AEAs that Ireland could purchase. How precisely this is to be done, and importantly at what price the units might be sold has yet to be determined by the EU's Climate Change Committee. However, in theory, Ireland could purchase its shortfall in transport AEAs from another Member State.

A 20% reduction in transport emissions by 2020 (from 2005 levels) represents some 2.6 Mt. At the current price of €8.5/tonne[29] buying credits to cover this shortfall would cost the Exchequer/motorist some €22m, or some €8.84 per registered vehicle per annum. [30] Is this a more cost effective option (at least in the short term) than other proposed measures?

Given Ireland's circumstances, and with many Member States likely to exceed their non-ETS targets, a case could be made whereby (in the context of the negotiations on the revised ESD) the 5% limit might be increased to 10% so giving additional flexibility.

Given the current low price of carbon, the costs and benefits of Ireland making maximum use of the AEA trading platform by passing on the costs to the sectors concerned should be evaluated.

The Carbon Budget

The Exchequer receives payments and makes investments and the consumer too contributes to the goal of a low carbon society.

On the positive side of the equation, Ireland's share of the EU ETS auctioning revenues is some €41.6m (in 2013) and is expected to rise over the period to 2020.[31] These receipts (up to 2020) have been included in Exchequer budget annual forecasts to date. It is perhaps timely to open a discussion about the most appropriate distribution of ETS auctioning revenue after 2020 and specifically if this windfall revenue should be used for example to co-finance energy efficiency investments; to buy offsets for compliance purposes; and/or to contribute to the achievement of public sector energy efficiency targets.

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[27] Department of Transport, Sport and Tourism, *Preparation of Low-Carbon Roadmap for Transport*, Issues Paper for Consultation, December 2013.

[28] Decision 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020 (Article 3.4).

[29] Argus European Emissions Market (24th October 2015).

[30] *Statistical Yearbook of Ireland 2012 Edition*, CSO. It is assumed that there are some 2.5 million registered vehicles in the State (2015).

[31] D/ECLG estimate (June 2014). See also Annex 1 to COM (2014) 659 final, October 2014.

Carbon tax generates some €385m annually (2015). If the current rate of carbon tax at €20/tonne was increased by €10 this would generate some €214m in additional revenue, or nearly €1 billion over five years. Such a sum could help Ireland buy much of its non-ETS compliance. However, in line with Government policy this source of funding will not be hypothecated to support low carbon measures and actions.

D/PER has assessed the risk of Ireland not meeting a much higher non-ETS burden sharing arrangement post-2020 and has concluded that ....*the scale of the adjustment (to the Exchequer) would be untenable and the costs of purchasing units to meet compliance could spiral*. The Exchequer (and the tax-payer) are exposed to additional and quite significant costs, including some €90m should - or more realistically when - Ireland fail to achieve its non-ETS targets [32] and upwards of €800m per annum for adaptation measures.[33]

Flood damage repairs (which cost some €1.5 billion between 2002 and 2013) are such an on-going risk that €430m has been provided in the 2016-2021 capital budget.[34]

From 2021, Ireland may have to pay (separate) fines of upwards of €600m if we fail to meet the EU's legally binding renewable targets.[35] In recognition of this risk, the Government has allocated some €444m in the Public Capital Programme (2016-2021) towards SEAI's energy efficiency programmes and the Renewable Heat Initiative. However, this budget envelop broadly reflects SEAI's current capital budget for the delivery of its current schemes and programmes.

D/PER also needs to factor in Ireland's contribution to support climate finance in developing countries and whether - in line with the revised ETS Directive - if a contribution should be made from auctioning revenue.

If these costs were not a matter of concern, the ESRI/UCC modelling work suggests that the Exchequer could be exposed to fines running to 'billions of euros' in Ireland fails to meet its non-ETS emissions reduction targets.[36] Such a high figure is predicated on an assumption that the price of carbon rises from a forecast €74/tonne in 2020 to €336/tonne in 2050; the current price is nearer €8.5/tonne and the forecast price by 2030 is around €50/tonne.[37]

Finally, this year the electricity consumer will pay some €173.9m in a PSO levy supporting three REFIT (Renewable Energy Feed-in Tariff) schemes that are the primary means through which electricity from renewable sources is supported in Ireland; the corresponding figure for 2014/2015 was €94.3m reflecting low fossil fuel prices.[38]

The following Table summarises these key inputs and outputs.

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[32] *Future Expenditure Risk Associated with Climate Change/Climate Finance,* Department of Public Expenditure and Reform, June 2014.
[33] *Coordination Communication and Adaptation for Climate Change in Ireland: an Integrated Approach*, EPA, 2013.
[34] *Building on Recovery: Infrastructure and Capital Investment 2016-2021,* Department of Public Expenditure and Reform, September 2015.
[35] D/CENR estimate, June 2014. This assumes a 4% shortfall on the overall 20% target.
[36] *op cit* DPER (June 2014).
[37] Thomson Reuters Point Carbon, *The MSR: Impact on Market Balance and Prices*, 2014.
[38] Commission for Energy Regulation, *Public Service Obligation Levy 2015/2016*, July 2015.

Table 3 - Ireland's Carbon Budget

Current Revenue	PSO Payments (2015/2016)	Exchequer Investment (2016-2021)	Additional Future Costs
€385m from carbon tax (2014)		€444m in energy efficiency and renewable energy	€600m in 2021 if Ireland does not meet its renewable targets to 2020
€41.6m from ETS auctioning revenue (2013)		€430m in flood defences	€91m in 2021 should Ireland fail to meet its non-ETS targets and 'billions of euros' if Ireland fails to meet its post-2020 non-ETS targets
	€173.9m in PSO REFIT subsidy		Cost of UN Climate Finance initiative
			€800m per annum in adaptation measures

KEY MESSAGE

Given the magnitude of these figures (and the assumptions underpinning them, especially the forecast carbon price) and the potential cumulative negative impact on the Exchequer's position, it behoves the next Government to complete a detailed risk analysis and an economic impact assessment of potential Exchequer exposure should Ireland fail to meet its current never mind its post-2020 non-ETS, renewable energy and energy efficiency targets. To this end, the National Expert Advisory Council on Climate Change might be asked to prepare a report on Ireland's carbon budget through to 2030 under several scenarios.

Energy and Climate Change

As energy accounts for some 70% of global GHG emissions, energy will be at the core of the Paris COP negotiations.

The International Energy Agency supports a strategy that could deliver a peak in global energy-related emissions by 2020 through energy efficiency, reducing the use of the least-efficient coal-fired plants, and increasing investment in renewable energy technologies.[39]

The Government's forthcoming White Paper on energy will, presumably, deal with implications for our future energy policy of the EU's October 2014 decisions. To be fair, the White Paper will probably have to base itself on assumptions, or alternative scenarios, on a number of important unknowns particularly, for example, as regards the outcome of the Paris COP; Ireland's effort share post 2020; and the Brexit risk and associated implications for future interconnection policy and for developing an export market for our renewable energy.

[39] *Energy and Climate Change*, IEA, 2015.

One way or another, future EU energy and climate change targets will have a direct and fundamental impact on Ireland's energy policy in at least three areas:

1. ETS emissions reduction in the energy sector
2. Delivering a new renewable target; and
3. Delivering a new energy efficiency target.

ETS

If Ireland's power generation emissions fall this will be reflected in the EU's ETS inventory only. Ireland's overall effort at reducing GHGs emissions, as the rules stand at present, has to ignore ETS emissions, and energy emissions in particular. As argued earlier, one could make the case this is not fair as does not reflect the overall national effort to reduce GHG emissions across the economy.

Using an annual linear reduction (**ALR**) of 1.74%, Irish ETS emissions have to be reduced by some 2 Mt by 2020. Achieving the 2030 EU ETS target assumes that an ALR of 2.2% applies (as proposed by the Commission) and in such a scenario Irish ETS emissions will have to fall to 13.4 Mt by 2030. In 2005, Ireland's ETS emissions were 22.4Mt so meeting a 40% reduction by 2030 is not only a real challenge but is arguably unrealistic given the dominance of energy in the ETS mix and the long timeframe for energy infrastructure investment decisions. On the other hand, as is explained below, GHG emission reductions resulting from the greater use of renewable energy and higher energy efficiency could bridge much of this 'distance to target'. As the ALR is set at EU level and applies equally to all Member States, there is, in reality, no wriggle room in terms of negotiating a special deal in relation to the application of a lower ALR for Ireland.

Energy ETS emissions were 15.9 Mt in 2005 and will have to be reduced by 40% i.e. by 6.3 Mt by 2030. This is equivalent to the current GHG emissions from the coal-fired Moneypoint plant and suggests that changing the fuel mix at this station must be one of the options to be addressed in the White Paper. The availability of Corrib gas as a feedstock at Moneypoint and at other plants will also be a factor, not least in terms of the imperative of energy security.

The revised EU ETS Directive and the revised ESD should take the totality of effort at Member State level into account. Thus, for example if Ireland is making good progress in meeting its ETS energy emissions reduction targets and is likely to meet its 2030 ETS target, this should be taken into account not only in relation to setting the non-ETS effort share burden but in relation to the determination of national renewable and energy efficiency targets. Given that achieving the EU's overall emissions reductions target is the primary policy objective Member States should not be straight jacketed into a compliance scenario that does not reflect the entire national effort across all mitigation options. To be fair, the European Commission seems to be open to this argument.

Renewable Energy

In 2013, renewable electricity generation in Ireland was some 20.9% of total production and some 20% short of the 2020 40% target. The EU binding renewable energy target for Ireland covers three sectors – electricity, heating and transport – with a 16% target for electricity bearing the lion's share. To meet the 40% electricity target by 2020, current levels of deployment of onshore wind (170 MW per annum) will need to rise to 240 MW per annum and higher levels investment in biomass, CHP and waste to energy will also have to be delivered. If Ireland achieves EU target of 40% renewable

electricity consumption by 2020, then GHG emissions savings could be some 3.8Mt, or nearly 6.7% of total Irish emissions.[40]

In contrast to this progress, the RES-T target of 10% may not be met (as we are at 4.9%) unless the proposed biofuels obligation scheme is a success. [41]

It is also possible that we will not meet the RES-Heat target of 12% by 2020 as a major investment in bio-energy will be required to improve the current 5.7% penetration rate and there is no evidence yet that this level of project financing is in the pipeline. A critical factor is the success or otherwise of the Renewable Heat Incentive, which was proposed as part of the bio-energy strategy.

As Ireland has different natural advantages to other Member States in relation to the deployment and use of some renewable energy, the next Government should make a strong case once negotiations get underway in relation to the post-2020 renewable energy Directive that setting sub-targets is not an optimal solution. We should accept the overall target (27% for the share of renewable energy consumed by 2030) on condition that we are given the flexibility to achieve this level of ambition through the most cost-efficient measures that are feasible. For example, is it a carbon efficient solution to import bio-fuels simply because we have a RES-T target to meet?

As Ireland's National Renewable Energy Action Plan (developed in close consultation with stakeholders) is facilitating the delivery of current targets, it will no doubt form the basis for securing implementation of the post-2020 renewable energy targets.[42]

Remarkable progress has actually been made in Ireland in recent years in the area of integrating large scale intermittent - largely wind - generation in a small and isolated synchronous electricity system. We are at the leading edge from a technology perspective and this has been recognised internationally. We are not like Denmark, whose system is linked in directly to two major geographic systems - NordPool and Central Europe - which can accommodate Denmark's very large wind generation levels without hitting system stability or security of supply problems.

Realistically, looking forward to 2030 we have to acknowledge that that there are limits to how much beyond the 40% target our system can be expected to accommodate without either (i) providing a commercial outlet for physical exports of our renewable generation, or (ii) increasing the role of sources other than wind for meeting our renewable energy obligations. A further factor to bear in mind is the public acceptability or otherwise of the sheer scale of physical investments in wind turbines and overhead lines required to significantly exceed a 40% penetration level.

Under the current RES Directive it is possible for Member States (say Ireland and the UK) to meet their respective targets by buying compliance from each other. [43] For instance, using the technique of **statistical transfers**, an amount of renewable energy could be deducted from one country's

[40] SEAI, *Quantifying Ireland's Fuel and Carbon Emissions savings from Renewable Electricity in 2012*, May 2014.
[41] It is proposed to increase the BOS to 7%-8% from 2016. The BOS is the main policy instrument to deliver the RES-T target.
[42] National Renewable Energy Action Plan, Department of Energy, Communications and Natural Resources, July 2010. Ireland submitted a first progress report in January 2012 the second progress report in February 2014.
[43] European Commission Staff Working Paper, *Guidance on the use of renewable energy cooperation mechanism*, SWD (2013) 440 final, November 2013.

progress towards its target and added to another's. This is an accounting procedure and no actual energy changes hands. The beneficiary country pays a cost but the price will be more cost-efficient than a new build. Ireland and the UK also have the option of co-funding a **joint support scheme** to spur RES-energy production in one or both jurisdictions for the purposes of meeting their respective overall RES targets post-2020. This form of cooperation could involve common REFIT tariffs, a common feed-in premium, or a common quota and certificate trading regime. **Joint projects** (such as the Midlands' wind farm projects) are a third option. Once Ireland has determined its 'compliance gap' with the 2030 RES targets, a cost benefit assessment of these options should decide the preferred policy approach.

Energy efficiency

Ireland has a clear, transparent and comprehensive policy on energy efficiency that is articulated through the National Energy Efficiency Action Plan.[44]

Carbon savings arising from investments in energy efficiency measures also contribute to GHG emission reductions. The national target to reduce energy demand by at least 20% in 2020 could result in GHG emissions reduction of a further 7.7 Mt per annum, or nearly 13.6% of total Irish emissions. To date, 12,000 GWh has been saved (representing an annual reduction of €700m in imported fossil fuels). To meet the target of a reduction of 32,000 GWh (and some €2.5 billion in savings in terms of imported fossil fuels) around €1 billion a year needs to be spent including the retrofitting some 100,000 home every year over the next five years. In addition, the Energy Efficiency Obligation Scheme (under Article 7 of the Energy Efficiency Directive) places a legal obligation on energy suppliers to achieve an annual saving of 1.5% of annual energy sales to final customers. [45]

As between €62m to €83m per year in Exchequer expenditure has been allocated to energy efficiency (and the RES-H scheme) it seems unlikely that Ireland will fully meet what are (as yet) non-binding energy efficiency targets.

Electricity demand in Ireland in 2014 was 8% below the level of 2007 (and this is reflected in a fall in energy GHG emissions) at a time when €4 billion has been invested in additional generating capacity and interconnection, including 1300 MW in carbon efficient CCGT plants. We have more than a comfortable margin in aggregate generation capacity given medium term economic growth projections. A significant investment in reprofiling some of this capacity - from baseload to more flexible operation - will be required however, and possibly more effective market signals need to be given to less efficient plant. Investment decisions (including those of future grid connections) will need to take account of Ireland's progress in meeting its RES and energy efficiency targets by 2030. What is needed is a clear statement of policy about the 2030 target mix of fossil fuels/renewable energy. Would a 50/50 conventional/ renewable mix be sufficiently ambitious and realistic?

Finally, the role of natural gas as an alternative to more carbon intensive fuels in the electricity, transport and sectors should not be overlooked. We have invested massively over the years in our

[44] National Energy Efficiency Action Plan, third version, Department of Energy, Communications and Natural Resources, 2014.
[45] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, OJ L 315, 14 November 2012.

gas transportation network with a relatively small customer base. We now have Corrib gas coming on stream to replace, in part, our current 95% reliance on North Sea gas. We must make the best use of this network if we are to avoid major reductions in throughput and an associated spiral of rising unit network costs for consumers.

In conclusion, any discussion on Ireland's overall response to the 2030 climate and energy framework should assess how a fall in energy related emissions flowing from the renewable energy and energy efficiency targets set at EU level will contribute to the overall reduction of national non-ETS and ETS GHG emissions. By 2020, through the use of more renewable energy and greater energy efficiency, Ireland's GHG emissions are forecast to fall by 11.5Mt; this is the equivalent of 20% of forecast 2020 emissions. What is the collective potential through to 2030?

KEY MESSAGE

A primary objective of the Government's White Paper should be to re-position and re-align national energy policy to 'fit' with what in all probability will become legally binding targets at EU level for ETS energy emissions, renewable energy and energy efficiency in the period to 2030.

Ireland's Strategic Issues at EU Level

Ireland has a national policy position on climate change - a national low-carbon transition objective for 2050 - but will not have a fully developed and integrated energy and climate change policy reflecting the EU's 2030 framework until a White Paper on energy and a National Mitigation Strategy are published.

KEY MESSAGE

While political decisions agreed at EU level are designed to facilitate Ireland moving to a pathway to deep decarbonisation as a medium term objective some significant amendments, as follows, to the Commission's proposals need to be secured.

1. **The effort sharing allocation post-2020 should include a wider range of criteria and not be based on historical GDP per capita data. Ireland should endeavour to secure no more than an additional minus 10% burden share.**
2. **A LULUCF envelope/pillar should be designed and adopted and a price set for forest carbon.**
3. **To give effect to the principle of *a fair sharing of efforts between Member States which reflect their specific circumstances and capacities* the combined GHG emissions reduction in both the EU ETS and non-ETS sectors should be taken into account in determining Ireland's overall compliance levels.**
4. **The Commission should quantify the potential savings in GHG emissions reduction at Member State level if higher renewable energy and energy efficiency targets were agreed and assess how these reduction levels should be reflected in revised targets through to 2030 in the ETS and non-ETS sectors.**

Driving the Agenda Beyond Compliance - National Flagship Projects

Securing a lower burden share post 2020; using offset options where these are cost effective; and driving compliance to meet the EU's targets is the minimum of what one would expect of the next Government.

There is an alternative more entrepreneurial approach that could position Ireland as one of Europe's green economies.

The following four projects could be the subject of a full business case to determine their commercial viability. If the evidence pointed to cost efficient investments these National Flagship Projects could have a dramatic impact on Ireland's ability to meet its the energy ETS, non-ETS, energy efficiency and renewable energy targets.

1. **Convert Moneypoint to a full biomass plant.** As coal is phased out there would be a potential annual carbon saving of some 6 Mt a year (and the ESB would be able to monetise the value of the unused allowances). In addition, such an investment decision would more than help Ireland meet its RES-E target. Imported biomass may be more expensive than coal but the plant has jetty and storage space for this new feedstock. This option should not involve any Exchequer expenditure nor should a biomass REFIT be introduced for a plant of this scale using imported feedstock.
2. **Plan to have the necessary infrastructure in place so that every new car in Ireland in 2030 will be an electric vehicle.** The annual carbon saving in the transport sector would be some 8 Mt. This is not a new idea.[46] However, to achieve such a high level of ambition, the manner in which the current project is being implemented would need to be overhauled with global EV manufacturers (and not the energy sector) invited to Ireland to drive the project.
3. Once the EU legislates for LULUCF the carbon value of new afforestation could be monetised as the credits for forest carbon sinks may be used as an offset against agriculture emissions. Unlocking this value will be attractive to investors. Therefore **by 2030, the Government should (through Coillte and private operators) promote much enhanced afforestation levels that will generate some 45 Mt in carbon sinks between 2035 and 2050**. Again, this is not a new idea.[47] But it requires a dedicated and motivated project delivery team.
4. It has been estimated by the SEAI that investing in energy efficiency, sufficient to bridge the gap to the 2020 energy efficiency targets, will generate savings of some €11 billion. More than 15 TWh of primary energy savings potential remains after 2020.[48] **It is now time to plan for the investments needed to achieve deep retrofitting across the entire economy by 2030.** In order to meet the targets set under the Energy Efficiency Directive the country's energy generators should be required not only to play a lead role in this decarbonisation endeavour but to make a financial contribution towards priority cost efficient solutions. A project of such a scale requires not only a dedicated project delivery team of a size not

[46] *Drive for Zero: Electric Vehicles are a Winning Proposition*, Report of the Oireachtas Joint Committee on Climate Change and Energy Security, April 2009, rapporteur, Simon Coveney, T.D.
[47] *Report of Public Hearings on Sustainable Forestry and Forest Carbon Sequestration*, Report of the Joint Committee on Climate Change and Energy Security, January 2011.
[48] *Unlocking the Energy Efficiency Opportunity*, SEAI, June 2015. These benefits flow from an investment of over €3 billion which delivers a NPV of €8 billion.

previously contemplated but a fundamental re-thinking of our approach to energy efficiency.

As these projects fall under the responsibility of four Departments, three commercial semi-states, and at least five State agencies - never mind all of Ireland's local authorities - there may a temptation to say it will not happen.

Provided it makes commercial sense (and if implemented by 2030) these four flagship projects could go a very long way to secure Ireland's future as a low carbon economy.

Low Carbon Leadership

Four Government Departments (ECLG, AFM, TSS and ECNR) are working on sectoral strategies that will be informed by the NMP.

A White Paper on Energy,[49] *FoodWise 2025* [50] and the NMP will all announce how Government policy objectives on climate change and energy will be delivered.

All these issues are interdependent; there are on the opposite sides of the same coin.

The challenge facing the current Government as articulated by the Taoiseach at the September 2014 UN summit on climate change is the same as that facing the next Administration:

> *Leaders must show conviction, clarity, courage and consistency in their actions. Conviction.....that targets are fair and achievable. Clarity.....in knowing that our targets will keep the rise in global temperatures below 2°. Courage.....to step up to the mark. Consistency.....in implementing policy, and creating a credible track record.*

The directors who serve on the boardrooms of Ireland would be well-advised to read what the Governor of the Bank of England had to say about climate change and who concluded: *climate change will threaten financial resilience and longer-term prosperity.*[51]

All medium to large sized Irish companies - public and private - (i.e. those employing more than 250 people) should not only disclose what they are emitting but how they plan their transition to the net zero carbon world of the future. To this end the work of CDP Ireland is to be commended.[52]

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[49] In May 2014, the Green Paper on Energy Policy in Ireland was launched, opening the way for a public consultation process on the future of energy policy in Ireland for the medium to long-term. The three key pillars of energy policy (as identified) are to focus on security, sustainability and competitiveness. Over 1,240 written submissions were received. In September 2014, DCENR launched the stakeholder engagement phase. The White Paper is expected to be published in a matter of weeks.

[50] Department of Agriculture, Food and the Marine, *FoodWise 2025: a ten-year vision for the Irish agri-food industry*, 2015.

[51] Speech by Mark Carney, Governor of the Bank of England, to Lloyd's of London, 29 September 2015. One of his key points was that the exposure of UK investors to 'stranded' fossil fuel assets (i.e. those on balance sheets that will never be exploited) is potentially huge.

[52] CDP (formerly the Carbon Disclosure Project) is the world's leading sustainability reporting platform. A group of leading Irish companies has come together under the banner of the CDP Ireland Network to promote the development of Ireland as a low carbon economy and to assist in developing an economic system that operates within sustainable environmental boundaries.

Leaders also include the business community who of late (with some exceptions) have been content to let the national discourse on climate change drift into a state of near silence. It is time that climate change and energy are put back centre-stage of Irish politics.

While Cabinet Committees can provide a measure of co-ordination, in the absence of a Department responsible for the low carbon agenda there is a danger that the collective effort (and genuine political will) to affect change will not achieve its full potential.

Mindful of the structures in other jurisdictions, the next Government should set up a Department for Climate Change and Energy. [53]

Consideration should also be given to extending SEAI's remit (with a supporting budget) to cover the coordination of the delivery of the NMP. In that way SEAI's technical expertise could assist the decarbonisation effort across the whole of Government.

To promote engagement with the business, construction, agri-food and transport sectors and consumer interests (i.e. those most affected by climate change mitigation measures) and to copper-fasten their unequivocal support, the Government should also set up a Low Carbon Task Force, chaired by the chairman of the National Expert Advisory Council on Climate Change, with a remit to work with Government and its agencies to ensure that all stakeholders buy into the transition to a low carbon economy, including measures to promote renewable energy and energy efficiency.

Conclusion

It is to be hoped that Ireland's renewable energy, energy efficiency, climate change and agriculture emissions policies and supporting taxation and subsidy arrangements will be better aligned and somewhat more consistent than is the case today.

As the OECD has pointed out clear and credible government policies will spur innovation, encourage investment, change consumer behaviour and foster entrepreneurship as we start the transition to a low carbon economy.[54]

KEY MESSAGE

Policy has been set at EU level. What is absent is an accountable, funded and cost effective low carbon action plan to 2030. There is a compelling case that the next Government drives this agenda by appointing a senior Minister with responsibility for the task of de-carbonising the Irish economy across the whole of Government in collaboration with all stakeholders and consumers. Business leaders too need to take the climate change agenda far more seriously than has been the case of late.

[53] Department of Energy and Climate Change (UK), Ministry of Climate, Energy and Building (Denmark), Department of Climate Change and Energy Efficiency (Australia), and the Ministry of the Environment and Energy (Sweden).

[54] *Aligning Policies for a Low-carbon Economy*, OECD (2015).