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Green Party Submission to the Department of Communications, Energy and Natural Resources public consultation on the Green Paper on Energy Policy in Ireland

Introduction

In 50 years time our grandchildren will look back and regard our dependence on oil and other fossil fuels with the same incredulity that people today view photos of the streets of Dublin before we had piped sewerage and water supplies. The transformation to a low-carbon energy economy sets our skilled workers a challenge they can proudly take on, and the benefits to our health, wealth and environment are manifold. Changes in our economy and society have made our daily interaction with energy more important than ever, and only by being ready to take great leaps towards our common goals of lower emissions and cheaper, cleaner, more productive energy sources, will we realise the full potential of tomorrow's energy future.

Energy Transformation

We agree with the core assertion set out in the Ministerial introduction to the Green Paper that: *"We are transforming Ireland's economy from one based on a predominantly imported fossil fuel to a more indigenous low carbon economy centred around energy efficiency, renewable energy and smart networks."* We also agree with the caveat that we need to ensure that *"the needs of the citizens of Ireland are also at the core of this necessary transition."*

The revolution we seek will only work if it brings real and demonstrable benefits to our people. The nature of the switch, from using imported and finite resources, to the development of our own widely distributed renewable supplies, inherently lends itself to a new and better public ownership model of energy supplies. The more efficient use of energy will benefit the Irish consumer and wider Irish economy by reducing our €6.5 billion fossil fuel import bill.

It is encouraging to read that since 2007 the energy transition has worked in a variety of different ways. Our use of primary energy supplies has fallen by 19%; our national greenhouse gas emissions fell 15% from 2008 – 2011; the supply of renewable electricity has more than doubled; we have introduced a competitive all-island energy market and built new interconnection with the UK; and a number of Irish companies have become leading international suppliers of clean energy technologies.

Political Will

Despite these gains, the Green Paper highlights a growing lack of confidence behind the transition we need to make. This is reflected in the foreword, which states that: *"The significant changes in Ireland's economic position mean that key assumptions supporting policy, as outlined in that White Paper, are no longer valid."* While there has been a reduction in the forecast growth in energy demand due to the recession, we believe that the core competitive, environmental and security assumptions supporting the former policy approach remain the same. Our first suggestion in this consultation process is that the Department needs to spell out clearly which exact assumptions need to be changed and in what way are they no longer valid.

The one assumption that seems to have changed the most in recent years has been a significant decline in the level of political support for tackling the big environmental issues we face, including climate change. We currently have insufficient political will to mandate the new policy directions that are needed.

This lack of political direction is demonstrated in the July 2014 statement of government priorities, which downplayed the issues of energy security and climate change and argued instead that “*we need to improve energy cost competitiveness for Irish-based companies, particularly in light of international shale oil and gas developments. All energy subsidies will be subject to a rigorous cost-benefit analysis.*” The government are disregarding a major recent European study which shows that the Irish renewable support scheme was one of the few which had led to a reduction in wholesale electricity prices. The current coalition seem to accept the development of shale gas technologies as a game changer in the international energy markets, when the true cost and sustainability of this fossil fuel supply is increasingly in doubt.

A further reflection of the lack of political support came in the drafting of the Climate Action and Low Carbon Development Bill 2014. By failing to insert clear wording that we intend to achieve a 100% decarbonised power system by 2050, the government are seriously undermining investor confidence.

Given the intention to protect the agriculture system from emission reductions, it will be impossible to meet the already agreed 2050 EU climate targets without a complete transformation in the energy system. The technological path is not certain, but it is increasingly obvious that renewables and energy efficiency will be the main drivers of change.

Germany and California, two of the world’s technological innovation centres, have committed to renewables providing 50% of their power supply by 2030. China is going even further and investing more than either the EU or US in clean technologies. There is no reason why Ireland could not switch off all our coal and peat-fired power stations by 2020 and rely on renewable power, gas plants and interconnection for an interim period, moving towards the next phase of development of integrating transport and heating systems with the clean power supply.

The lack of political certainty behind such an approach was also reflected in the negotiations on the EU 2030 climate strategy. It seems likely that agreement on overall emission reduction targets will fall significantly below what would be possible if an ambitious plan for energy transition were adopted. The EU Commission has put the obligation on national governments to come back with individual plans to show what might be done, rather than setting binding targets for the development of renewables and energy efficiency. It is clear that neither Ireland nor Europe are on the path to keeping global temperature rise below 2°C, as recommended by the best scientific advice.

Energy policy is always seen as a balancing act between the three imperatives of having a power supply which is competitive, secure and clean. While there are various means by which competitiveness can be achieved or energy security can be assured, there are only two possible ways by which decarbonisation can be achieved: either we cut out the carbon in the generation of energy, or else we bury the resulting carbon underground. Given that there are no working examples of carbon sequestration on a commercial scale, changing the generation system is the only realistic means of achieving the certain environmental constraints we know we face. If new assumptions are to come from this Green paper process, the first should be that this 100% transformation of the generation system is possible and is going to happen.

The new president of the EU Commission, Jean-Claude Juncker, has set out as one of his top priorities that Europe becomes a world leader in renewable energy, and he has argued we will need

to pool our resources, combine our infrastructures and unite our negotiating power vis-à-vis third countries. The failure of the Irish and British governments to agree a bilateral deal on the trading of renewable power, and our failure to develop interconnection between the North and South of Ireland, shows how far we are away from achieving such an ambition. Our emissions are once again on the rise, and investment in both grid and generation infrastructure is slowing down due to the lack of certainty around energy policy.

It is clear that the opposition to the planned development of the electricity grid and construction of wind farms has added to the economic uncertainty that has undermined current energy policy. Local campaigns became widespread and were in several cases led by members of the current government parties. If we are to get energy policy back on track then it is clear that a new political consensus is required to support the transformation we seek to make.

Public consultation

If the ambition is to win public support for the energy transformation, it is essential to develop a wider consensus around the basic assumptions that are being made in the framing of Irish and European Energy policy. Separate to the consideration of any infrastructure project, government should engage in as wide as possible public debate on the nature of these assumptions. Authorities should look at the examples provided by the Danish and Dutch governments, both of whom brought together a variety of civil society, academic, business and government interests to solidify a public consensus around their long-term energy strategies. The fact that both countries were able to complete their consultation process within a year and came up with ambitious, broadly-agreed plans demonstrates what is possible.

Such a consultation process should be centred around the Houses of the Oireachtas, given the reality that public acceptance of long-term strategic developments can only be accurately measured by the form of political representation which we the people decide to elect. The fact that every party in the Bundestag is supportive of the 'Energiewinde' energy transformation that Germany has embarked upon is one of the principle reasons why they have been so successful in generating employment and investment in the clean energy economy.

A reformed Seanad Éireann and Oireachtas committee system could provide the forum within which that debate could take place. It is also possible to break outside the confines of Kildare Street and use an innovative public participation process across the country, especially where new infrastructure plans are so contentious. We should learn lessons from the recent Constitutional Convention and use the experience of the 'We the Citizens', 'Second Republic' and other democratic reform groups that were established in recent years.

Public ownership

One of the first issues for discussion in any public consultation process should be the ownership model for new energy assets. We believe that the Danish and German experiences demonstrate the benefit of encouraging more widespread ownership of new power supplies. It will not be possible to replicate the high feed-in tariffs that underwrote earlier investment by German individuals and co-operatives in new wind and solar systems, but Ireland can copy the taxation measures now utilised to support local ownership of energy supplies. Our government can also copy the obligations that Denmark puts on wind farm developers to have a minimum of 20% local ownership, and go further by providing financial instruments that match local pension and other saving vehicles with long-term energy investment opportunities.

We believe the Government made a mistake in selling the wind farms that were being developed by Bord Gais, and believe it is possible to have public ownership of new generation assets by a variety of state owned companies, while still maintaining a well regulated and competitive energy market.

One cause of the loss in public confidence was that the recent attempt to develop a trade in wind power between Ireland and the UK had allowed it to become viewed as an exclusive and private project. Any future development of the transmission grid to facilitate such interconnection with either the UK or France must remain in public ownership. To help facilitate the strengthening of Eirgrid to take on such a role, we should proceed with the 'unbundling' of the existing transmission grid system so the company can have full ownership of the existing transmission system.

A wider review of the grid development strategy should be centre stage in the next phase of this consultation process. Discussion can then address the ownership issue in any future development of the transmission grid system, and we should examine all options for building out the grid, including the laying of power lines underground and at sea. In areas where those options are not possible, government should be open to successful models of community ownership of power lines, as has developed in Germany.

A robust electrical transmission system will be required in order to support the development of local electricity networks, something which appears to be more likely in the evolving energy system. Domestic solar power is rapidly reducing in cost, to the point where the price of power will soon be lower than the retail price from traditional utilities. New building regulations can support the installation of a distributed power system, but it is vital that we don't disadvantage the householders or businesses who decide to invest in their own local power supply by putting an undue burden on them to cover the wider costs of the distribution grid.

We are moving into a new phase of the evolution of the EU electricity market, where already developed renewable technologies will require a better market system. It has been demonstrated that the 'Target Market' model of market integration that the EU has been pursuing is not working. Currently the price of electricity is based on the lowest marginal price of electricity. But when the market mechanisms were initially designed it was expected that fossil fuels would continue to set that marginal price. In reality it is renewables that are winning the daily price war, because the cost of the fuel is free. The system needs to be updated, and changed to one where a primary market for the trade of variable power supplies includes demand management measures. There should then be a secondary back up market that pays for 'despatchable' power that may come from interconnection, electricity storage, or from low carbon and flexible conventional generation stations.

The European electricity market has been characterised by a lack of trade in renewable power across borders. By changing the market rules, and providing new interconnection with our neighbouring countries, it is possible to reduce the cost of electricity, and to also reduce the overall level of overhead power lines we need. Government need to provide additional resources to both the energy regulator CER and to SEAI to make sure this problem is addressed quickly in order to generate greater investor confidence and give our country a significant boost.

Government should also look to further develop and support the green finance expertise that already exists in the IFSC and incubate new initiatives in the project financing, planning, insuring and managing of this new energy infrastructure. They should also be willing to make some long-term public investments in different, higher risk solutions, not all of which will work. Any initiatives should also look to development of new energy supplies from our ocean area, a resource ten times the size of our land area.

Public Data

Significant breakthroughs are possible if we attempt to replicate the innovation that has happened in the digital sector. Such innovation tends to happen in a 'bottom up' rather than a 'top down' way. A lot of the future innovation in energy generation and efficiency will come with greater local community co-operation and creativity. We need to have democratic structures that allow local

people to devise and manage such community solutions. Government should legislate in a flexible way, giving local authorities time-lined provisions to try out different energy solutions in order to learn lessons from what does and does not work. We already possess the advantage of having good state agencies that can assist in the whole process and, by and large, we also have the necessary European legislative provisions to allow us to make a start.

The job of the political system is to make it as easy as possible for every single one of us to make the right decision when we are using energy, facilitating the easiest, most obvious and cheapest choice. The opportunity for Ireland is to provide an 'open innovation' environment, where civil society, government, academia and the business community can test how we make this transformation happen. The more you look at specific problems, the more often you see that the management and availability of digital information is a critical part of any new technological solution. A key issue in any further consultation should be a discussion on what rules should apply to the use of personal and public data in relation to our own use of energy, at work, on the transport system, on the farm and at home. Government should establish a regulatory environment where such data is owned by the individual, but which can be easily shared in a variety of new local, community and enterprising initiatives.

Conclusion

We have attempted to answer each of the questions asked in the first phase of this consultation process, and we hope that the framing of the first question around the issue of citizen engagement is a signal that the consultation process will expand into a much bigger public process. A new consensus is required on some of the basic assumptions regarding the development of our energy system, and space should be made to allow a neutral facilitator to manage some of this consultation process. While the Department clearly requires more time to complete its work, the urgency of the problems which need addressing must also be recognised. We will need to have the outline of an energy and climate plan ready by early next year, within the timeline already agreed for our approach to the next big UN climate negotiations in Paris in December 2015. We cannot afford another diplomatic failure, similar to what happened in Copenhagen in 2009. Recent indications are that several large global economies are getting serious about making the necessary changes. Europe and Ireland cannot afford to fall behind.

The Irish economy needs a big development project which lifts our economy, allows many of our recent emigrants to return home, and avoids the boom and bust investment cycles of recent years. By fully engaging in the energy transition we can proudly present our face to the world, knowing that we are willing and able to play our part in the revolution we all know needs to take place.

Our key messages:

- Ireland must decarbonise its energy system as part of national, European and global efforts to keep global warming below 2 degrees Celsius (2° C). To achieve this, Ireland should phase out the use of fossil fuels and move to an efficient energy system based on 100% renewable energy. This system will also afford Ireland a more secure and affordable supply of energy than today's carbon-intensive import-dependent system.
- The public debate about climate change and the energy transition needs to change. A better informed public will be more supportive of the changes to Irish energy policy needed to ensure our transition to a low carbon economy and to allow us to play our role in keeping global warming below 2° C.
- To ensure long-term investor certainty in Ireland's energy transition, there should be cross-party agreement on this policy goal, and the general scope of policies required to achieve it, including setting ambitious and binding 2030 targets for greenhouse gas emission reductions, an increased share of renewable energy and energy savings.
- Ireland's transmission and distribution grids for electricity and gas must be developed and modernised in order to facilitate greater shares of renewable energy, energy efficiency and key flexibility technologies. This requires full ownership unbundling and the establishment of these assets as state-owned natural monopolies.
- Citizens should be more involved in the planning and implementation of the energy transition. Public engagement in infrastructure projects should be transparent, inclusive and allow involvement before key decisions are made. The legislative framework and funding structures should be put in place to facilitate greater participation of individuals, communities and SMEs in sustainable energy projects.
- The improved energy performance of Ireland's buildings is central to decarbonising our heating sector. Efforts to improve energy efficiency must be stepped up and a renewable heat feed-in tariff for residential installations should be introduced.
- Similarly, the transport sector will require much greater efficiency as sustainable supply-side solutions remain limited. Integrated transport and land-use planning should be a central part of energy policy.
- The government should carry out a comprehensive study of direct and indirect fossil fuel subsidies in Ireland and implement an action plan to phase them out.
- Ireland's renewable electricity feed-in tariff has proven to support the development of renewable energy in a cost-effective manner. Ireland should not move towards unproven support schemes, including feed-in premiums and tendering.
- The exploration and exploitation of shale gas through hydraulic fracturing should be banned.
- Moneypoint should not be converted to nuclear or biomass. Besides nuclear being an inherently risky technology, it presents too many energy system challenges for Ireland. Sustainable biomass is an inherently limited resource that should only be used in local, highly efficiency installations, e.g. combined heat and power (CHP).

Priority 1 – Empowering Energy Citizens:

1. How can we encourage citizens to be part of our transition to future energy paths and the policymaking process that goes with it? Given the scale of changes needed, what are the right mechanisms to engage

citizens (e.g. would ‘energy citizen’ impact assessments for energy policy decisions or transition from written consultations to interactive workshops with interested stakeholders be more effective)?

The public debate about climate change and the energy transition needs to change. Media coverage must become more objective and stress the need for significant and urgent action as advised by the latest Intergovernmental Panel on Climate Change report¹. However, research by the RTÉ Audience Council Climate Change Project² found that coverage of climate issues is poor and not well integrated across related subjects, such as agriculture and energy.

A better informed public will be more supportive of the changes to Irish energy policy needed to ensure our transition to a low carbon economy and to allow us to play our role in keeping global warming below 2° C. This should include information about EU energy policy, which impacts on our domestic energy policies.

The existing education system should be improved. Primary and secondary school students should have better opportunities to engage in climate change and energy issues and its policy implications.

We shouldn’t move away from written consultations entirely. Instead, more ways to engage in consultations and more assistance could be offered to interested stakeholders. Interactive workshops should be added to the mix of communications tools currently used.

Any new mechanisms should make use of existing social structures, such as the Irish Countrywomen’s Association, Scouting Ireland, environmental groups, sports associations, Rotary clubs, university societies, elderly social groups, mothers and toddler groups, the GAA, unions, professional institutes, etc.

2. What formal and informal mechanisms could be used to enhance citizen engagement with regulatory and policy decisions and how should they be structured? (E.g. should there be greater use of consumer panels?)

Voluntary elected village councils (both urban and rural) that consider climate/energy issues that impact on local communities should be established. They could be chaired by a member of the city or town council. This would provide a place for local meetings and create a direct link between local community groups and local government.

3. How can we increase the rate of home retrofit radically? What can Government do to encourage citizens to undertake ambitious home upgrades in large numbers? Are there particular barriers that need to be overcome, such as lack of finance, information, and skilled professionals?

Financial incentives underpin any serious increase in home retrofitting rates. The Green Party proposes three priorities to accelerate retrofit activity:

- Significant expansion of the Better Energy Homes scheme: the current expenditures allocated in Budget 2013 of €57 million are insufficient to reach the target numbers needed to reduce energy consumption in line with our EU targets.
- A public information campaign: while a certain level of awareness among the public exists, more must be done to increase the visibility of home retrofit schemes and to explain the financial benefits to homeowners, as well as streamlining the application process.
- Make a home’s building energy rating (BER) a factor in calculating the local property tax.

Under the Energy Efficiency Directive, Ireland must establish advice and awareness-raising programmes to inform households of the benefits of energy audits. These should include the existing BER system overseen by SEAI but energy utilities should also continue to carry out energy audits and offer attractive measures/funding mechanisms to home owners to carry out upgrades. The

¹ IPCC (2014) [Fifth Assessment Report](#).

² RTÉ Audience Council (2014) [Irish Public Service Broadcasting and the Climate Change Challenge](#).

government should set targets for company engagement with residential customers, including on energy audits, to encourage their transition away from the traditional utilities business model towards energy service companies (ESCOs).

4. How can we raise awareness of the scale of the energy challenges facing us and the ways that citizens can be part of collective solutions? What can we do to improve citizens' access to energy information?

The transition to a sustainable, low carbon energy system is too great a challenge to leave any part of society out. Citizens can play an important role beyond better access to information. Community renewable energy projects can allow citizens to take a stake in Ireland's energy transition, as part of a mix of developer-led, community and micro generation projects.

The Irish government should put serious effort into addressing the barriers to community renewable energy projects and implement the recommendations of the NESC report on the issue³. Long delays in securing grid access and obtaining licences to sell electricity to the grid often prove insurmountable challenges for community energy projects. The rules around investments for joint developments between local communities and companies should be reviewed. For example, local communities should be able to avail of crowd funding and invest in projects that involve power purchase agreements (PPAs), which give security and a guaranteed return to a project through the securing of a long-term buyer.

Beyond addressing barriers, a network of community energy projects could be created to allow information sharing, best practice and mentoring. The government could encourage such a network by providing communication tools, a website, etc. Energy companies could be obliged to offer services and knowledge of their technical staff to local community energy projects as part of community benefit programmes as technical knowledge is often a big barrier for local projects

5. How have other countries effectively engaged citizens in infrastructural development, and which innovative or interesting approaches could be helpful in Ireland?

There is no 'one-size-fits-all' mechanism to improve citizen engagement in infrastructure development. However, the success of all mechanisms will rely on a number of factors, including transparency, early involvement, inclusiveness, continuous dialogue and the independent organisation of the consultation. See GermanWatch's report on public participation for more detailed recommendations⁴.

Ireland could learn from schemes run by Scotland, Denmark and Germany to design better citizen engagement at home. The Scottish government has set a 2020 target for 500 MW of 'community and locally' owned energy generation projects. The Local Electricity Discount Scheme (LEDS) ensures local residents receive a share of the output value of the project⁵. In Denmark, developers of onshore wind turbines higher than 25 metres are obliged to offer 20% of the project's shares to residents living within a 4.5km radius⁶. Over half of Germany's renewable energy installations are owned by individuals, communities and SMEs⁷.

6. Is there further scope for switching in the Irish retail electricity and gas markets to enable customers to avail of alternative price and product opportunities, or do the numbers indicate that Irish switching has plateaued? If there is indeed further scope for switching for consumer benefit, are there barriers that

³ Comhar SDC and Trinity College Dublin (2011) [Community Renewable Energy in Ireland: Status, barriers and potential options](#).

⁴ GermanWatch (2013) [Recommendations on Transparency and Public Participation in the Context of Electricity Transmission Lines](#).

⁵ vento ludens ltd and Dochert Consulting ltd (2012) [Securing the Benefits of Wind Power in Scotland](#).

⁶ Danish government (2008) [Promotion of Renewable Energy Act](#) (unofficial translation).

⁷ AEE (2013) [Property Distribution of Renewable Energy Plants in 2012](#).

need to be overcome, such as availability of information or consumer difficulties with the switching process?

Competitive switching between suppliers of energy services makes little sense while the only service is simple provision of energy. When utilities become ESCOs, consumers will have more interest in switching to avail of more interesting product.

7. Is micro-generation the most cost-efficient solution to decarbonising home energy, and who should bear the costs of any associated support scheme – consumers, taxpayers or industry?

Improving the energy performance of buildings is the most cost-effective way to reduce their carbon impact. On the supply side, residential renewable micro-generation will play a key decarbonising role. Despite significant cost reductions in recent years, the upfront cost of such installations remains the main barrier. A feed in tariff is the most cost-effective way to overcome this barrier and encourage private investment. However, the current micro-generation scheme run by ESB with an export payment of 9 cent/kWh has proven insufficient to encourage large-scale deployment.

This payment should be increased and combined with the right to self-consumption. Self-consumed power should not be subject to grid costs and grid charges should be adapted according to customer profile. Network operation costs, which ensure the remuneration of grid operators, should be socialised among consumers. A renewable heat feed in tariff for residential installations should be introduced.

The system operation challenges of incorporating significant shares of distributed generation cannot be ignored. The implementation of an appropriate tariff structure (i.e. a form of net metering) for distributed generators can encourage self-consumption, thereby reducing grid congestion. Enlarging balancing areas and aggregating the dispersed output of distributed generators are examples of how to overcome these challenges⁸.

8. What is needed to ensure that smart meters enable greater consumer empowerment in the Irish energy market? Are there steps that should be taken to allow smart meters to play the fullest role in enabling greater consumer empowerment in the Irish energy market, in particular in relation to behavioural change, aside from CER's ongoing preparations for the national smart meter rollout programme, and its associated regulatory decisions?

The national smart meter rollout programme will be supported and accepted if the consumer understands the reasoning behind the use and installation of smart meters. The likelihood of seeing positive behavioural change will also be higher. This is connected to the previously addressed issues around citizen engagement in climate and energy issues.

Smart metering at the consumer level needs to be managed by the DSO or another well-defined 'smart grid agency', in the interests of trying to adjust demand to match available supply, and minimising the need to import. Smart metering of the energy supplied by a producer to the grid would need to encourage the producer to supply when demand is high, and discourage supply when demand is low.

The large-scale rollout of a smart metering system presents a complex control challenge but the problems can in part be addressed if the strategic planning of the grid is done correctly. There is also scope for developing energy storage procedures. The 'smart grid agency' would need to handle the producer and consumer metering in the context of the national service provided by the State.

⁸ European Photovoltaic Industry Association (2012) [Connecting the sun](#).

Priority 2 – Markets, Regulations and Prices

9. Given the success of Government policy on increasing competition to create downward pressure on prices, are the extent and effectiveness of competition and of competitive behaviour, in both the electricity and gas markets (wholesale and retail), sufficient, and are there any strengthening measures required, at regulatory and/or Government level?

The success of government policy in this area is open to question. Competition 'in a market' as opposed to 'for a market', such as bin collection, has suffered from significant inefficiencies: too many vehicles, servicing dispersed suppliers. Distributed grids should be a government-owned monopoly, subject to efficient regulated management to ensure cost-effective investments that are ultimately paid for by consumers.

10. Is the regulator strongly enough positioned and resourced – financially and in terms of human resources – to deliver its regulatory decision-making and advice roles as set in its legislation, and thereby to contribute to the achievement of energy policy outcomes and regulatory certainty and stability in the Irish market?
11. Is CER's legislative remit appropriate for the purpose of regulatory certainty and stability?

CER's remit around serving the interests of energy customers should be extended to include future energy customers, as is the case for Ofgem. The transmission and distribution grids are natural monopolies, and should be publicly owned, and subject to strategic development.

12. Aside from the market integration initiatives as set out above and currently being worked on (the SEM 2016 project and EU electricity and gas code development and implementation), what should be Ireland's long-term approach to, and strategy for, electricity and gas market integration for the period after 2016, and how can appropriate governance at regulator and Member State level be provided for in the post-2016 market? What further actions can be taken at Government or regulator level to ensure that Ireland benefits from the EU internal energy market in gas and electricity?
13. Given the length of time since the establishment of the regulatory framework for CER, and the extent of additions to the CER functions since then, how should a review of the regulatory framework and/or CER's mandate best be conducted? The Action Plan for Jobs commits to the inclusion of a regulatory mandate review as part of the Green Paper process. In light of the implications of the market integration challenge for all players in the period up to 2016, should this review be partial or full? If a partial review is envisaged, should it be limited to how the regulatory framework and/or CER enable consumer understanding and citizen empowerment?
14. Current Government policy on Ireland's transmission asset ownership regime is settled and the SEM Committee's requirements as regards certification must be progressed by both companies involved (EirGrid and ESB). What are the likely cost and benefit impacts for end consumers associated with the Commission's recommended changes in its certification decision? Assuming an overall sufficiently positive impact for consumers, how might these changes be best implemented?

It is regrettable that the Irish government chose the ISO model of unbundling as this does not ensure the fully independent ownership and operation of Ireland's transmission grid. Only full ownership unbundling and ownership by the state is sufficient to guarantee the independence of Ireland's transmission assets from production or supply interests, including those of ESB.

15. Given that Government policy has sought to increase competition to create downward pressure on prices, are there unrealised opportunities in the pricing and regulatory framework for ensuring further price improvements, and if so, what are they?

Ireland's transmission assets are a natural public service monopoly and should be regulated as such. There is scope for regulated competition among energy suppliers connected to it but this will not be fully realised until the transmission assets are fully unbundled. Similar concerns exist at the distribution level, which will become more important as distributed generation and demand side management increase. Pricing could be improved by introducing real-time pricing for consumers.

Priority 3 – Planning and Implementing Essential Energy Infrastructure

16. What improvements to energy infrastructure are required to facilitate the transition to future integrated energy systems?

Those already provided for under Grid25 as well as greater international interconnection. More investments will be needed in distributed generation to develop smart grids, integrate distributed renewable energy and fully capture demand side management potentials.

We need to plan the development of the electricity grid strategically in the context of how renewable energy sources develop and where they are located. Small urban CHP generators should become the norm, fuelled by wood-chip and/or firewood produced by local farmers, who develop their field boundaries into managed shelter-belt plantations.

The gas grid and electricity grid both need all-island strategic planning, taking into account that their services need to interconnect, and that surplus wind, wave or tide energy need to be converted to storable form by electrolysis, with the hydrogen going to the gas grid, and the oxygen perhaps used to enhance a wood waste pyrolysis process generating methane - this is an area worth researching. Gas from the grid should also be accessible for electricity generation as back-up in calm weather conditions.

17. How could the permitting and licensing processes for major energy infrastructure projects provide for greater collaboration and engagement with community stakeholders?

Poor past experience with the Irish planning system, and a general deep distrust of the overall system, means much of the current engagement is strongly negative. A failure to engage in meaningful consultation by both sides will seriously hinder development of any kind. Meaningful collaboration relies on community engagement, and communities understanding climate change and its implications for energy policy. Efforts to improve the public's understanding of the need to decarbonise our energy system must be part of a wider campaign (see question 1), and not limited to the specific project seeking permits and licenses.

In relation to the permitting and licencing process themselves, it is vital that local communities are fully engaged and consulted. The consultation process must have key characteristics including transparency, early involvement, inclusiveness, continuous dialogue and the independent organisation of the consultation (see question 5). The negative impacts of any project during development, construction and operation must be limited as much as is possible and such measures should be made conditions of the permits and licences.

18. Following the 'Government Policy Statement on the Strategic Importance of Transmission and Other Infrastructure' in 2012, what additional improvements could be made to the permitting and licensing processes for energy infrastructure projects to make them clearer and more efficient for project developers, the public, and other stakeholders?

19. How can Ireland better collaborate with Northern Ireland and neighbouring EU Member States on a shared approach to supporting potential investment in building and accessing energy storage capacity in order to better use oil and gas fuel supplies and to facilitate further exploitation of variable renewable energy sources?

Cross-border solutions are the most cost-effective solutions. Ireland should increase its interconnection with neighbouring member states and comply with all EU internal energy market regulations, including the network codes currently in process. The creation of a regional balancing or flexibility market would allow Ireland to access energy storage and fuel supplies in other member states and vice versa, thereby ensuring the more efficient use of these assets. This will, in turn, improve the investment conditions for these projects.

20. Is Ireland's electricity and gas infrastructure – including, but not limited to, interconnection – sufficiently developed for Ireland to be able to achieve the benefits of European market integration at least cost? How should Ireland continue to improve electricity and gas interconnections in the context

of this integration and its security of supply policy objectives? What additional steps could be taken to facilitate this improvement?

More electricity interconnection is needed. EU legislation and funding (the Connecting Europe Facility) exists to facilitate such projects. Ireland should be fully engaged in pushing forward projects under the EU regulation and ensuring they receive the highest level of EU funding available.

21. Does the existing regulatory regime underpin and incentivise appropriately investment in existing and potential future electricity and gas interconnection infrastructure and/or full consideration of its alternatives, on a cost-effective basis?
22. In light of continued reliance on oil to 2030 and beyond, what is the best approach to monitoring and ensuring the capacity of Irish oil infrastructure? What measures should be taken to facilitate the commercial future of oil refining in Ireland?

Priority 4 – Ensuring a Balanced and Secure Energy Mix

23. How can we reduce our high dependence on oil and gas?

Only a long-term strategy based on energy efficiency and renewable energy can deliver on the scale needed to cut Ireland's reliance on oil and gas. Research by Fraunhofer ISI estimates that the economic potential for energy savings across Europe to be achieved by 2030 stands at 40% final (compared to PRIMES 2009 projections)⁹. Ireland should ensure full implementation of existing policies to achieve its 2020 energy efficiency target and adopt a 40% energy efficiency target for 2030 with supporting policies and financing. For example, oil is used mainly in the transport sector, which will require improved planning to encourage and facilitate walking and cycling, and guarantee access to a reliable public transport system.

On the supply side, Ireland's indigenous gas production has fallen 78% since 1990 and peat by 46%. Conversely, renewable energy has increased 150%¹⁰ and is already cutting Ireland's reliance on imported fossil fuels and related costs¹¹. With Ireland's substantial potential for renewable energy, the government should accelerate the development of renewable energy.

24. How best should we ensure that appropriate framework conditions are in place for secure markets and infrastructure with sufficient capacity and investment in the medium to long term?

Long term political and policy certainty is the starting point. This requires urgent cross-party consensus on the need to transition to a low carbon energy system as part of our national climate change strategy. Denmark has achieved this consensus across all parties and departments, including the finance ministry. Markets (both supply chain and investment) need certainty that Irish energy policy will not change with the arrival of a new government, particularly as energy system investments tend to be long-term, fixed assets with a lifespan of 40 years or more.

This robust cross-party and national consensus needs to be in place across the political sphere both nationally and locally. Local policies must not contradict national policy goals.

The greater role and voice of the public in the development of specific projects is to be welcomed. All efforts must be made to ensure the decarbonisation of Ireland's energy system develops in a way that is inclusive, and respectful of the public. Proper public participation can help avoid delays to projects, which is crucial if Ireland is to achieve its climate and energy targets.

25. How can we optimise the policy and regulatory environment to enable the market to decide on an appropriate fuel mix from a grid, market design, carbon, cost and energy security perspective? Are

⁹ Fraunhofer ISI (2013) [Analysis of a European Reference Target System for 2030](#).

¹⁰ Sustainable Energy Authority of Ireland (2011) [Energy security in Ireland: a statistical overview](#).

¹¹ Sustainable Energy Authority of Ireland (2014) [Quantifying Ireland's Fuel and CO2 Emissions Savings from Renewable Electricity in 2012](#).

current policy and regulatory instruments sufficient or are additional interventions required, and what should those be?

As part of the EU, Ireland has transposed a number of regulations that impact on the fuel mix. Beyond existing policies, Ireland should set national targets for reducing greenhouse gas emissions, increasing the share of renewable energy and delivering greater energy savings by 2030. The market should then be allowed to compete to help achieve these targets.

For the transport sector, taxation policy could be improved to create stronger market signals. For example, all car tax should be on the fuel, and all car insurance should be based on mileage. Firms supplying car maintenance should have minimum or zero tax. Long-life vehicles, used only occasionally, should be encouraged.

26. Given that Moneypoint will approach the end of its life by 2025, is there a role for coal in the future power-generation fuel mix, taking into account cost, security of supply and environmental issues? If coal generation does not continue at Moneypoint, what are the alternatives? Should options such as biomass or nuclear power be considered?

There is no role for coal in Ireland's future fuel mix. Coal combustion is a significant contributor to Ireland's carbon emissions, and other air pollutants such as NO_x, which have serious health impacts¹². Coal-generated electricity has no energy security benefit to Ireland, as Ireland has no indigenous coal production and imports 100% of its coal supply.

Moneypoint should not be converted to biomass for several economic and environmental reasons. The UK government had to guarantee a price of €126/MWh to a similar plant in the UK¹³, indicating Moneypoint biomass subsidies would be double those of onshore wind. Much of the necessary biomass would have to be imported from abroad with questionable sustainability impacts. Finally, sustainable biomass is an inherently limited resource that should not be burned in an inefficient (35%) electricity-only installation.

Nuclear is not an option for technical, economic and environmental reasons. Nuclear is an inherently risky technology that externalises many of its costs, including liability, waste treatment and decommissioning. Current European nuclear power plant projects are years out of date and billions over budget. Current commercial technology is only available in units far too large for Ireland's relatively small grid and demand. As an inflexible technology, nuclear power does not fit well into a flexible energy system with high levels of variable renewables, demand side management and interconnection¹⁴. Moneypoint should be decommissioned in 2025 or earlier, as required by Ireland's climate targets.

27. What strategy is needed to support the continued increase of renewable energy on the electricity grid? Are new approaches needed?

Current expansion of renewable infrastructure is predominantly restrained by local political opposition to wind power and pylons on issues of aesthetics, health, property values, and a strong conviction that wind is not being developed for the benefits of either the local or wider Irish community. Changing the narrative of wind power is fundamental to increasing the amount of renewable energy on the Irish grid. To this end, it is proposed that:

- The Irish government immediately conduct a review of best practice community wind development in other countries, establishing where wind projects are most successful politically, but also perceived to establish the best possible outcomes for local residents.

¹² Health and Environment Alliance (2013) [Coal: the unpaid health bill](#).

¹³ Financial Times (4 December 2014) [UK's Drax power group boosted by support for biomass switch](#).

¹⁴ Greenpeace (2014) [powE\[R\] 2030: a European grid for 3/4 renewable electricity by 2030](#).

- An independent review of commonly repeated objections to wind, to establish facts around health concerns, property devaluation and the necessity of backup fossil fuel power, among other issues.

On the technical side, variable renewable technologies should, in time, be able to provide almost 100% of our energy demands. The key to balancing variable renewable supplies is to create a system that rewards flexibility. This will encourage a wide range of technology solutions to be developed, for example back up from a network of small-scale dispatchable biomass systems capacity. Flexible timing of supply and load is possible via a 'smart' management system. Gas from the gas grid presents storage possibilities, and it can increasingly be derived from biomass anaerobic digestion, and by electrolysis using electricity surplus. This all requires intense complex system analysis, using parameters which are mostly reasonably well known and understood.

28. What are the security, carbon and cost implications of alternative transport fuels including electricity, biogas, biomethane, LPG, LNG and CNG? What supports or policy interventions will be required to achieve the switch to these alternatives?

29. What options should we pursue to incentivise switching to cleaner lower-carbon heating fuels?

Financial incentives should be introduced to encourage this switch. A renewable heat feed in tariff for residential installations should be introduced. Taxation policy could be used, for example through tax relief on new heating installations. Finally, the Better Energy Homes scheme should be improved and extended.

30. How best should we further develop and implement streamlined and integrated oil, gas and electricity emergency planning and control frameworks to ensure resilience to fuel-supply disruptions and external energy shocks?

Our national reserves should be maintained at all times.

31. What options should we pursue to enhance oil, gas and electricity storage? Should we explore further the potential for additional oil stocks to be deployed as secondary fuel in the event of gas disruptions? What are the costs and benefits of delivering energy storage, and are there alternatives?

Interconnection and access to storage and generation in other member states is an important strategy to improve Ireland's energy security. Pumped storage, while short-term, should be explored. There may perhaps be cases where pumped sea-water up to a height is geologically and environmentally feasible. A key storage medium is wood-chips and firewood, and this should be combined with an air-drying process. Micro-storage, as part of micro-generation systems, should be explored as this would allow for better management of distribution grids.

32. What further efforts are required to pursue indigenous development of hydrocarbons and ensure suitable conditions for development on the island to improve Ireland's security of supply position? What additional actions should we take?

The existing known fossil fuel reserves globally are adequate to bring about climate disaster, if used. We do not need more, except perhaps for use briefly in short-term situations or emergencies, most should be left in the ground for good. Moreover, Ireland's indigenous hydrocarbon potential remains unclear at best. Since the discovery of Kinsale Head gas field over 40 years ago, no other hydrocarbon project, including Corrib, has been brought on stream.

Ireland's unconventional hydrocarbon potential is even more uncertain. A study by energy consultants Pöyry estimates Ireland's technically recoverable shale gas potential as negligible even in a boom scenario¹⁵. This suggests that indigenous hydrocarbons will not play a strong role in improving Ireland's energy security. Given the marginal benefits and significant negative

¹⁵ Pöyry (2013) [Macroeconomic effects of European shale gas production](#).

environmental and health impacts of the exploration and exploitation of unconventional fossil fuels¹⁶, the Irish government should move to ban these activities.

Priority 5 – Putting the Energy System on a Sustainable Basis

33. How should cost-effective sustainable energy be promoted and supported? What are the appropriate support and regulatory frameworks to do this, ensuring both regulatory certainty and protection of the long-term interest of consumers? Is there a role for solar, offshore wind, wave, tidal or other technologies?

All renewable energy technologies can play a role. Wind will mostly be onshore and should include community arrangements as described above under question 5. Biomass in the form of local, sustainable waste and residues can play a small but important role as a dispatchable renewable energy source.

Ireland's feed-in tariff has proven a cost-effective way to encourage the development of renewable electricity in Ireland. The FiT system should not be changed to a feed in premium (particularly a floating premium) or to include design features like tendering before the impacts of such changes are fully understood¹⁷. Experience in other countries, such as Spain, where a feed in premium was dropped in 2013 and replaced with a FiT, has proven that a balance must be struck between over-compensation and creating too much risk for investors – both of which increases the cost to consumers.

See also Question 35.

34. What options are available to encourage private investment in energy efficiency and ensure the transition to non-Exchequer funding models for energy efficiency?

Ireland should not move away from the current grant-based schemes for energy efficiency before non-Exchequer funding models are tested and successful. The UK Green Deal, which aims to encourage householders to invest in energy efficiency measures through a Pay As You Save funding model, has performed poorly with just 33 plans signed in a single month¹⁸. Since revising the scheme to include cash back offers, there has been a significant increase in uptake.

For SMEs and larger industry, policy certainty and public financing must play the role of attracting and leveraging private investments in energy efficiency. The Irish government should also focus on addressing the non-market barriers to energy efficiency investments, including private information costs, access to capital, etc.

35. How might supports for sustainable energy measures be made more predictable and transparent, and more effectively attract cost-competitive investment in renewable electricity, heat and transport?

Investors, be they individuals, communities or companies, need political stability to invest in renewable energies for electricity, heat and transport. As developing technologies, renewable energy needs financial support to overcome market barriers and bring costs down. Recent research shows that the savings from the downward pressure of renewables on Ireland's wholesale electricity market outweighs the cost of their subsidies¹⁹.

Nevertheless, supports should come down as technologies mature. A clear plan that explains the conditions in which a feed in tariff would be revised should be introduced. This would allow

¹⁶ European Commission (2012) [Support to the identification of potential risks for the environment and human health arising from hydrocarbons operations involving hydraulic fracturing in Europe](#).

¹⁷ Ecofys (2014) [Design features of support schemes for renewable electricity](#).

¹⁸ UK Department of Energy and Climate Change (2014) [Green Deal Household Tracker wave 3](#).

¹⁹ O'Mahoney & Denny (2011) [The Merit Order Effect of Wind Generation in the Irish Electricity Market](#).

flexibility in Irish support schemes to react to changing market conditions and remain cost-effective while continuing to provide predictability to investors.

Subsidies for fossil fuels shouldn't be forgotten. The Irish government should carry out a comprehensive analysis of existing direct and indirect fossil fuel subsidies and implement an action plan to phase them out. This includes, but is not limited to, the PSO levy for peat and the existing and incredibly extensive scheme of capacity payments paid to fossil fuel plants.

36. How can Ireland best develop sustainable energy solutions that meet our long-term international climate obligations? Which pieces of energy infrastructure should be our priorities for climate adaptation?

Urban planning needs to be seriously reformed. For the heating and transport sectors, sustainable energy supply solutions are limited (but could include localised wood-fuelled systems for heating) and require maximum efforts around efficiency and energy savings.

For the electricity sector, we must prioritise building a grid that will help us transition from the current centralised system of large generation hubs to a system that can facilitate much greater distributed generation by both small and medium generators and domestic micro-generation. This includes greater interconnection with our regional neighbours to help integrate variable renewable technologies and gain access to cost-effective generation and storage assets in other countries, thereby reducing the need to 'over engineer' the Irish grid.

The grid also needs to be 'smarter', particularly at the distribution level to allow for the more efficient use of increasingly variable energy supply, storage, demand side management (flattening and shedding peak load, home area networks to make full use of real-time pricing etc.). To fully exploit these technologies and maximise flexibility in the system, better ICT tools must be developed and implemented.

37. How do we ensure cost-effective and timely investment in electricity transmission and distribution, including in smart grids?

Cost-effective and timely investment in grids at transmission and distribution relies largely on a clear political signalling that will allow the relevant companies secure financing at lower cost.

Ireland's transmission and distribution grids are still owned by ESB. ESB networks is the DSO as well as the DAO. They should be fully unbundled (i.e. ownership unbundling) to ensure proper and timely investments can be carried out in an optimal manner, free from potential conflict with the interests of dominant market players.

Investments in smart grids will come when the right signals are given to the market. This requires a change from the traditional regulatory framework to provide adequate incentives for the new type of investments demanded of DSOs and to attract new participants in this new market. A mixed tariff incentive based on volume but also capacity (as DSO costs are driven by supplying peak demand and shortening the time delay between investment and the adaptation of revenue caps is also. Funding for smart grid demonstration pilot projects could also help. Dynamic retail pricing should be introduced.

38. How can we exploit Ireland's sustainable energy strengths to realise job creation and economic growth opportunities?

Ireland is one of the most attractive locations for renewable energy investors, largely due to the reasonable level of policy certainty. Our strengths are great but can only be fully realised if investor certainty is maintained and improved. This means certainty beyond the next election cycle. Beyond investments in renewable energy installations, more must be done to improve our ability to attract research and development investment. The Atlantic coastline provides some of the harshest potential testing waters in Europe, whilst also generating the necessary wave speeds and heights

and current strengths to make sure that ocean energy technologies can perform optimally. Some concrete recommendations:

- Prioritise private-public partnership funding of a 'school of excellence' for research and development facility at one of the leading Irish universities. The facility could promote both the human capital of the well-educated Irish workforce and the high quality of Irish renewable energy resources. The tax code can be used to provide financial incentives for market leader companies to invest here.

39. Are the optimal structures in place to deliver sustainable energy and realise the associated jobs and growth opportunities? Are existing policy interventions for sustainability (e.g. public service obligation, priority dispatch, efficiency measures) consistent and aligned?

Priority dispatch and access are important measures to facilitate the development of renewable energy in Ireland. They should be continued beyond 2020, regardless of changes to European legislation post-2020.

However, the public service obligation levy should be reformed. Peat should no longer be eligible for public subsidies. It should also be made clear on customer bills that the majority of the PSO levy does not go to renewables but to gas and peat. Finally, the levy should not be applied as a flat rate per consumption band. Instead, it should be applied based on a consumption/kWh basis. This would mean a more progressive levy where those who consume the most electricity contribute the most.

Priority 6 – Driving Economic Opportunity

40. What skills and training are required to underpin the energy system in 2020? How should training for the energy sector be organised?

A good understanding of the energy system is required to understand the implications of the energy transition for the employment market. Many of the skills necessary in terms of planning and building renewable energy and energy efficiency infrastructures already exist in Ireland. Some professions will simply need reskilling to acquire new skills and knowledge. As with all areas of strong innovation, a workforce with a strong STEM focus will be invaluable. The government can help identify skills gaps using classification systems such as 'European classification of Skills, Competences, Qualifications and Occupations (ESCO).

Universities, vocational colleges and other training institutes will require guidance from the government to ensure curricula and qualifications reflect the new and emerging skills demanded by the energy sector. Assessments should be carried out on the new and increasing technical needs both on a practical and academic level. It then should be ensured that the syllabi of secondary schools, universities and other educational/training institutions reflect these changing requirements.

41. How can energy policy be designed to maximise and grow Irish employment in the sector in the long term?

Deployment policies are key, as parts of the manufacture and installation jobs are location specific, as well as most if not all operation and maintenance jobs. For other parts of the supply chain, Ireland should consider where we have a comparative advantage, such as RD&D (see question 38).

Clearly, the reskilling of Ireland's workforce as discussed above is essential if the newly created employment opportunities will be taken up.

42. How can Government funding for R&D in the energy field be best targeted to maximise the potential for the commercialisation of IP emerging from such R&D?

43. How should research funding organisations modify their support programmes?

44. How should Ireland best position itself to maximise the benefit from Horizon 2020?

Continued support of companies, academic institutions and individuals to attain funding under the EU's Horizon 2020 facility is vital to help both the transformation of the grid. It is also key to continued cost reductions and to bring new technologies to market such as smart energy management, storage and offshore technologies.

Certainty around domestic energy policy will help ensure that undergraduate degrees will skill graduates properly and position themselves to follow postgraduate research in areas that can apply for Horizon 2020 funding.

Irish researchers should be actively encouraged to apply for funding under the new and third area covered and funded by the Horizon 2020 facility. This area focusses on research into consumer attitudes and behaviours and how to gain support for climate change initiatives, including energy. As already detailed, attitudes and behaviour are a significant challenge in Ireland. Horizon 2020 funding could be used to help understand how best to improve public awareness of climate change and energy policy, get public support and encourage behavioural change.

With an all-island energy market, Ireland should think similarly when it comes to research projects. We should endeavour to include a cross-border element to our funding proposals where possible.

45. What else should be done to maintain and improve the integrated innovation support process, from basic research to commercialisation?
46. How can there be more collaboration and ongoing structured interaction between researchers, modellers and policymakers to ensure that energy research and modelling address the real energy policy problems including impacts on citizens, and challenges as policymakers perceive them, and that the resulting analysis and publications have policy relevance?

Energy modelling should also include stakeholders beyond those mentioned above. The US Energy Information Administration has a good model, whereby the modelling is carried out by a body independent of the legislature. The EIA publishes its main modelling results every year (Annual Energy Outlook), makes the model available to the public, including universities, NGOs and private companies. It also holds stakeholder consultations twice a year to encourage greater understanding and participation.

47. Do any other areas within the energy/enterprise policy space need to be addressed in the forthcoming Energy White Paper?

The successful decarbonisation of Ireland's energy system cannot happen without a reform of urban and rural planning and local government structures. The planning structures must engage with and be supportive of communities, take advantage of local energy generation potential, minimise dependence on individual vehicle transport and facilitate to a shift to more sustainable transport solutions. Integrated transport and land-use planning should be a central part of energy policy.

ENDS