EAI Response to Public Consultation

Climate Action and Low Carbon Development Bill

Electricity Association of Ireland

Energy and Environment Policy Committee

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Contents

The Electricity Association of Ireland (EAI) is the trade association for the electricity industry on the island of Ireland, including generation, supply and distribution system operators. It is the local member of Eurelectric, the sector association representing the electricity industry at European level.

EAI aims to contribute to the development of a sustainable and competitive electricity market on the island of Ireland. We believe this will be achieved through cost-reflective pricing and a stable investment environment within a framework of best-practice regulatory governance.

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EXECUTIVE SUMMARY

The concerns of policy-maker in relation to climate change, together with those of the sector itself, have resulted in climate policy becoming a key driver of decision-making and investment within the electricity sector at a national and European level. The current legislative framework on climate change means that this issue will continue to dominate the strategic direction of the sector for the foreseeable future.

With respect to the proposed legislation on Climate Action and Low Carbon Development, the EAI:

- Considers the proposal a useful first legislative step in developing the institutional framework within Ireland to initiate and progress policy measures in a structured manner and with potential for a high level of cross-Government coordination. This is in line with the report of the National Economic and Social Council (NESC).
- Welcomes the recognition given to existing and future EU legislation, the need for a least cost approach and the related requirement to secure and safeguard economic development and competitiveness.
- Notes the requirement to meet the ultimate objective of the UN Framework Convention and that this has been given practical expression by the European Council as an 80% - 95% reduction in EU greenhouse gas (GHG) emissions by 2050 compared to 1990.
- Notes that through a combination of geographical and structural features Ireland has uniquely stretching 2020 targets under the Effort Sharing Decision (ESD) and would caution that going beyond the EU framework creates limited or no benefits relative to the potential costs involved.

However, EAI is of the view that the legislation also presents an opportunity to address a number of other factors critical to the long-term delivery of a low carbon economy. EAI has identified three such factors:

1. Facilitating the future role of low carbon electricity to deliver a decarbonised economy. The EU 2050 Energy Roadmap and the recent NESC report highlight the point that the least cost option to deliver a low carbon economy is to progressively decarbonise electricity and substitute electricity for fossil fuel use in the economy. This applies in particular to heating and transport. Short-comings in the existing legislative structure (EU and national) are obstructing this and are adding valueless costs to the delivery of current targets. Providing a framework within the proposed legislation in which the lack of cohesion between key climate and energy policy instruments can be mitigated or removed will eliminate avoidable costs and improve Ireland's relative competitiveness.
2. Existing legislation currently prohibits deployment of two of the three low carbon generation technologies available; nuclear and carbon capture and storage. Ireland has a very limited dispatchable renewable resource (approximately 2% of current demand). The legislation could provide a framework to promote the delivery of the significant additional resources that will be required for research, development and deployment of new renewable and energy storage technologies. In addition, large-scale interconnection with the GB electricity market will be required to address Ireland's sole reliance on variable renewable generation. Consideration could be given to prioritising the planning and authorisation processes for such developments within the legislation.
3. Ireland's GHG emissions profile is unique within the EU with emission from agriculture/food production contributing 44% of EU Effort Sharing Decision emissions (vs. 16% for the EU27) in 2012. Consequently, resolving the treatment of emissions from agriculture, land use and forestry is a particular requirement for Ireland. The proposed legislation provides for

sectoral roadmaps containing measures to deliver emission reductions and adaptation. Consideration could be given to moving further and providing a framework for the specific and separate treatment of Agricultural/Food production emissions that could be promoted to the EU and internationally. Currently Ireland risks trying to achieve too much in too short a period with too limited technological solutions and financial resources.

The Association also wishes to highlight that electrification of heating and transport, as supported by the 2050 Roadmaps and the NESC report, will bring important additional co-benefits in terms of urban air quality.

EAI is hopeful that the above points will receive positive consideration by the Joint Committee in its deliberations.

1. Introduction and Background

The Electricity Association of Ireland (EAI) welcomes the opportunity provided by the Joint Oireachtas Committee on the Environment, Culture and the Gaeltacht to comment on the Heads of the Climate Action and Low Carbon Development Bill.

The Association represents the electricity sector on the island of Ireland and includes in its membership companies responsible for over 90% of generation and supply activities and 100% of distribution activities. Through our active membership of Eurelectric, the representative body for the sector at European level, we maintain a close involvement in policy and legislative developments at European Union (EU) level. In this context, our Chief Executive is Chair of the Environment and Sustainable Development Policy Committee of Eurelectric, which addresses climate and environmental issues on behalf of the European sector, and is a member of its management committee. EAI, though its members, was closely involved in Eurelectric's 2009 "Power Choices" study – the first 2050 "Roadmap" developed – and with the current review of that study which is examining the impact of EU climate-energy policy incoherence on investments and costs.

The subsequent comments in this submission address the Republic of Ireland only.

The Committee is aware that accountability for Greenhouse Gas (GHG) emissions is divided between the EU and member states under the 2009 "20:20:20 Package". Installations in sectors covered by the EU Emissions Trading Scheme (ETS) Directive[1] are accountable on an EU-wide basis and operate under the ETS emissions cap, which declines by a fixed annual amount. These sectors represented some 41% of EU emissions (28% in Ireland) in 2011. Member states are accountable within their own territories for emissions from those sectors not covered by the ETS, notably agriculture, transport and heating in the industrial, commercial and domestic sectors. Member states are subject to a differential cap under the Effort Sharing Decision[2] (ESD) that decreases annually to 2020. Ireland, along with Denmark and Luxembourg, has the highest reduction target under this Decision (-20% compared to 2005).

The electricity sector contributed approximately 11.5 Mt CO2 or 20% of national greenhouse gas (GHG) emissions in 2011. This is approximately 0.5 Mt more than in 1990 but a reduction of 5.5 Mt on peak emissions in 2001. Since 2005 emissions from the sector have been accounted for within the EU ETS cap.

However, the most important point regarding electricity is the crucial role it will play in the delivery of a low carbon economy.

[1] DIRECTIVE 2009/29/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community

[2] DECISION No 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

Studies undertaken by the EU Commission[3] (the 2050 Roadmaps), NESC[4] and other non-governmental organisations[5] all indicate that the least cost way to deliver a low carbon economy is to progressively decarbonise electricity and substitute electricity for fossil fuels in energy use. Such substitution will happen primarily in the heating (controllable heat pumps and advanced storage heating systems) and transport (electric vehicles) sectors. A consequential co-benefit in terms of urban air quality will also arise from this substitution as sulphur and nitrogen oxides, particulate matter and transport related organic compound emissions are eliminated. Significant progress has already been made on decarbonising electricity (See Figure 1). However, policy conflicts are blocking progress on fossil fuel substitution.

A further critical factor is that Ireland must move more rapidly along this pathway as a consequence of the relative isolation of the electricity system, the scale of the de facto emission targets for those sectors covered by the ESD and the domestic policy decision to rely solely on renewable energy as a means of decarbonising electricity generation. These points are developed further in Appendix 1.

Consequently, putting in place an appropriate legislative framework that supports and drives the necessary developments in electricity generation, distribution and supply is of major economic and social importance.

Figure 1 Emissions per unit of electricity supplied (kg/kWh)

Source: SEAI, Energy in Ireland, 2012

[3] COM(2011) 112 final. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: **A Roadmap for moving to a competitive low carbon economy in 2050**
COM(2011) 885/2. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: **Energy Roadmap 2050**

[4] Ireland and the Climate Change Challenge: Connecting 'How Much' with 'How To', NESC 2012

[5] Power Choices, Eurelectric, 2009

While the Heads of Bill also address the issue of adaptation, the Association considers this of secondary importance to the emissions abatement policy framework and does not propose to address these matters in any detail.

2. Relevant Elements of Climate Action Bill

The Heads of Bill propose to put in place an institutional framework to determine appropriate climate policy objectives for Ireland in terms of emissions abatement and adaptation. This is in line with the recommendations of the NESC Secretariat report on Ireland's 2050 climate objectives. The Association is broadly supportive of the structure of the Bill in this regard and offers the following observations.

- The proposal is a useful first legislative step in developing the institutional framework within Ireland to progress policy initiatives in a structured manner. It provides for a high level of cross-Government coordination. The creation and composition of the proposed Expert Advisory Body should contribute to this aim. This body should, in addition to the ex officio positions, include business representation given the consequences the transition to a low carbon economy will have for commercial and industrial activities. We would strongly suggest that business representation has knowledge of the electricity sector to reflect the crucial role electricity will play in achieving the 2050 objective.

- The Heads of Bill (Head 4 (2)) provide that regard must be had in the first instance to the ultimate objective of the UN Framework Convention. The European Council of Heads of State and Government, reflecting the analysis of the Intergovernmental Panel on Climate Change (IPCC), agreed an EU objective of reducing greenhouse gas emissions by 80-95% by 2050 compared to 1990 in October 2009. The Council reaffirmed this objective in February 2011 noting that this "will require a revolution in energy systems, which must start now". The Association assumes this will be the basis for Ireland's 2050 objective.

- It is important from an economic perspective that Ireland's climate policy is fully consistent with that of the EU and that legislation reflects the framework of accountabilities defined in EU law. Currently emissions from the electricity sector fall within the EU ETS and are accounted for at European level as part of the ETS cap. The current annual reduction factor for the ETS cap implies that emission from all ETS sectors will be at net zero by 2065 approximately. This will happen earlier for the electricity sector (by 2050) and public commitments have been given by member company Chief Executives[6] in this regard. The State is accountable for emissions from those sectors outside the ETS whose target for 2020 is defined under the ESD. As noted elsewhere in this submission, Ireland will require making more structural change to its energy systems within both the ETS and ESD sectors to deliver its binding 2020 climate and targets compared to other member states. The Heads of Bill provide for both early adoption of the 2050 objectives (Head 4 (2)) and an option to move beyond requirements under EU legislation (Head 5 (4) b). EAI would urge caution in this regard given the scale of the challenge for Ireland to 2020, which requires:

[6] Declaration by European Chief Executives, Eurelectric, 2009.
http://www.eurelectric.org/CEO/CEODeclaration.asp

- A de facto cut of some 33% in emission from the ESD sectors when agriculture is excluded as opposed to a nominal 20%, and
- The highest level of penetration of variable renewable generation on a bounded electricity system within the EU.

The scale of the challenge is underlined in the most recent projections of the Environmental Protection Agency[7] which indicate a breach of Ireland's ESD obligation by 2016 and an annual shortfall in 2020 of 3% to 10%.

Nonetheless, Ireland is already at the forefront globally of technological developments in the electrification of heating and transport and in the management of large-scale penetration of variable renewable generation on electricity systems. Further ambition must consider the availability and capabilities for technological solutions on both the supply and demand sides and the potential for financial support from the State for innovation. Under these circumstances, the Association sees limited or no benefits relative to the potential costs involved in moving beyond EU targets and policy objectives.

- The Association welcomes the commitment to a least cost approach and the related requirement to secure and safeguard economic development and competitiveness (Head 5 (10)). As noted above, a range of studies has identified an expanded role for electricity as critical for the delivery of such an approach.
- Concerning adaptation, the time frames for investment in electricity sector generation and networks infrastructure are lengthy, typically 40 years. The sector follows closely the work of the Intergovernmental Panel on Climate Change (IPCC) and other scientific bodies. Awareness of developments in the science, in particular the projected impacts in terms of frequency and intensity of weather events, temperature increase and sea level rise, feature increasingly in investment decisions by Association members. Programmes are in place to build the resilience of electricity sector infrastructure. Fortunately, projections indicate that climate change will have a lower level of impact on Ireland relative to most other regions, minimising the costs of adaptation.

[7] Ireland's Greenhouse Gas Emission Projections 2012-2013, EPA, 2013

3. Further Opportunities

In addition to creating an institutional framework to address the transition to a low carbon economy, EAI is of the view that the new legislation can provide an opportunity to address related issues that impact on Ireland's response and the costs associated in meeting legal obligations and objectives. Three further issues are identified below to which the Committee is urged to give consideration.

3.1 The role of electricity: facilitating the delivery of a decarbonised economy

The EU 2050 low carbon economy and energy Roadmaps and the recent NESC climate report highlight the point that the least cost option to deliver a low carbon economy is to progressively (i) decarbonise electricity and (ii) substitute electricity for fossil fuel use in the economy. This applies in particular to energy use in heating and transport. However, short-comings in the existing legislative structure (EU and national) are obstructing this and are adding valueless costs to the delivery of present targets.

The current focus at EU level relates to the lack of coherence between the three 2020 targets. This has created a large divergence between an explicit price for carbon in the ETS market (€2 - €3) and an implicit price of carbon (> €200) related to the subsidies provided to photovoltaic cells in member states. This divergence is delaying necessary investment decisions across the EU. New policy proposals are under consideration and the recent informal Joint Energy and Environment Council meeting in Dublin on 23rd April launched this debate.

Because of the uniquely dominant role of emissions from agriculture, Ireland must move towards electrification of heating and transport much earlier than other member states. This requirement to deliver more at an earlier stage than all other member states is highlighting further policy conflicts, not yet receiving attention at European level. Foremost among these is the approach to energy efficiency and the treatment of electricity within the current energy efficiency regime. EAI recognises that energy saving will play a dominant role in emissions reductions and in maintaining affordable energy costs for customers. However, the current regime is based solely on primary energy use and considers all forms of energy to be equal thus:

1 kWh of energy from Wind = 1 kWh of energy from coal

This concept, which is clearly an anachronism in a carbon constrained world, persists today and continues to inform new legislation and regulation.

Example:

On 18th March 2013 the EU Commission adopted Regulations under the Eco-design Directive for boilers for water and space heating. These standards are based on primary energy consumption. A fixed factor of 2.5 is applied to electricity, corresponding to a conversion rate of 40% from primary energy to electricity. This severely limits the opportunity for low-carbon electricity generated from renewable energy to penetrate the space and water heating markets, contradicting the path set out in the EU's Roadmaps.

The drive for electrification, in particular water and space heating, is also critical if Ireland is to manage the very high levels of variable renewables planned for the island system. The application of smart grid and metering technologies in conjunction with controllable space and water heating electrical loads can maximise the use of wind generation and avoid constraining off this resource when available at high levels. This in turn reduces the level of installed capacity required to meet the national target and, consequently, the support costs that customers would carry.

A recent judgement by the French Council of State (Supreme Court), overturning a national energy efficiency programme in part because of failure to take account of climate impacts, serves to highlight the issues involved.

National policy currently follows diligently the EU approach. Continuing to do so will add valueless costs to customers' energy bills and will limit the capacity to meet national 2020 targets. In the near future consumers in Ireland will:

- Support under-utilised renewable energy through the Public Service Obligation (Renewable Energy and eco-design Directives conflict)
- Support (carbon emissions adding) energy efficiency measures through payment for Supplier Obligations (Energy Efficiency Directive lack of acknowledgement of fuel carbon content)
- Make payments to offset the increase in carbon emissions resulting from implementation of the energy efficiency and eco-design Directives

This clearly does not make sense. Providing a framework within the proposed legislation in which the relative priorities of different policies can be established and the existing lack of cohesion between key climate and energy policy instruments can be mitigated or resolved will eliminate avoidable costs and improve Ireland's relative competitiveness. Addressing this issue can also provide a template for broader European reforms. In relation to energy efficiency in particular, the current limited flexibilities provided in EU legislation should be fully deployed (See Appendix 2).

3.2 Decarbonising electricity

Existing legislation currently prohibits deployment of two of the three low carbon generation technologies available; nuclear and carbon capture and storage. In terms of the remaining option for electricity generation, renewable energy, Ireland has a very limited dispatchable resource (hydroelectricity accounts for approximately 2% of current electricity demand). Biomass has the potential to improve this value but will be constrained by demand for use in direct heating and transport fuels and in the context of competition for land use from food production.

Reliance on a single range of technologies creates economic risks for Ireland. This is particularly so given the limited range of near-commercial technologies available (essentially onshore wind only). Two principal options exist to mitigate this risk: significantly increased levels of interconnection with the Great British and, potentially, French electricity markets and an enhanced focus on research, development and deployment (RD&D) of new renewable and energy storage technologies.

In this context, the legislation should provide a framework to promote the delivery of the significant additional resources that will be required for RD&D of new renewable and energy storage

technologies (See Appendix 2). In addition, consideration should be given to prioritising the planning and authorisation processes for the development of interconnectors.

3.3 Resolving the issue of Agriculture

Ireland's GHG emissions profile is unique within the EU with emission from agriculture/food production contributing 44% of ESD emissions (vs. 16% for the EU27) in 2013. Consequently, resolving the treatment of emissions from agriculture, land use and forestry is a particular requirement for Ireland. No other member state has the incentive to address this issue.

The proposed legislation provides for sectoral roadmaps containing measures to deliver emission reductions and adaptation. Neither the legislation nor the proposed roadmaps appear to provide for a situation where institutional/structural frameworks within Ireland can be promoted at international level. How agriculture and food production is treated within a future international and EU framework is still open for negotiation. An opportunity arises of Ireland to map out domestically an approach on this issue which could then be promoted at EU and international levels. Consideration could be given in the legislation to creating a framework within which the treatment of Agricultural/Food production emissions can be addressed and resultant policy options promoted at EU and international levels (See Appendix 2).

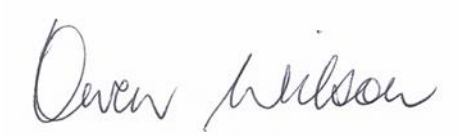
4. Recommendations

On the basis of the foregoing the EAI proposes the following recommendations to the Committee:

- Business be represented on the Expert Advisory Body by an individual with knowledge of the electricity sector to reflect the crucial role electricity will play in achieving the 2050 objective
- EU legislative frameworks, targets and objectives be adopted as are, given the comparative scale of the challenges facing Ireland as a result of its unique characteristics
- A more robust commitment to an overall, economy-wide least cost delivery of national and EU objectives in support of economic development

and providing within the legislation:

- A framework in which the lack of cohesion between key climate and energy policy instruments can be mitigated or resolved
- A framework to promote the delivery of the significant additional resources that will be required for RD&D of new renewable and energy storage technologies
- A mechanism to prioritise the planning and authorisation processes for the development of interconnectors
- A framework within which the treatment of Agricultural/Food production emissions can be addressed and resultant policy options promoted at EU and international levels



Chief Executive,
Electricity Association of Ireland

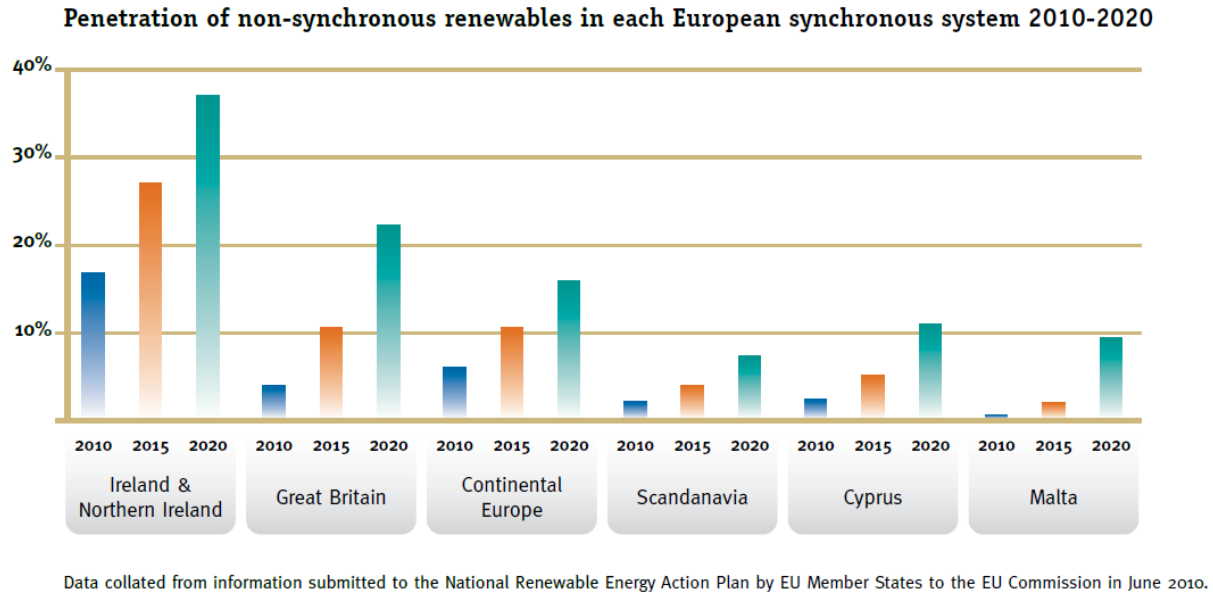
APPENDIX 1: IRELAND's UNIQUE CHALLENGE

The current 2020 architecture and the specific characteristics of the all-island Single Electricity Market (SEM) and the economy places Ireland at the leading edge of the challenge of addressing the climate and renewables targets in the EU. In this context;

- The SEM area has the highest level of penetration of variable renewable energy (Wind) for a synchronous network system in Europe (see Figure 1 below) and
- Ireland also has a unique emissions profile relative to its EU partners with a dominant role played by emissions from Agriculture (see Figure 2a and 2b below).

A target of 40% generation from renewable sources in 2020 applies to the SEM area. Managing this target on the relatively small and isolated system that is the SEM presents major technological and infrastructural challenges beyond those encountered elsewhere in the EU. A policy framework that supports management of this system is critical if significant additional costs are to be avoided. Currently the conflict between climate and energy policy instruments severely inhibits cost-minimising actions.

Figure 1

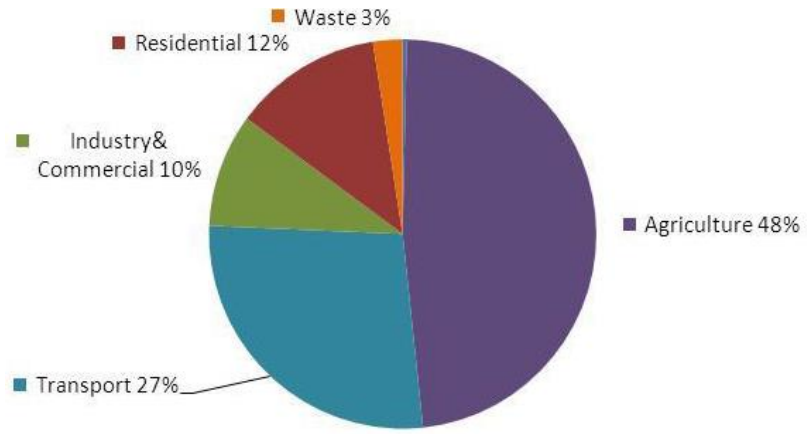


Source: Eirgrid / SONI

A similar level of urgency is driven by the unique greenhouse gas emissions profile of Ireland. Agriculture will comprise almost 50% of emissions from the non-ETS sector in 2020. Significant efforts have and are being made to effect reductions in these emissions, nonetheless these are projected by the EPA to rise by some 12% by 2020 on foot of the "Food Harvest 2020" strategy. However, there is no logic in cutting highly efficient systems of food production in Ireland to have

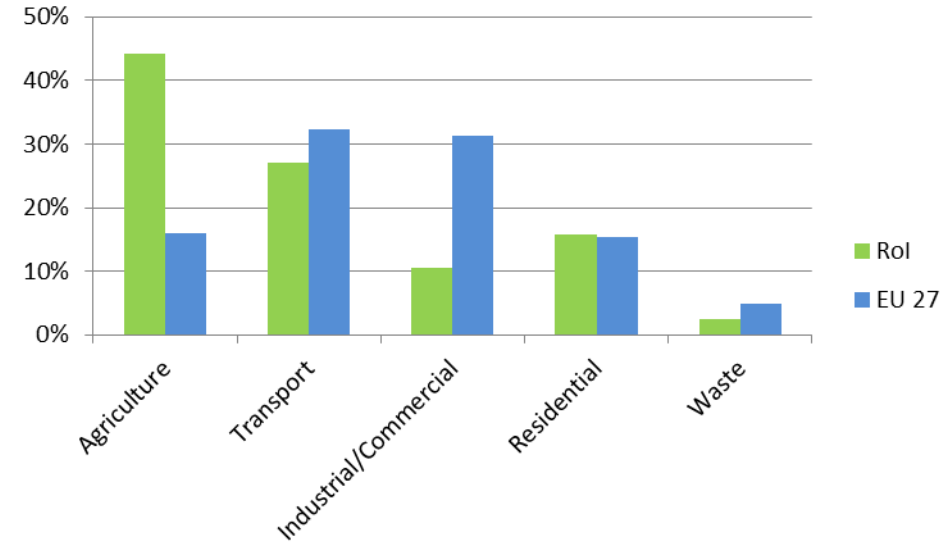
them replaced by less efficient systems elsewhere. As a consequence, the burden of non-ETS emission reductions, already the highest in the EU, falls on the remaining 50% of the non-ETS sector - in particular heating and transport. This challenges Ireland to lead in the electrification of heating and transport, as envisaged in the Commission's 2050 energy and low carbon Roadmaps. Significant efforts in this regard are underway and these are demonstrating global leadership. If however the policy emphasis for emissions reductions moves from EU to national level (via a diminished role for the ETS) or priority is assigned to other mechanisms (e.g. more stringent binding national renewables targets) then a major reconsideration of the type and scale of investments would be required.

Figure 2 (a) Emissions profile of the non-ETS sector in the RoI in 2020



Source: Ireland's Non-ETS GHG emission projections, EPA (2012)

Figure 2(b) 2011 Sectoral emissions breakdown for Ireland and the EU-27



Source: EEA, 2012 and EPA, 2013

APPENDIX 2 PROPOSED INSERTIONS TO HEADS OF BILL

1. To ensure investment in appropriate RD&D programmes

Add Head 7 (1) (d) (iii)

(iii) or, research and development programmes to support delivery of climate and energy policy objectives

2. To provide for a framework to ensure policy coherence on climate-energy measures

Add Head 7 (1) (d) (iv)

(iv) or, the priority to be given to the policy, proposed policy or a measure intended to deliver a policy or a proposal in relation to and its coherence with existing policy objectives, including whether existing policies or measures should be amended

3. To support the development of a practical EU and global approach to the treatment of emissions from agriculture/food production

Add Head 7 (1) (e)

(e) the Government or any Minister of Government in respect of the manner in which emissions from agriculture may be addressed within a European Union or international framework so as to ensure an equitable contribution from this sector having regard to the necessity of maintaining food production.

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