SSE Response to

DCENR Green Paper on Energy Policy in Ireland

Pragmatic and Equitable Policy for a Sustainable Energy Future

31st July 2014

1. About SSE

Since the 2008 acquisition of Airtricity, SSE plc, a FTSE Top-50 listed company, has invested around €2 billion in growing its business in Ireland – equivalent to €1 million a day. In the same period, it has created over 1,500 Irish jobs working across SSE's range of energy generation, energy retail, street lighting and energy services businesses here.

Today, SSE is Ireland's second largest energy provider supplying greener electricity and natural gas to over 800,000 homes and businesses on the island through its retail energy brand, SSE Airtricity. At SSE Airtricity we are focused on delivering value for our customers. This means saving customers over €80 million so far through our competitively priced energy; transforming customers' experience by providing detailed and personalised information on energy use which is accessible online; and providing knowledge and resources to assist customers in reducing energy consumption and sustainably managing energy bills.

The company is also the second largest energy generator by capacity in the All-Island Single Electricity Market with over 1500MW of generation in operation, including over 500MW of wind energy generation. The generation portfolio includes the 88.5MW Meentycat wind farm in County Donegal, Ireland's largest single wind farm. We are currently constructing Ireland's newest power station, a 460MW combined cycle gas turbine (CCGT) at Great Island, Co. Wexford, which is expected to be commissioned shortly. SSE is investing over €330 million in the construction of the new plant. When completed it will be the cleanest, most efficient, and reliable gas power plant on the system powering the equivalent of half a million Irish homes.

The Great Island project will significantly decarbonise energy generation in Ireland. Furthermore, it is one of the largest infrastructural projects currently under construction in the country and is the single largest power generation capital project that SSE is developing in either the UK or Ireland.

SSE Airtricity Utility Solutions is Ireland's leading street lighting contractor maintaining 285,000 public lights on behalf of over 20 local authorities, equivalent to around 70% of all publicly-tendered local authority lighting stock.

In structuring our response to this policy consultation Section 1 has provided an overview of our company, Section 2 contains an executive summary, Section 3 details key messages relating to this consultation, Section 4 answers the specific questions posed in the Green Paper and includes broader concepts in some cases.

2. Executive Summary

Energy drives our economy. Whether it is your commute to work, the flick of a switch, the hum of machinery or a warming radiator, a vast multi-billion euro infrastructural network delivers energy to each of us daily. While the energy sector is a significant employer and investor itself, it is firstly a service provider to the wider economy. As Ireland's second largest energy provider, SSE plc is particularly aware of the influence energy costs have on customers. As we consider the future direction of energy policy in Ireland, policy makers must therefore critically evaluate the value versus cost of policies and the means by which costs are equitably recovered.

Energy policy is substantially shaped by European directives and regulations. To maintain our competitiveness, Ireland must have a strong European voice to ensure that EU policies are not disproportionately impactful for Ireland. The publication of this Green Paper is timely as we consider the implementation of EU 2030 climate and energy policies and targets. Setting out clear policy, goals and targets in an energy policy White Paper is important to providing investor confidence for large capital investments with 25 to 35 year lifecycles.

Affordability, decarbonisation and security of supply make up the energy trilemma. Getting the optimal prioritisation, timing and cost effectiveness of these interdependent goals is a unique challenge. SSE is supportive of an ambitious 2030 EU climate and energy package. We favour the EU-ETS as the primary market incentive for decarbonisation. We recognise the need to improve its effectiveness and support the introduction of the proposed market stability reserve. Furthermore, to improve investor certainty and foster an innovative supply chain we support a 2030 renewable target of 27%. We would, however, urge rapid EU agreement and clarity on national renewable contributions and the overall governance framework.

As Ireland's largest renewable operator our business is keenly focused on reducing the supply chain cost to renewable investment. A focus on cost effective delivery has helped Ireland maintain one of the most cost competitive renewable support mechanisms in Europe (REFIT). However, recent public policy proposals risks inflating the cost of investment e.g. suggested rates revaluation for wind farms would more than double annual overhead; unnecessary administrative costs erode community benefit programmes. We must, therefore, ensure that public policy does not undermine savings achieved by industry.

The electricity sector is one of the most successful at decarbonising and is poised to assist others, including transport and heating e.g. electric units displacing oil-fired heating; electric vehicles. Through a balanced low carbon generation portfolio (mainly gas-fired and renewables) and demand side management, electricity can make a meaningful contribution to decarbonisation economy wide. To achieve this vision the Irish electricity market requires three mutually reinforcing policies. Firstly, we must be realistically ambitious regarding the electricity system's technical operational capability (e.g. ROCOF) and ensure implementation of the measures that have been deemed appropriate and necessary. Secondly, the market must provide an equitable return for participants. This requires energy, capacity and system service (DS3) revenue streams. Thirdly, it requires policies that activate demand side response.

The availability of increased data via Smart Metering and the subsequent development of consumer incentives such as Time of Use tariffs are leading enablers of demand side activation. However, SSE is concerned by the current limited view taken by the Regulator whereby data may not be made available to suppliers. The proposed restriction undermines the rationale for this substantial capital expenditure and frustrates the opportunity to develop innovative customer offerings.

SSE is wholly supportive of the Green Paper's focus on empowering customers. Through our supply business we have invested in platforms that provide customers with detailed information on their consumption and have subsequently identified solutions and technologies to reduce consumption and better manage bills (e.g. prepayment meters). Meanwhile, through our €1million community fund, associated with our portfolio of wind farms, we have sought to positively direct community investment toward energy efficiency. While empowerment is supported through information, leadership by elected representatives is also critical for the achievement of public policy, particularly the delivery of necessary physical infrastructure.

In recent years we have found that energy policy is frequently re-debated at individual project level. We see the preparation of an energy White Paper as an opportunity for all interested parties to present rationale and informed perspectives on the future of energy policy. This in turn would enable the Government to provide a clear policy statement on the future direction of energy policy here.

Following a period of economic contraction SSE has noted a trend whereby policy-makers shift the cost of energy, social, environmental, and enterprise policies to energy suppliers (e.g. energy efficiency obligations). With margins of less than 5% energy companies must pass these costs to consumers. However, the increasing costs associated with public policy are not transparent to consumers, generate ill-feeling, lead to a negative public narrative and act as a disincentive to investment. In SSE's view policy costs are more progressively and appropriately recovered through the exchequer than via energy bills.

The Irish electricity market has seen a high degree of customer switching in recent years implying a healthy competitive market. However, while international experience denotes 40% as an appropriate market share to avoid dominance, incumbent market share remains at the 60% deregulation level. With only two fifths of the market actively switching supplier, additional metrics are required to measure the effectiveness of competition and ensuring customers are availing of the most competitive market rates.

3. Main Messages

SSE welcomes the publication of the Green Paper on Energy Policy and commends the Department for a wide-ranging consultation. Given the changes in the energy sector and the development of the EU's 2030 Framework it is an opportune time to assess achievements so far and to set policies into the future.

Engaged and Empowered Energy Customers

SSE is enthusiastic about the Department's vision of empowered energy citizens. SSE believes that the current high profile of energy policy can and should be harnessed to collect views for evaluation in the Green Paper process, and once formulated to share the vision and information about the rationale for energy policy direction set by the White Paper.

SSE regrets that recent high level energy policy debates have been focused at project level rather than at overall policy level and that this is not helpful. Whilst engagement on particular projects is important, and is something that SSE invests significant time and energy in, it is not the appropriate point for debate of overarching policy aims. We agree that this discourse on policy is necessary, particularly given the challenges facing the energy sector, and consider that if the Department engages in an effective consultation process which discusses the drivers for energy policy and the consequences of different courses of action it will then be in a position to present the rationale and defend its decisions to an informed citizenry. SSE proposes that this process should clearly set out the consequences (both in general and for the individual customer) of taking certain actions and of not taking action; this is further discussed under Priority 1. SSE is optimistic that such an approach will in fact achieve buy in to the vision set out in the White Paper.

Energy policy is complex for all of the reasons discussed within this paper and the public should be empowered to review developments in light of these complexities. Once a policy direction is set by the Department and accepted by the public it should be possible for developers, investors, customers and the public to proceed on this basis. As things stand, delays to the delivery of agreed policy, such as the infrastructure and services needed to achieve 40% renewables target, increases costs for developers and ultimately customers and may result in failure to meet that target, exposing Ireland to EU penalties.

A greater understanding of the generation and transportation side of the energy sector encourages customers to respond with informed choices around their demand and demand patterns, such as installing energy efficiency measures or shifting their demand to off-peak/high-renewables periods, in knowledge of the sustainability, competitiveness and security benefits that such behaviour delivers, both to themselves and to the country in general. If appropriately implemented, the Smart Metering project will be a tool to unlock finanical, climate, environmental and other benefits.

Climate

SSE would note, as is recognised in the Green Paper, that the EU 2030 framework will determine to a large extent the direction that Irish energy policy takes over the coming years. SSE is supportive of an ambitious 2030 Climate and Energy Package for the EU, including initial European Commission proposals of a 40% domestic GHG target and the 27% EU wide renewable energy target. To deliver greater certainty for the post 2020 landscape for investors, SSE would welcome a rapid agreement by the Member State Governments and greater clarity on national contributions and governance framework. SSE highlights that the electricity sector has a lot to offer in terms of decarbonisation of the economy; the deployment of renewable generation, particularly wind, is increasing. It is true that there are still some barriers to increasing the share of renewable electricity but we are optimistic that these can be overcome; solutions have been identified and we must now move to implement them. These solutions include grid delivery and the introduction of new system services to encourage more flexible generation to enable a greater penetration of variable renewable generation on the system at any point in time, as well greater integration of European electricity markets.

We note a recent study by the consultancy Poyry, commissioned by the IWEA, which indicates that the achievement of Ireland's 2020 renewables target, predominantly to be achieved through wind generation, will bring substantial benefits to the wider economy whilst maintaining energy costs at a comparable level to the 'status quo' generation mix- this study includes the cost of energy itself as well as networks and system services. These benefits are in addition to decarbonisation, fuel diversity, reduced reliance on imported fuel, a hedge against volatile fossil fuel prices and air quality improvements.

We believe that the White Paper can also encourage more 'consumption focused' solutions; in particular the electrification of heat and transport can act as a source of demand which can be used at traditional points of system low demand (eg during the night) or high renewable output to take advantage of renewable generation which would otherwise go unused.

There are also opportunities for customers to participate in demand side management and thereby reduce their cost of electricity, and to provide stabilising system services which should provide a source of revenue to these customers. This 'virtuous circle' can deliver a secure, low carbon and affordable energy system. In addition, shifting non-ETS consumption in the transport and heating sectors into the electricity sector reduces to zero their emissions in the non-ETS calculation. Given the difficulties of reducing emissions in Ireland's non-ETS sector, and as this is the portion that Ireland is responsible for (the ETS sector target will be met on an EU-wide basis by operation of the ETS) we consider that electrification of heat and transport has a lot to recommend it in terms of realising Ireland's decarbonisation potential.

We would however recognise that there are technical limits to the level of variable renewables that can be supported on the Irish system at the moment and devising and delivering technical solutions to this challenge must factor into Ireland's position on 2030. Implementation of flexibility through the DS3 project will remove both economic and technical barriers, if curtailment increases beyond a certain point, projects will become unviable. SSE considers that Ireland must be realistically ambitious on this point; Ireland is at the vanguard of renewable integration which creates opportunities for innovation (which expertise can and is being exported) but must be considered in setting future targets. Furthermore, although the electricity sector can deliver decarbonisation more efficiently than many other areas of the economy the question of whether the electricity customer should pay for electricity's 'over-achievement' must be considered carefully in the formulation of the White Paper. As recognised by the Department, electricity is a facilitator for the wider economy therefore competitiveness is always an important consideration.

Overall, SSE believes that the EU ETS should act as the primary driver for decarbonisation across the European Union as it is the most efficient mechanism to do so. However, the scheme at present is not driving investment decisions due to the oversupply of allowances, partly due to the unforeseen global financial crisis. To address this, SSE supports structural EU ETS reform to create a robust and stable carbon price signal to drive investments in low carbon technologies and energy efficient goods and services. As such, SSE supports the proposed Market Stability Reserve (MSR) to introduce flexibility to the supply of allowances. SSE considers that to restore the EU ETS as the primary driver of European decarbonisation, MSR should be brought forward to 2017 and the 900 million backloaded allowances should be placed straight into the MSR, if they come back to the market at all.

We encourage the Irish Government to support initiatives to reform the EU ETS in an effective way at the European Council and we are happy to share our commercial experience and views if this is of assistance. We would also welcome the inclusion of more sectors in the EU ETS so as to remove the artificial distinction between these sectors and the disparate drivers and burden of decarbonisation experienced by both.

Security

Ireland's electricity generation capacity is currently sufficient to ensure security of supply standards are met, and moreover, is in a position to facilitate an increase in demand due to economic growth or increased electrification of the economy. This is positive compared with the scenario faced by GB and many other EU Member States. We note that at the time of the last White Paper Ireland was not in such a position and costly schemes were needed in order to ensure sufficient generation capacity. On this basis we highlight the importance of a market which provides revenue adequacy to the generation needed to ensure security of supply.

As discussed further within this response, renewable generation brings many benefits, but with reduced running hours and greater operational costs for conventional plants (eg RoCoF and ramping requirements) their feasibility could come under pressure if the market is not designed to ensure revenue adequacy. There is evidence across Europe of closure of conventional plant and this 'missing money' problem is an important factor. SSE considers that energy only markets do not deliver the security of supply required by policy-makers and therefore capacity mechanisms and flexibility mechanisms are required. This issue becomes more acute as renewable penetration increases. We note that the ISEM project proposes such a mechanism and highlight the need for careful design in order to ensure that Security of Supply is maintained. SSE also highlights that the frequency and extent of changes to the energy market and policy do reduce confidence of investors in the market; in particular, retrospective changes to requirements and the imposition of risk on generators are damaging.

In regard to gas security of supply, the addition of supply from the Corrib field will reduce reliance on imported gas. We do note the difficulties arising in remunerating IC2 and the many causative factors. SSE considers that this represents overcapacity and should be recognised as a stranded asset, with solutions falling to be paid from exchequer funding rather than the relatively small base of gas customers.

Competitiveness

As a supplier, SSE is acutely aware of the importance of affordable energy to our customers, be they industrial, commercial or domestic. Competition in the retail market has brought savings to our customers, as well as innovative products and services. We have recently worked with the Department – through the EAI -- to deliver the Energy Engage Code, which ensures best practice treatment for those customers in debt and facing disconnection.

As recognised in the Green Paper, many elements of price are outside of the control of suppliers, such as international commodity prices, networks and other regulated charges, and the costs of policy and regulatory requirements. On the latter element, we submit that the delivery of energy efficiency policy through energy bills is not the fairest way to distribute these costs to society. Any additional cost on energy bills is regressive and will place additional pressure on those in, or in danger of, fuel poverty. Funding these costs from exchequer funding, particularly the revenues raised from the sale of EU ETS credits, means that they are funded by those with a greater ability to pay.

In the implementation of energy efficiency obligations we see the conflation of a number of policy aims as the policy is designed to further social policy with the inclusion of a fuel poor sub-target, and also industrial policy through the creation of jobs. SSE considers it inappropriate to place the costs of these industrial and social policy objectives onto energy consumers. As set out above, the outcomes are perverse as both serve to increase the costs of energy which further worsens the position of those in fuel poverty and damages Ireland's general competitiveness which inhibits job creation. SSE cautions in particular against the furtherance of non-energy policy through energy bills.

We would also highlight that ongoing requirements for change to supplier systems, including billing mechanisms, do impose costs on suppliers and that this must be borne in mind in any Cost Benefit Analysis of regulatory or policy developments such as Smart Metering, implementation of Energy Efficiency Directive (contents of bills) and the ISEM project. The costs and benefits shown by such CBAs must then be recognised in debates around affordability and competitiveness. The resource demand that these ongoing changes place on our business impose an opportunity cost as other avenues for innovation cannot be explored.

More generally, SSE questions the inclusion of the 'fourth pillar' of job creation in energy policy. We are comfortable that many energy policy initiatives, such as achievement of Ireland's renewable target has created employment but note that as energy is a service to the wider economy it is important that competitiveness is maintained; jobs in the energy sector should not be created unnecessarily at the expense of competitiveness.[1] That said, we do recognise and celebrate the fact

[1] We note Poyry's recent 'Value of Wind' study in this regard, discussed further below.

that Ireland is at the vanguard in terms of integration of renewable electricity, and that there is scope for the export of our experience and learnings in this regard.

In respect of supplier margins, SSE reasonably expects to make a margin in the region of 5% in its supply business overall, in fact this has generally been less in Ireland. We highlight that the 'Retail Margin' of 13% shown on page 29 of the Green Paper is not reflective of reality and understand that the figure also includes supplier costs.

In terms of the PSO, the REFIT support scheme has been successful in delivering renewable generation, and we would hope that it will enable Ireland to meet its 2020 renewables target. REFIT only accounts for a portion of the PSO and some of the other schemes supported will expire over the coming years. We note that a recent study by the European Commission concluded that 'for wind electricity in Spain and Ireland the benefits for electricity consumers in terms of reduction in whole-sale prices outweigh the costs of subsidies'.[2]

We acknowledge that developments in State Aid rules mean that renewable support scheme design will need to be amended for the period 2015-2020. As a renewable developer SSE is very keen to be involved in this process and believes that it should be commenced as soon as possible. With the long lead time for renewable projects, including the delivery of Gate 3 connections, developers need the information on which to base investment cases if projects are to proceed. SSE does share the view that as renewable technology develops and if the EU ETS is reformed we will see mature renewable technologies deployed by the market. Noting that the costs of generation technology are influenced by global factors, industry has made strides in reducing the cost of delivery of wind energy in particular. However we are conscious that a number of policy developments threaten to undo this progress; in particular current proposed rates valuations propose to significantly increase operational costs for developers and we would caution that community benefit proposals should not do likewise.

Smart Metering

As part of the move to empower customers to take greater control of their consumption, SSE hopes that the Smart Metering project will be a key tool. The potential benefits of Smart Metering are set out in section 1.5 of the Green Paper consultation and section 6.7 states that 'the sharing of energy data and intellectual property has the potential to unleash innovation and creativity in the energy sector'.

Smart Metering offers the potential to convey information and price signals to customers on which they can base consumption decisions. Principal among these signals is a Time of Use tariff, under which customers would pay different prices for electricity at different times, this would reflect the increased cost of generating electricity at peak times. There are many benefits from 'smoothing' demand (ie reducing demand at peak and increasing it at troughs) including reduced need for network infrastructure, increased use of installed renewable generation and cheaper electricity bills for responsive customers. In a world with greater levels of storage through electric or hydrogen

[2] http://ec.europa.eu/energy/doc/2030/20140122_swd_prices.pdf

powered vehicles and electrification of heating, as well as smart appliances, the potential benefits are amplified.

The creation of Time of Use Tariffs is predicated on suppliers having more information on their consumers' individual consumption, rather than relying on standardised consumption profiles. This information will enable suppliers to design tariffs relevant to their customers, and to bill them accurately, and thereby improve customer experience, reduce costs and enhance the relationship between supplier and customer. This data is also the key to unlocking spin off complementary innovation. Unfortunately, the direction of travel of the project now indicates that this data may not be made available to suppliers, which means that the benefits of Smart Metering technology would not be realised. SSE recognises the crucial importance of ensuring that privacy and data protection requirements are adhered to, with necessary mitigations to be put in place if necessary, but questions whether the proposed restriction undermines the rationale for the project and frustrates the opportunity to innovate and develop increasingly competitive offerings. We note that suppliers currently comply with such requirements and would continue to do so after the introduction of Smart Metering.

There are also suggestions that the CER will set out prescriptive guidelines on how ToU tariffs should be structured and that a differential between different periods would be stipulated, we argue that this will stifle innovation by suppliers and is a retrograde step in light of the deregulation of tariffs and competition in retail markets. We would also highlight the importance of market settlement being based on actual data once smart metering is introduced; to do otherwise limits innovation opportunity.

A further concern is that pre-pay under Smart Metering will be less advanced than current pre-payment meters in terms of display of a customer's credit balance. The project's vision is that consumers will be enabled to check their balance online but in SSE's view this approach is flawed as many customers (particularly vulnerable and fuel poor) will not have access to internet or the relevant devices, and the burden of providing a solution will rest on suppliers which increases the cost to serve customers. We fear that this will create resistance to Smart Metering.

We would also note that significant time, effort and expense has been invested in harmonising retail markets between Ireland and Northern Ireland. The Utility Regulator is also looking at the question of Smart Metering in Northern Ireland, although the project is at an earlier stage than in Ireland. Whilst we recognise that this issue is not subject to joint governance, we would draw attention to the importance of ensuring that the implementation of these projects does not give rise to de-harmonisation the retail markets in Ireland and Northern Ireland. This would increase costs for suppliers, which would ultimately be borne by consumers.

SSE would caution, therefore, that there is a risk that the full potential of Smart Metering may not be realised, indeed the benefits from the project may be undermined. We highlight that the rollout of the meters and associated infrastructure as well as need for change to supplier and DSO IT systems will be expensive and will impose costs, therefore all stakeholders have a responsibility to maximise the benefits of the project for consumers. We ask the Department to take account of our concerns and to address any issues which impede the achievement of these benefits, through legislation if necessary.

4. Priorities and Questions

Priority 1 – Empowering Energy Citizens

	Priority 1
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)?*
	SSE agrees with the Department that the scale of the energy transformation in the coming years is unprecedented and with the proposed objective that to ensure the energy citizen remains at the centre of energy policy, energy users must be informed and proactive contributors to the ongoing evolution of the Irish energy market. We believe that customers should be informed, engaged and empowered at all levels of energy policy development and implementation, that is from formulation of the White Paper to individuals making decisions as to whether to adopt energy efficiency measures, to buy a smart appliance, an electric vehicle or to change consumption pattern in response to a Time of Use tariff. We would also note that the interests of customers are currently considered by the CER in making decisions and that the Department similarly considers the public interest in formulating policies. SSE would welcome any efforts to further engage citizens to be part of our energy transition. We are optimistic that a greater understanding of climate and environmental challenges, security of supply and the importance of affordability will enable citizens to buy in to energy policy, as on the whole costs are outweighed by benefits, or at least to understand the reasons for decisions. It is important that information is presented clearly and succinctly, directing those who wish to research further to useful additional information sources; we are realistic that customers and the general public have many demands on their time and may not be in a position to devote a lot of time to this issue. As set out above, it is evident recently that debates around energy policy are arising in relation to the development of particular projects, this is not helpful for any party as these debates occur in a highly polarised environment and do not take a holistic approach. For this reason we see the Green Paper as the ideal opportunity for Government to drive this comprehensive national discussion and to make clear the issues relevant for consideration in the planning process. That is not in any way to minimise the importance of engagement and scrutiny in the planning process; rather that that process should be confined to planning issues rather than higher level policy decisions. As discussed above in the Main Messages section of our response, SSE does engage with our customers through many channels, including our website which regularly discusses energy policy issues. We also engage with the communities who neighbour our windfarms and generation stations, both pre-development and development stages, and during the operational lifetime of those assets. However, SSE is a participant in the energy market, and as such we consider that the Department and the Minister, as decision-makers, are better placed to encourage and lead this discussion and that the Green Paper is the ideal opportunity to do so. We would

	recommend that this discussion set out the objectives of energy policy, including the interactions between those objectives and fixed targets and policies from EU level. The importance of long-term thinking with respect to energy policy cannot be overstated considering the long lead in time and life of assets; it is important to highlight to customers that reducing costs in the shorter term can give rise to greater costs over the longer term and that policies should be evaluated on that basis. The discussion should also outline the consequences that different policy decisions will have for those objectives, setting out how they manifest for the customer. This evidence base should serve to justify policy decisions made. It has also become evident to SSE when considering this paper, that consumers are not aware of the incentives currently in place to alter behaviour such as the EU ETS and carbon tax; we consider that the Department should inform the consumer of these incentives so as to empower consumers to adapt their behaviour in response. If the Department engages in an effective consultation process which discusses the drivers for energy policy and the consequences of different courses of action it will then be in a better position to present the rationale and defend its decisions to an informed citizenry. It would also be helpful for the Department to provide a source of reliable, peer reviewed and reputable research to assist interested consumers. We would hope that such an approach would in fact achieve buy in to the direction of the White Paper. For example, such consultation process should make the link between policy and its impacts: • renewable generation assists with climate change mitigation, air quality improvements and reduction of reliance on imported fuels, which are subject to volatile and unpredictable prices, • failure to deliver grid infrastructure could compromise security of supply for all and frustrate the achievement of renewable targets, for which Ireland will incur penalties, • absence of the North-South Interconnector costs customers on the island €20m per annum and has cost €100m to date[3], • undergrounding of transmission lines would increase costs to all customers and will increase the numbers and extent of difficulties of those in fuel poverty, • a Smart Metering project can help suppliers to bill customers more accurately on the basis of their actual consumption and customers may receive savings from shifting their consumption to off-peak times if the relevant data is made available, and • increases to the cost of delivery of energy in Ireland damages competitiveness, which has implications for job creation and retention. Potential solutions should be evaluated on this basis. Energy policy is complex for all of the reasons above and the public should be empowered to review developments on an informed basis and to know the consequences of decisions made. Once a policy direction is thus set by the Department and accepted by the public it will be possible for developers and investors to proceed on this basis. As it is, delays to the delivery of agreed policy, such as the infrastructure and services needed to achieve 40% renewables target may ultimately result in failure to meet that target as costs increase for developers due to delay and risk, and consequently for customers. An understanding of this 'generation side' will enable customers to respond with choices around their demand and demand patterns, such as installing energy efficiency measures or

[3] http://www.cer.ie/docs/000727/13149-consultation-paper.pdf

	shifting their demand to off peak times, in knowledge of the sustainability, competitiveness and security benefits that such behaviour delivers, both to themselves and to the country in general. If appropriately implemented, the Smart Metering project will give customers the ability to take financial advantage of demand shifting and demand reduction. *Mechanisms* SSE recognises that many members of the public do not have the time to research energy policy given its complexity and the range of other policies affecting their daily lives. As to the mechanisms that could be used to engage citizens SSE proposes that the Department should conduct research among the public as to how they would prefer to be consulted. We would propose that following this Green Paper consultation that the Department may run consumer panels to gauge views, particularly on broad issues such as climate change/sustainability, security of supply, and competitiveness, as well as attitudes towards Smart Metering and energy efficiency. There could also be an online consultation stage, which could also be made available in a range of public buildings (at county/city council offices and libraries etc) with experts present to answer questions, we propose that short pieces of informational video footage could be prepared on aspects of energy policy to be followed by a number of questions for the individual. Perhaps the Communications arm of the Department could be utilised to devise a best practice consultation format. We would welcome the proposal to prepare energy citizen impact assessments for decisions of regulators and policy-makers and consider that this should be bound up in the wider Regulatory Impact Assessment process, which we submit, should become standard practice. More generally, SSE supports the discussion of energy policy through the secondary education curriculum, namely through the CSPE course, as climate and energy are two of the greatest challenges facing this and the following generations. We suggest that there may be additional opportunities to build on an understanding of the sector within the curriculum, perhaps through science, geography and economics courses for example. This may also serve to stimulate interest in pursuing careers in the sector, as discussed under Priority 6. *Implementation* Once a White Paper is decided we would encourage politicians and appropriate agencies to communicate the rationale for the policies and to provide leadership in implementation. If there has been a widespread consultation we are hopeful that the public will buy into the White Paper, making it a solid base for development in the sector and insulating implementation from the negative effects of media and political vagaries. Industry takes its cue from policy where it is stable and predictable – changes in policy or delays or doubt as to implementation will result in wasted costs which will inevitably increase costs for all stakeholders. We would refer to Ireland's 40% renewable target as an example of evidence based policy making (on the basis of the Facilitation of Renewables Study) which set a clear policy direction for developers through the REFIT scheme, and to CER in the Gate 3 scheme and infrastructure development. However, to date we have only seen partial implementation of the measures necessary to realise the vision. Gate 3 offers were delayed and grid delivery and DS3 are still needed to enable projects already delivered to operate as planned; meanwhile these projects are suffering untenable and growing levels of curtailment, and the

	risks for planned projects have increased. This level of risk could serve to deter investment and frustrate achievement of targets. This goes to show that holistic implementation of all necessary measures is needed. Once a White Paper has been finalised we wonder whether a novel approach we could borrow from the US is that a 'champion' (/'tsar') be appointed to ensure delivery of all elements of the policy. This could be a high profile business person with a successful track record whose reputation would then become bound up with the successful implementation or otherwise of the project.
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?)*
	See response to Question 1
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?*
	As set out in the earlier section, SSE sees great benefit in increasing energy efficiency, indeed the SSE Airtricity Community Fund for areas around our windfarms prioritises energy efficiency works as we feel this fits best with our company values. We also operate an energy efficiency business which focuses on installation of efficient boilers and maintenance of all boilers so as to improve performance. We hope to utilise the innovative relationship between Energy Suppliers and Consumers discussed in the Green Paper to increase the uptake of energy efficiency measures and recognise that energy efficiency is a cost effective means to tackle fuel poverty. However, we have serious reservations about the current Energy Efficiency Supplier Obligation, which serves to recover policy costs through energy bills in a regressive manner; this has adverse outcomes for customers, particularly those in fuel poverty. This impact is exacerbated by including industrial and social policy objectives pursued by inclusion of fuel poor and domestic sub-targets. We point to SSE's experience in GB where these obligations added up to £100 to the cost of bills annually, which ultimately led Government to re-think this policy.[4] In our efforts to achieve energy savings under a Voluntary Agreement with the Minister over the last number of years it is apparent to SSE that the demand for home retrofits is not strong enough to reach Ireland's targets. One way to encourage the uptake of measures is through the broader discussion on energy policy and Ireland's vision for the future in the preparation of the White Paper as discussed in Question 1. A number of barriers are put forward as to why demand is not stronger, such as lack of upfront capital to carry out measures, lack of appetite to take on debt in current financial climate, long payback period, lack of trust in measures, inconvenience caused by installing measures and split incentive between landlord and tenants. Other barriers include the 'hassle factor' of works and lack of experience with new technologies. We consider that a number of incentives discussed under the Better Energy Financing project have merit:

[4] http://www.theguardian.com/environment/2013/jun/19/eco-worrier-energy-efficiency
http://blog.decc.gov.uk/2013/12/04/changes-to-the-green-deal-and-the-energy-company-obligation/

	- Continuation of exchequer funding for energy efficiency measures through the Better Energy scheme, with a focus on reducing the administration costs of the scheme. As discussed above, exchequer funding is preferable than including the cost of subsidies on energy bills. SSE supports the use of revenues from sale of EU ETS credits and carbon tax receipts for this purpose. - Access to low cost financing is important and we consider that the German kfw model whereby the state lends to lending institutions at low interest rates, which is then passed through to consumers, has promise. We do not consider that involvement of suppliers in collecting repayments under loans is necessary and submit that it would add to the cost of finance. - We note the introduction of the Home Improvement Incentive VAT rebate scheme introduced in Budget 2013. The qualification threshold for the scheme is higher than the cost of many energy efficiency measures and submit that the scheme should be altered so that all energy efficiency measures are eligible. - We would support exploration of similar measures to provide income tax relief for energy efficiency investment or reduced property tax for properties with high BER ratings. - A 'bike to work' type scheme, whereby the upfront costs of measures are paid by an employer, to be repaid by employee over an agreed period and saves income tax, shows promise and could be tested on a pilot basis. We note that there are some challenges to this type of scheme. - Information on energy efficiency should be disseminated through multiple state channels such as health centres, libraries, civic offices, citizen advice bureaux and SEAI. This would include information on the benefits of adopting energy efficiency measures and a list of providers. Information on possible energy and cost savings (averages) as a result of energy efficiency measures, and efficiency labelling on appliances would be helpful. *Primary Energy Factor Calculation* We would also ask the Department to reassess the current calculation of energy efficiency savings by reference to an outdated Primary Energy Factor; we recommend that given the focus of climate and energy policy on reduction of GHG emissions that it would be more productive to measure savings by reference to carbon rather than by energy, and in doing so to recognise the advances made in decarbonising electricity supply. By failing to recognise these advances, policy incentivises the lock in of fossil fuel technologies for another investment cycle. In particular, current standards in the Building Regulations are impeding the installation of promising electric storage heating solutions. We note that this option is open to Ireland under the Energy Efficiency Directive and we urge the Department to show leadership in this respect.
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?*
	It is SSE's impression that there is a wealth of information available on energy challenges and energy policy. It may be that a central source of reliable information (eg peer reviewed academic research, SEAI's research as well as recognised international bodies (eg WHO)) could be made available as part of the Green Paper consultation process. SSE notes that information presented to the public should be clear, relevant and succinct. This can be pursued alongside mechanisms proposed in Question 1. **Eco-Schools**

	SSE is the principal sponsor of Eco-Schools Northern Ireland, an international environmental education programme for schools which links environmental awareness in the entire school with curriculum subjects. Our green schools programme, Operation Energy, was launched in 2011 with the objective of helping students, parents and entire communities tackle green issues and promote sustainability. Since then, more than 400 primary and secondary schools in Northern Ireland have registered to participate in Operation Energy. Through events such as our annual Power Down Day and the Global Wind Awards, we are helping schools reduce their energy use through improved knowledge around energy efficiency and sustainability.
5	*How have other countries effectively engaged citizens in infrastructural development, and which innovative or interesting approaches could be helpful in Ireland?*
	SSE considers that a wider discussion on energy policy as outlined in our response to Question 1 can serve to engage citizens in infrastructural development. This conversation should also make clear the role of planning and the opportunities for involvement and questions under consideration in that process.
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 need to be overcome, such as availability of information or consumer difficulties with the switching process?*
	SSE is a strong advocate of the benefits that competition in the electricity and gas retail markets can bring and welcomes increasing competition in the Irish gas and electricity markets. Since entering the Irish market SSE has delivered over €80 million savings for our customers in Ireland, and has delivered innovative products such as Budget Plan - a lifestyle prepayment option and enhanced digital services for our customers' convenience. However, many customers have not felt the benefit of competition. SSE strongly feels that there is scope for further switching in Irish retail electricity and gas markets. We would note that the incumbent electricity supplier has remained at, or over, the threshold it was deregulated at and that many customers have never switched at all, so called 'sticky customers' for whom competition does not really exist. We fear that the same will happen with respect to the incumbent gas supplier. SSE was disappointed that the markets were deregulated at those thresholds and still considers that they were too high. SSE would welcome further research on switching patterns in Ireland, including why certain customers do not switch. Switching itself is only one indicator and we submit that it would be enlightening to research underlying factors such as customers who are not aware of the facility to switch, the ease with which it can be carried out or those who fear there will be a change to the service provided. If we have greater information on these factors we would suggest that the CER devise a campaign to increase knowledge of switching procedures. All legacy issues which impede switching should be removed as soon as possible, this includes the different mechanisms by which energy supports under the Household Benefits Packages are made to customers of different suppliers.

	SSE considers that suppliers must be given the flexibility to compete, and that over-regulation, be it stipulations as to Time of Use Tariffs under the Smart Metering project or prescriptive rules as to bill format, impedes differentiation and innovation. We advocate the approach of regulating for outcomes rather than over-prescribing process. Where the CER does set standards, eg for advertising, it must monitor and enforce those rules to ensure that suppliers compete on a level playing field. We would also like to see greater respect of separation of brands between ringfenced vertically integrated incumbents. We consider that price comparison websites are a useful resource for customers, and that they must be simple to understand, accurate and objective in its evaluation of competing offers. SSE would highlight that regulatory responsiveness to suppliers' valid concerns is very important for competition. In recent years debt has been a real issue for suppliers and regulatory inertia on debt flagging and pre-payment meters has created difficulties for suppliers.
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?*
	SSE has doubts that micro-generation is a cost-efficient solution to decarbonising home energy and achieving renewable energy targets. We suggest that the Department carry out a Cost Benefit Analysis of the potential of this type of generation, including network and administration costs in advance of any proposals on a support scheme. If it is decided to proceed with a support scheme, and the costs are greater than for larger scale renewable energy we propose that it should not be recovered through energy bills, and that exchequer funding should be used. Those installing microgeneration must be made aware of the risks inherent in their investment. For clarity, SSE considers that these generators should be eligible to participate in energy and system services markets on a par with other providers and that similar rules with respect to connections, charges and operation should apply. We would note that there have been a large number of applications for connection of single turbines in Northern Ireland and that connection is not without its challenges.
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?*
	SSE sees potential for Smart Metering to allow customers to take greater control over their consumption and cost as outlined in the Green Paper, with the added benefit of facilitating greater levels of renewables and increased system security. We share the Department's hope that these benefits will be increased with the development of innovative technologies. Smart Meters are a very important facet of engaging energy citizens and we would encourage Government to deliver a media campaign in support of the project; this should include the message that Smart Meters are an enabler for further innovation going forward. SSE has been involved in the Smart Metering project through the CER's many consultations to date but we are very concerned at current proposals to implement the project without providing half hourly data to suppliers. If suppliers do not have this data the opportunity will

	be lost to enable billing of customers on the basis of actual consumption which fails to realise the vision of empowering consumers by giving them control over consumption and cost. A scenario whereby suppliers will have this data for some, but not all, customers would mean that two systems will be required for settlement and billing and this will increase the cost to serve customers. If barriers to the provision of this data remain we would ask the Department to act to resolve this situation and put in place the necessary safeguards. We are also concerned by the CER's proposals to mandate differential between Time of Use tariffs. We consider that this is a retrograde step in a price deregulated market and would stifle innovation and choice. In a competitive market we consider that market forces will deliver the optimum tariff range and designs. In addition, the solution proposed by the CER is less advanced than current pre-pay meters in terms of providing customers with information on their current credit balance level and consumption. It is proposed that customers could access this data online through a platform provided by their supplier. SSE considers that this is not realistic for vulnerable and fuel poor customers, as they may not all have internet access or suitable devices, and as it places additional burdens and costs on suppliers which raises the cost to serve customers. We fear that the lack of provision of this information on meters will damage the public perception of the project, as it represents a step backwards in terms of functionality. SSE would highlight that much time, effort and resource has been invested to harmonise retail market systems between Ireland and Northern Ireland. We are concerned that the separate development of Smart Metering projects in both jurisdictions may compromise the benefits of that project. The worst case scenario for suppliers is that we would have to maintain and operate two different IT systems for each jurisdiction (ie four in total); unfortunately this scenario is a possibility at present. We also note comments in the Green Paper with regard to vulnerable customers and Smart Metering. SSE fully recognises the need to protect vulnerable customers but we propose that protections or special treatment should not constrain all consumers as to do so would blunt the signals to take control of consumption and cost discussed above. Provided a useful Smart Metering project is rolled out, it will be important to accompany it with a campaign to show consumers how they can get the most out of the technology, ie how behavioural change can reduce their bills, and what technology options may maximise these benefits (eg smart appliances, electric vehicles, smart electric storage heating etc). This should be preceded by a campaign outlining the installation stage and rationale for the project. Enabling customers to participate in the energy market as Demand Side Management and eligibility for system service payments will also encourage consumer empowerment, although these latter functions may in fact be carried out by an intermediary third party. Suppliers are likely to communicate with customers in respect of any changes and to advertise new products, but central information would also be beneficial. SSE is involved in two pilot projects with research partners which are relevant in this space. • **Enernet** concerns electric storage heating and operating it as demand side management load. The project will explore the effect of controlled aggregation of small-scale local energy storage capacity on associated consumer behaviour, involving approximately 1000 homes for a period of approximately 24 months. This demonstration will be complimented by a modelling and simulation effort combining engineering and economic dimensions. The business case for demand side

	participation in the electricity supply chain via an integrated aggregator will be explored and modelled. • **VCharge** also uses electric storage heating as DSM load and will assess the potential for energy price arbitrage, ancillary services and capacity services in the Irish market.

Priority 2 – Markets, Regulation and Prices

	Priority 2
9	*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?)*
	As discussed above, SSE considers that Regulatory Impact Assessments, including the impacts on customers should accompany all regulatory and policy decisions. More generally, the conversation on energy policy as discussed in response to Question 1 will increase citizens' capacity to engage with consultations and decisions. It will also clarify that once headline policies are set many regulatory and policy choices are to decide how that objective be met rather than whether it should be met. As noted above, a specific media campaign around Smart Metering will help customers to engage with that process.
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?*
	SSE considers that the CER is not strongly enough positioned and resourced to delivery its statutory roles, and thereby to contribute to the achievement of energy policy outcomes and regulatory certainty and stability in the Irish market. There have been a number of important issues for decision over the last few years which have been unduly delayed or have not received sufficient consideration, analysis and justification by the CER due to resource constraints. SSE considers that it is not just the number of employees that is important, it must be ensured that there are experienced and knowledgeable staff. We note that many experienced staff have left the CER of late, at a time when its remit has extended to include gas and electricity safety and water functions and the complexity of regulatory issues is set to increase further. Although consultancy services will always be necessary we consider that there has been over-reliance on consultants to the detriment of building internal organisational capacity. SSE has also noted a pattern of reliance on the System Operators for advice and reports; we acknowledge that the SOs have technical expertise in relation to the system but are concerned that their advice has also spanned commercial market topics. The SOs are market participants, particularly due to EirGrid ownership of EWIC, and are not therefore neutral in respect of market issues. An additional but related point is that the TSO and Market

	Operator functions are currently too close. The views of SOs should therefore not be treated any differently than other market participants where commercial or market issues are concerned. We note that the CER has been constrained by public sector staffing rules, despite the fact that it is not exchequer-funded, rather it is paid for by a levy on industry. While money should never be wasted, SSE does not consider these restrictions to be acceptable given the importance and effect of regulatory decisions for the sector itself and for the wider economy. We note the requirement in Directives 2009/72/EC and 2009/73/EC that regulators should have 'adequate human and financial resources to carry out its duties' (Article 35(5)/39(5)) and that 'decisions taken by regulatory authorities shall be fully reasoned and justified to allow for judicial review' (Article 37(16)/41(16)). A regulator should not be stretched for resources, rather it should have sufficient staff and expertise to research and debate best practice and its application in Ireland; we note that in the CER responsibility for many issues often sits with one person, with little internal review apparent. SSE is concerned at the haste with which the ISEM project is to be developed and implemented. We note the compliance deadline but also that the project was slow to gain momentum. By way of comparison we would point to UK's EMR project which has taken 3-4 years to implement, and with much greater resources at DECC and Ofgem. Adequate resourcing of the CER is also required to engage meaningfully in discussion at EU level (ACER) and to ensure that Ireland's view is represented given the far reaching consequences of Guidelines and Network Codes, particularly bearing in mind the significantly greater resources deployed by other Member States. SSE would like to see the CER consult with market participants and other stakeholders in advance of forming a view, in order to ensure that Ireland adopts the most advantageous viewpoint. In terms of the operation of the CER we would advocate a more detailed forward work plan and a timeline for the making of decisions. We would also welcome meaningful KPIs and an evaluation of decisions made previously to assess whether the reality was as had been predicted in regulatory impact analysis. We would also note that the Department itself also appears to be resource constrained and this was particularly apparent during the Irish presidency and with the development of an Inter-Governmental Agreement on export of renewable energy. The development of many policy questions and implementation of EU legislation was delayed for this reason, which is damaging for the industry and consumers alike. With regard to the role of CER in ensuring policy outcomes, SSE would welcome the setting out of a clear policy framework in this White Paper so that the CER can stay within its remit of independently making regulatory decisions, subject to the provision in the Electricity Regulation Act for the making of policy directions by the Minister. We note that there has been some blurring of this function and formal statement of policy is advantageous in ensuring independence in exercise of the regulatory function as set out in Directives 2009/72/EC and 2009/73/EC.
11	*Is CER's legislative remit appropriate for the purpose of regulatory certainty and stability?*
	SSE notes that legislation setting out the CER's duties is very broadly drafted, as are licence conditions, which mean that market participants do not have certainty about how its powers will be utilised. It is our view that EU requirements can be 'gold plated' in implementation

	with ‘consumer interest’ used to trump other valid concerns without adequate justification. These uncertainties create risk for participants which increases the cost of regulatory uncertainty. We note that due to the volume of amendments through primary legislation and Statutory Instruments that it is difficult to establish the CER’s legislative remit in the first instance. We would welcome a consolidation of this legislation with a removal of redundant provisions and a focusing of broad and ambiguous sections. In the interests of clarity and providing justification for decisions , and as required by Directives 2009/72/EC and 2009/73/EC we would welcome a clear grounding of decisions in legislative and licence powers and full reasoning of decisions reached with a comprehensive Regulatory Impact Assessment. This enables participants to fully assess decisions and, as set out in the Directives, gives grounds on which a decision can be reviewed. In particular, SSE would like to see a legislative provision introduced with respect to protection of commercially sensitive information. There have been a number of decisions whereby participants have been required to submit information which they consider to be sensitive and which the CER has then gone on to publish. This information might be sensitive to participants but also relates to third parties. We note that there are greater legislative protections in this respect for Northern Irish participants.[5] We note that there are some instances of conflicting requirements and aims by different agencies, for example energy efficiency obligations for suppliers will inevitably increase costs to final customers whereas other agencies seek to reduce energy prices. Whilst the CER expect participants to act as commercial entities responding to competitive forces, other agencies inhibit such behaviour (eg limitations on the exchange of energy credits under the EEO). There are also instances of ‘double regulation’ by the CER and other bodies, such as in respect of environmental performance. Finally, with respect to certainty and stability, SSE would welcome a legislative timeframe for the making of decisions, a standard practice of comprehensive regulatory impact analysis and a mechanism by which industry can place issues of importance on the regulator’s agenda.
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?*
	SSE is unclear as to what is envisaged by this question. The ISEM market should tend to integrate Ireland’s market at all trading windows. SSE is keen to understand how governance of this market will work, including decision-making process for market reforms and an appeals mechanism. Post implementation of ISEM, many regulatory issues will still be made domestically and it is important that these do not distort cross border trade or inhibit participation in the integrated market. As an example we highlight that Ireland and the UK are two of three

[5] See section 9BB of the Electricity Act 1999

	Member States in which Transmission Use of System charges are paid by generators, this increases the cost of generation here and does not put generators on equal footing with those elsewhere when trading in the integrated market. With respect to the ISEM project itself, SSE is an active participant in consultation procedures and argues strongly that industry's views and concerns should be properly taken account of within the project. Given the early stage of development of the project it is difficult to comment on at this stage but SSE will be keen to ensure that Ireland gains maximum benefit from the EU internal energy markets. SSE is concerned that market participants have been given limited time to respond to proposals, which limits our ability to fully understand their implications. Interconnection is discussed at many points in this Green Paper and an assumption is made that more interconnection is desirable. SSE would caution that any interconnection project must be subject to rigorous and comprehensive Cost Benefit Analysis and should only proceed where a net positive for customers results, bearing in mind the relative responsibilities to pay for the infrastructure by all beneficiaries, and potential financial assistance from the EU. Congestion rents are one measure of the value of interconnectors, but these tend to decline with additional interconnection. As discussed in our response to Question 15 we consider that it would be preferable if infrastructure be constructed in response to commercial market signals, but where it is build based on central analysis we would propose that this analysis should not be led by the proposed owner of this infrastructure and should be independently conducted by experts on behalf of CER, with submissions by all relevant agencies and bodies, including the Department of Communications, Energy and Natural Resources, Department of Public Expenditure and Reform, Department of Jobs, Enterprise and Innovation, the IDA, Enterprise Ireland, Forfás, National Consumer Agency etc and the public. The impacts of redundant interconnection capacity and the resultant problems with paying for the infrastructure are evident in respect of the IC2 gas interconnector. SSE considers that IC2 represents overcapacity and should be recognised as a stranded asset, with solutions falling to be paid from exchequer funding rather than the relatively small base of gas customers. A discussion of market design with growing levels of renewable penetration is contained in SSE's response to Question 24. We note that implementation of ENTSO-G's gas network codes will be require some changes to processes in Ireland, although these are expected to be much less extensive than the electricity reforms needed. Implementation costs must always be a key consideration, but particularly so given the small number of gas customers who will carry the costs.
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?*
	SSE is of the view that a full review of the CER's regulatory framework should commence as soon as possible and should not wait until after implementation of the ISEM project. As discussed in our response to Question 11, the legislation governing CER should be

	consolidated, incorporating the results of this review in addition to the removal of redundant provisions and specification of ambiguous and broad provisions. An issue of priority for SSE is that an appeal mechanism be introduced for regulatory decisions. We consider that this is necessary given the limited jurisdiction of courts in judicial review proceedings and the high costs of taking a judicial review action. An appeal mechanism would be in keeping with the requirements of Directives 2009/72/EC and 2009/73/EC and would serve to improve the quality and consistency of decision-making and would improve accountability. It may be possible to combine appeals functions for other regulatory authorities to one tribunal, which would have an expertise in regulatory best practice and could examine the substantive merits of an appeal. We would highlight that CER makes decisions on consumer complaints and directs suppliers to make payments on that basis, the lack of an appeals mechanism provides insufficient safeguards to suppliers. The mechanics of an appeal mechanism should be consulted upon, as should appeals of SEM Committee decisions. In response to the Department of An Taoiseach's consultation on Economic Regulation, SSE proposed that a regulatory inspector be set up to undertake regular assessments of the performance of regulators against best practice. One or both of these mechanisms should include powers to deal with issues which the Regulator has delayed unduly in resolving. As discussed above, we would also welcome the removal of duplication of regulation where it exists and how the governance structure is to function. This review should also examine the CER's functions with respect to the integrated market within the France-UK-Ireland region. SSE does not think it appropriate to undertake a partial review of CER's functions as no function operates in isolation in practice. If there are to be changes we consider that it would be prudent to have these in place before the commencement of the ISEM market so that disruption is avoided during the early days of the market.
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?*
	SSE is perplexed by the use of the phrase 'price improvements' and highlights that competitive pressures will naturally put downward pressure on prices, with a policy aim to achieve cost reflective pricing. SSE considers that competition, if allowed to flourish is the best means to deliver these benefits. As highlighted earlier in our response, much of final customers' bills are made up of elements which a supplier does not have control over; there may be more scope for efficiencies in purchase of energy at the wholesale level upon implementation of ISEM but this remains to be seen. Supplier margins make up a relatively small proportion of the final bill so there is little room for manoeuvre on overall prices. Rather, we consider that supply competition is broader than price alone can deliver innovation in terms of service (eg lifestyle pre-payment option or payment plans) and product offered (day/night tariff, gas/electricity bundle or supplier fuel mix). The Smart Metering project may enable suppliers to offer innovative products if restrictive parameters are not prescribed by the CER. Of course, any barriers to competition should be removed so as to enable benefits to be delivered to customers. Subject to comments below regarding market share, SSE considers that SEM is a very

	transparent market with cost-reflective pricing and low barriers for new entrants. We do consider that there is room for efficiency improvements in the regulated businesses, networks and market operator; a case in point is the cost and time savings that can be made by developers in contestably delivering grid connections. We note the distinction between regulatory decisions as to the need to construct infrastructure and the revenue allowed to the networks companies for doing so. We also highlight the importance of delivery of infrastructure in determining price, with the North-South Interconnector adding €20m annually to costs for electricity consumers on the island and IC2 increasing costs for gas and electricity customers. Similarly, SSE submits that the renewables export agenda and further interconnection should only be pursued if it delivers benefits for Irish customers. In general, SSE proposes that infrastructure should be constructed in response to commercial market signals and paid for by the market, rather than on the basis of studies by the SOs. If the Department is concerned about reducing price, SSE proposes that all policies must be impact assessed to identify their impact on final prices, we highlight the energy efficiency supplier obligation in this respect. In addition, schemes within the PSO must be considered carefully; as discussed above REFIT is seen by the European Commission to be a relatively efficient support scheme. We have outlined above that appropriate market design can ensure that capacity adequacy is delivered; this is much more efficient than introducing ad hoc schemes where a capacity crunch manifests. In addition, regulatory requirements and risk can add to supplier costs and thus increase tariffs, this can include systems changes required by amendments to central market systems and amendments required to billing formats and information. Changes required to supplier systems have been continuous and extremely expensive. The resource demand that these ongoing changes place on our business are significant and impose an opportunity cost as other avenues for innovation cannot be explored. Some of these changes have been as a result of EU legislative requirements; we propose that Ireland should attempt to transpose this legislation coherently in one set of changes where possible, and should argue for coherence (and thus avoidance of overlap) at EU level.

Other issues:

Competition

SSE does not share the Green Paper's view on the success of competition. We do believe that it has brought some benefits, particularly for customers who have switched, but we consider that opportunities have been lost in implementation of policy. SSE is committed to competition as the best means of driving efficiency and innovation.

As mentioned above, we consider that retail price deregulation was allowed at too high a threshold, meaning that the incumbent suppliers continue to hold a very large market share, with others competing for the remaining portion of the market. People who have never switched do not access these benefits, and that is a result of deregulation at a high threshold. We do not consider competition to be an event, realised upon a certain percentage market share, rather it is a process and is measured by sustained metrics such as the number of players in the market and consumer choice. As discussed above, SSE supports research as to why non-switchers have not switched and to develop a suite of measures on the basis of the outcome of that research. In response, there may be a role for the CER to actively encourage customers to consider switching and to outline the benefits that may be achieved.

On the wholesale electricity generation side, the Asset Strategy has not yet been completed, the ESB's share of generation is larger than previously and market power mitigation measures are still necessary almost 20 years after the deregulation process was commenced. SSE suggests that the completion of the strategy should now be based on the share of energy produced (MWh) rather than installed capacity (MW).

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?*
	SSE considers that a number of projects are necessary to develop the domestic system, they are the North-South Interconnector, Grid 25 and DS3. These projects have been shown to be necessary to reduce costs and to fully implement policies on which investments have already been made. Regarding further interconnection, as discussed in response to Question 12 we would caution that it should be subject to rigorous cost-benefit analysis by bodies other than the SOs to determine whether it is of benefit to Irish customers. ISEM will provide better price discovery and we will be in a better position to identify whether infrastructural investments are needed to unlock further benefits of integration for Irish customers. At a more general level, it is apparent to SSE that the gas and electricity SOs must engage in greater dialogue as to the changing dynamics and needs of their systems, and how these might impact on the other. We consider that the CER should facilitate this discussion and should bear these considerations in mind when assessing the building of new infrastructure or devising system services for electricity and gas markets and systems. It is becoming clear that additional flexibilities may be required of both systems, these must be identified before solutions can be evaluated.
17	*How could the permitting and licensing processes for major energy infrastructure projects provide for greater collaboration and engagement with community stakeholders?*
	SSE considers that there must be extensive public and local engagement on the need for and plans to implement infrastructure projects as well as policies driving this need as set out under Priority 1. This should include a communication of the benefits of delivering this infrastructure and the costs of not doing so. As stated above, SSE is concerned at the recent pattern of debates around overall energy policy emerging at project stage. We consider that the wider policy debate should be held and settled within this Green Paper process with permitting processes limited to their specific ambit. This regime should be communicated during the Green Paper consultation stage as discussed under Priority 1. That does not serve to limit public participation in any way, SSE supports involvement in the Green Paper and at all stages of permitting and licensing processes and we are committed to public engagement in the development of our projects.

18	Followi*ng 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 licensingprocesses for energy infrastructure projects to make them clearer and more efficient for project developers, the public, and other stakeholders?*
	SSE submits that clear timeframes for decisions is the most important element of permitting and licensing procedures as this certainty enables developers to plan; this includes supply chain and financing planning for example. Decisions should be made in a timely manner. It is a frustration for developers when different permitting procedures cannot run together, or when they produce conflicting requirements. We note the potential for frustration of Gate 3 offers due to lack of linkage with the planning process.
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?*
	In the first instance SSE considers that in a competitive market storage is best delivered by commercial entities in response to market signals, this means that storage capacity must be able to benefit from price arbitrage opportunities and, in the case of electricity storage, sufficiently rewarded for system services and capacity provided. These elements should provide market signals on which storage investment decisions are made. This will apply equally to other technologies which can provide the same characteristics to the system. Debates around the ownership and operation of electricity storage by SOs are being had across the EU at present. SSE considers that provision of such assets on a regulated basis should be a last resort, and only where a need has been robustly demonstrated, as it involves placing the risk of such investment on customers. However, if storage assets are to be owned by SOs we consider that they should not be operated as commercial assets, rather they should be operated in a manner consistent with the TSO's role. We note that there are considerable opportunities for storage and Demand Side Management through electric vehicle and smart electric storage heating, perhaps operated by an aggregator, and that such technologies should be enabled to operate on the same basis as other providers.
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?*
	As discussed above in response to Question 12, SSE considers that it should not be assumed that further interconnection is necessarily advantageous for Irish customers and it must be recognised that the island has significant interconnection relative to peak demand. The costs of any additional investment must be shared equitably by all beneficiaries in all Member States. Any proposals should be subject to a positive outcome and demonstrable benefit of robust Cost Benefit Analysis if assets are to be regulated, meaning that costs and risk thus borne by consumers. As regards electricity security of supply we would note that interconnection can provide benefits but that interconnection capacity should more correctly be seen as 'transfer capacity'. They do not replace the need for system wide generation adequacy, whether this is at a national, regional or EU-wide level. Capacity mechanisms should allow cross border participation where technically and commercially feasible.

	SSE considers that if additional interconnection is to be developed in order to facilitate the export of renewable electricity generation, that a net benefit to the Irish customer/taxpayer must be shown and the costs of infrastructure related to the export should be borne by project developers. In regard to gas security of supply, the addition of supply from the Corrib field will reduce reliance on imported gas. We do note the difficulties arising in remunerating IC2 and the many causative factors. SSE considers that this represents overcapacity and should be recognised as a stranded asset, with solutions falling to be paid from exchequer funding rather than the relatively small base of gas customers. We would propose the introduction of a standard practice whereby some time after the implementation of infrastructure, say 5 years, it should be investigated as to whether those projects delivered the benefits put forward in the pre-investment analysis, and the impacts of unforeseen developments. This will assist with the refinement of evaluation processes.
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?*
	SSE considers that if regulated interconnection assets are to be constructed, the remuneration for investment in electricity or gas interconnection should reflect the benefit that this investment provides to the system and should only progress where a benefit is shown following robust Cost Benefit Analysis. Ideally market forces would deliver such infrastructure. In terms of alternatives, if markets for energy and ancillary services deliver efficient pricing signals, the most efficient infrastructure solutions will be delivered, whether they be generation, storage or interconnection.
22	I*n 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?*
	In terms of assessing the need for oil stocks in case of disruption SSE would advocate that the appropriate authorities assess the likely length of a disruption and whether the recovery of stocks held offshore is realistic in the event of a global disruption. We note that there are oil storage facilities on the island which could be used to 'on shore' emergency stocks. In the final analysis, the costs of emergency storage must be evaluated in light of the risk of a disruption and the likely costs of a disruption and the costs of emergency plans. Any evaluation of oil infrastructure must also be made in the context of the overall vision and policy for the energy system in the short, medium and longer term and requirements under the EU 2030 Framework and beyond.

Priority 4 – Ensuring a Balanced and Secure Energy Mix

23	*How can we reduce our high dependence on oil and gas?*
	As discussed in the opening section of this response, Ireland is making progress towards achieving 40% of its electricity from indigenous renewable resources, which reduces dependence on all fossil fuels. We have outlined how infrastructure is needed in order to fully benefit from this and future renewable generation capacity and system services must also be developed. We have also outlined that electrificiation of heat and transport can assist with the achievement of greater levels of renewable generation and more efficient use of that generation (minimised curtailment) in a cost efficient manner. We have also outlined that the reform of the EU ETS to properly internalise the costs of carbon will naturally lead to the adoption of the most efficient decarbonisation solutions. Smart Metering and energy efficiency initiatives can also assist, but as we have outlined could be better designed to achieve this and other objectives. SSE acknowledges that Ireland is likely to remain dependent on international fossil fuels to some extent in the short and medium term, so the more important question becomes whether Ireland has access to diversified global markets, and the stability of geopolitical factors. Of the fossil fuels, we note that gas has significant benefits in terms of GHGs over the others, thus switching to gas heating can aid decarbonisation and act as a stepping stone to full decarbonisation.
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?*
	SSE considers that market design, both for energy and in the case of electricity for system services, will determine whether the appropriate signals are sent to develop the necessary volume and type of capacity. We would caution against the imposition of retrospective and non-recoverable costs on generation, as is of concern in the RoCoF project. It may be unrealistic to apply new requirements on infrastructure which was designed to a different standard. Placing impossible requirements, and the risks of non-compliance, on generators is not a satisfactory solution and does not provide supply security in fact. Such proposals must take account of technical limitations, which should be properly researched. The regulatory regime determines the question of delivery for networks infrastructure, it must be responsive to the need for reinforcement where appropriate. As set out in Question 15, SSE considers that there is scope to drive greater efficiencies in the networks businesses. As discussed above, with increased variable renewable generation the question of revenue adequacy for sufficient conventional generation emerges. Closure and mothballing of plant has become an issue across the EU and it is important that security of supply is not compromised in Ireland. We submit that Capacity Remuneration Mechanisms are important in this regard, as in our experience energy-only markets are unlikely to deliver the level of security of supply sought by policy makers. SSE is very engaged with the ISEM project on this and other points and aims to achieve an optimum solution balancing all elements of the energy trilemma. As zero marginal cost generation makes up a greater proportion of generation in the market, the question does arise as to whether current market design philosophies, that is based on the marginal cost pricing, will continue to be suitable. SSE proposes that attention be given

	to this issue, particularly in light of the EU 2030 Framework. Extensive modelling of markets at these higher levels of low operating cost generation will be required. SSE proposes that Ireland might lead a discussion on this issue at EU level, given our high renewable penetration we are likely to face this problem in advance of many other Member States. Identification of problems and solutions at an early stage provides confidence to investors and thereby reduces the cost of delivering necessary infrastructure.
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 current policy and regulatory instruments sufficient or are additional interventions required, and what should those be?*
	SSE considers that if a 2030 renewable target is implemented this may effectively decide much of the remaining fuel mix. The relevant question will be the performance of the generation fleet rather than fuel mix, with flexibility gaining greater importance. If the policy and regulatory environment sends appropriate price signals for energy and system services, SSE is confident that the necessary performance will be delivered. If policy mandates a particular fuel mix (other than that delivered by the market) then appropriate remuneration mechanisms or incentives will need to be developed. As discussed above, SSE considers that a reformed EU ETS is the most effective and efficient means by which to deliver a decarbonised energy supply, and we would advocate its extension to other sectors. We note that the DS3 programme is under design and hope that it will deliver a range of system services with adequate remuneration to deliver the flexibility required. In a competitive market it will then be for developers to make investment decisions, and for System Operators to deliver the necessary infrastructure. The question of renewable support mechanisms is addressed under Question 27.
26	*Given that Moneypoint will approach the end of its life by 2025 is there a role for coal in the future power-generation 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?*
	In a competitive market, decisions on new capacity will be delivered in response to market forces.
27	*What strategy is needed to support the continued increase of renewable energy on the electricity grid? Are new approaches needed?*
	In order for Ireland to meet its EU 2020 renewables target, it is necessary for infrastructure to be delivered in order to provide firm access to projects. In addition, the DS3 programme must deliver the requisite system services through flexible generation to enable a higher level of SNSP so that the problem of curtailment is minimised. We also submit that innovation from the system operators is necessary in terms of smart grid infrastructure and operational innovations; this could include dynamic line rating for example, this is adopted in NI and acts to minimise curtailment, thereby assisting with the increase of renewable energy on the system. SSE also suggests that localised DSM may be useful to minimise local constraints and should be explored by the CER, whether through market or DS3 channels. We note elsewhere in this response that the 40% renewables policy has many good practice advantages, it was evidence based, barriers were identified and solutions identified (albeit the last stage has been delayed). The problem now facing developers who have already

	invested and who are deciding whether to invest further is that the solutions have not been implemented. Revenue adequacy for a sufficient level of conventional generation is also an important consideration. As discussed elsewhere in this response, the electrification of heat and transport, as well as Smart Metering and smart devices, offer potential to enable greater use of installed renewable generation, and to enable an overall increase in renewable energy in the electricity system, while reducing emissions in the non-ETS sector. In respect of Ireland's 2020 renewable target it is also necessary to expedite development of a renewable support scheme for projects connecting after the expiry of REFIT 2 and 3. We note that recently adopted State Aid rules must be complied with. As outlined in the Main Messages section of this response, industry has made improvements to the cost competitiveness of onshore wind and we envisage parity with conventional generation over time if the ETS is suitably reformed. Global factors undoubtedly have an impact on on the costs of delivery of infrastructure, but closer to home we are conscious that a number of measures will have the impact of increasing the cost of delivery of projects, meaning that customers will not receive the benefit of industry's efforts to drive down cost. This includes the ongoing rates evaluation review in County Limerick. Looking to the EU, we have outlined the case for EU ETS reform elsewhere, and highlight its importance in decarbonising the electricity system. As for EU 2030 Framework targets, SSE would advocate that the Department consult with market participants in devising targets for Ireland. As discussed earlier, we are of the view that the electricity sector, and electrification of the wider economy, offers a cost-effective route to decarbonisation. However, we believe that the question of cost allocation deserves careful consideration. Alongside 2030 targets, Ireland will need to assess the connection of renewable generators 'post Gate 3'. SSE considers that the shortcomings of that process should be addressed in subsequent schemes, such as a requirement for planning permission before grid capacity is awarded (as in NI) so that grid is not reserved for projects which may never be able to build. Such a scenario makes it very difficult for the SOs and developers to plan their projects, which delay and risk results in increased costs, and may lead to the abandonment of projects. The question of appropriate market design in a world of a higher proportion of low marginal cost renewable generation is discussed in Question 24.
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?*
	SSE's experience of alternative transport fuels is greatest in respect of electric vehichles. We feel that the technology is at a stage where it can be 'dropped in' without much need for adjustment by customers. We have outlined the benefits that electrification of transport can bring to the electricity system and we advocate that EV drivers should be enabled to receive the benefits of providing system services or acting as Demand Side Management, the Smart Metering project can assist with respect to DSM. With respect to policy interventions to achieve the switch, we would advocate, as we do in general, that policy interventions which unnecessarily and inequitably increase the cost of electricity to final customers, such as the Energy Efficiency Obligation on suppliers, should be

	avoided as these act as a disincentive to adoption of EVs. Other policy measures could include VRT, road tax and income tax or VAT rebates. As mentioned above, we suggest that incentives by Government to try reduce GHG emissions, such as the carbon tax should also be publicised so that the public is aware can respond accordingly.
29	*What options should we pursue to incentivise switching to cleaner, lower carbon heating fuels?*
	As above, careful analysis of policy to avoid recovery of policy costs through energy bills will increase the attractiveness of electric heating. As discussed in respect of energy efficiency, if the calculation of savings is amended as we suggest, we propose that the range of measures suggested to increase uptake of energy efficiency measures should also apply to the installation of electric heating. As with alternative vehicle technologies SSE proposes that the incentives currently acting on the public, such as the carbon tax, should be clearly communicated. In addition, the Smart Metering project can unlock great potential for electric heating customers to benefit from Time of Use Tariffs and to engage in providing system services and Demand Side Management, with the additional benefit of facilitating a greater level of renewables on the electricity system.
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?*
	As set out in response to Question 22 SSE proposes considerations for oil storage for emergency situations, and additional use of existing storage facilities. We note that conventional generators currently comply with secondary storage requirements and note that the connection of an additional gas entry point at Corrib will assist with gas Security of Supply.
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?*
	As set out in response to Question 19, SSE favours the basing of decisions on investment in storage on commercial factors in response to market signals. Thus if it is deemed that additional storage is required, market mechanisms to encourage the characteristics and services lacking on the system should be devised. It is then for the market to deliver the most efficient solution, whether it be storage or otherwise. We note that the case for such storage has yet to be made. SSE would support the development of a permitting and regulatory framework for such projects. We have also discussed emergency oil stocks in the previous question. Electricity generators do hold secondary fuel stocks as required by the CER, and we submit that any developments to this policy must involve generators. It is of paramount importance that any such requirements are cost effective and that costs imposed on generators are recoverable; as discussed in a number of earlier questions, revenue adequacy for conventional generators is a growing challenge and essential from a Security of Supply point of view.

Priority 5 – Putting the Energy System on a Sustainable Pathway

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?*
	SSE considers that the REFIT scheme has been successful in delivering renewable generation and at a relatively low cost. We note that a recent study by the European Commission concluded that 'for wind electricity in Spain and Ireland the benefits for electricity consumers in terms of reduction in whole-sale prices outweigh the costs of subsidies'.[6] We note that new State Aid Guidance may require some changes to the scheme and promote an early and inclusive consultation on devising a new scheme. It is very important for developers whose projects are likely to be connected post 2017 to have foresight of the supports which will be in place. Given the long lead in time for projects decisions are being made now and if details are not made clear soon we will experience an investment hiatus, with consequences for Ireland's 2020 target. We also highlight that the question of how existing and future support schemes will interact with the ISEM market are extremely important and will shape investors' view of risk in the Irish market. As discussed in the Main Messages section of this response and under Question 27, SSE is keen for the benefits of progress towards cost competitiveness to be shared with consumers, and cautions that these benefits should not be offset by increases in the cost of development created by other policy mechanisms. SSE considers that there is a role for all of the technologies mentioned, we note the European Commission's preference for competition between projects under the new State Aid Guidelines. It is SSE's view that onshore wind offers the most cost effective means to deliver sustainable electricity in Ireland given technology costs and Ireland's enviable wind regime. Depending on the stage of technological development some technologies are more suitable for funding through R&D projects at this time. Policy must aim to achieve decarbonisation objectives at least cost to the consumer.
34	*What options are available to encourage private investment in energy efficiency and ensure the transition to non-Exchequer funding models for energy efficiency?*
	SSE has discussed the current energy efficiency regime and options to encourage adoption of measures under Question 3.
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?*
	SSE considers that one of the advantages of REFIT support is that it does provide predictability and transparency to developers and to customers. As outlined above, it has proven to be a cost efficient mechanism to support renewable development on the European stage. Unfortunately the distinction between the cost of REFIT and total PSO costs is not clear in the public mind.

[6] http://ec.europa.eu/energy/doc/2030/20140122_swd_prices.pdf

	It is not clear at this point how the REFIT scheme will interact with ISEM, we submit that this creates risk for existing and future projects and must be resolved as a matter of urgency if an investment hiatus is to be avoided. The same considerations apply to the support scheme to come into existence in 2015. We have discussed earlier in our response the importance of reforming the EU ETS in order to effectively include the externalities of GHGs in conventional generation. This will serve to reduce, and ultimately eliminate, the need to support renewable energy as technologies become more cost competitive with conventional generation. If schemes are to be introduced in respect of heat and transport we suggest that lessons could be learned from experiences here and in GB. Ultimately the question for developers is whether market failures evident in preventing delivery of these measures are adequately addressed by the mechanism designed.
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?*
	SSE considers that the EU ETS should be the primary driver of decarbonisation, but as discussed above reform of that instrument is necessary if it is to do so effectively. Renewables targets and support schemes also encourage development of sustainable energy solutions, as would many of the energy efficiency measures outlined above. We are concerned that the Low Carbon Roadmaps in development under the Proposed Climate Change Bill should not overlap with and frustrate these policy measures, or render achievement unnecessarily expensive. An assessment of the impacts of climate change in Ireland is necessary in order to identify infrastructural priorities. We understand that the Low Carbon Roadmaps currently in development may undertake this task.
37	*How do we ensure cost-effective and timely investment in electricity transmission and distribution, including in smart grids?*
	As discussed above, there are a number of specific pieces of infrastructure necessary in order to meet Ireland's 2020 renewables target and to fully complete the single market with Northern Ireland, these are the North South Interconnector and Grid 25, as well as delivery of the DS3 project. SSE outlines above that the 40% renewable electricity target was an evidence-based policy measure. It was then established that these projects would be necessary in order to achieve that target. Investors have built generation capacity on the basis that these would be delivered but are still waiting, with projects suffering the costs of curtailment and customers paying for unnecessary constraint costs. SSE acknowledges that it is for the regulator to sanction infrastructure build, and for the relevant bodies to deliver it. SSE supports incentivisation for the timely delivery of infrastructure. We note that there have been a number of delaying factors, including regulatory delay and public opposition. Our suggestions on how the public can be engaged with developments needed to progress our energy system are outlined under our responses to Priority 1. The current scenario, where investments have been made in anticipation of infrastructure, which we still do not have a reliable delivery date for, is damaging to these projects and to future investment cases in Ireland as this risk increases the costs of

	development and diminishes confidence. As to the cost-effective delivery of electricity transmission and distribution infrastructure SSE submits that it is for the CER to evaluate what infrastructure is necessary and to allow an appropriate revenue for efficient delivery. SSE submits that tenders for the delivery of infrastructure, or market rates, should be utilised where possible; we note that contestability has enabled developers to reduce the costs and speed up delivery of connections. On this basis we believe that further efficiency can be realised in the networks businesses.
38	*How can we exploit Ireland's sustainable energy strengths to realise job creation and economic growth opportunities?*
	As discussed in the Main Messages section of our response, the harnessing of Ireland's renewable resources has and will continue to create employment and economic growth. However, as energy costs go to the competitiveness of other sectors policy-makers must be careful not to create jobs in the energy sector to the detriment of other sectors. We highlight energy efficiency in this regard; the mixing of social and industrial policy objectives will serve to increase the costs of energy, which will damage competitiveness and affordability for all customers. SSE considers this to be a sub-optimal approach and advocates that policy costs be exchequer funded rather than being collected through energy bills.
39	*Are the optimal structures in place to deliver sustainable energy and realise the associated jobs and growth opportunties? Are existing policy interventions for sustainability (eg public service obligation, priority dispatch, efficiency measures) consistent and aligned?*
	As above, given the importance of energy prices for competitiveness it is crucial that decisions on energy policy focus on the energy trilemma in the first instance. If jobs can be efficiently created through the options chosen (as with the 40% renewables target) then there is a case for choosing options which realise jobs and growth opportunities, but these should not be at the cost of jobs and growth in other sectors. We have highlighted the problems created by the energy efficiency obligation in this respect. As mentioned above, Ireland is a pioneer in terms of the connection of a large volume of variable generation to a small synchronous island system. This unique position has given us experience and innovation which can be, and is being, exported to other areas facing the same challenges we have. SSE is optimistic that in the facilitation of greater levels of renewables Ireland will develop more intellectual property, and that this will prove to be a valuable resource. This can be facilitated through the definition of services through DS3, which will hopefully spark innovative responses, as well as innovative technologies (smart grid) and operational practices by the SOs.

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?*
	SSE notes that careers in the energy sector are not very high profile and proposes that the citizen engagement strategy under Priority 1 could assist with bringing the sector and its opportunities to the attention of students. SSE has experienced a general shortage of technician and engineering skills.

	We would also welcome more capacity for modelling of energy markets and policy outcomes. We note role of SEAI in modelling and providing cost benefit analyses to Government as set out in the Green Paper; SSE firmly supports an evidence-based approach to policy-making. This modelling should be included in Regulatory Impact Assessment and should be published so that it can be assessed by industry and other stakeholders in order to ensure that it is robust. This would aid transparency of decision-making and allows empowered energy citizens to develop informed opinions. As with regulatory resources, SSE considers that there must be sufficient skills and resources to ensure that this work is of a very high quality. We would also highlight that it is essential that modelling and cost benefit analyses must be objectively conducted, this function should sit separately to other functions of the SEAI. SSE would also support the use of academic resources where appropriate. SSE notes comments in the Green Paper on the development of a sustained, consistent national level framework for integrated energy modelling and hopes that industry will be involved in the development of this framework. SSE considers that industry will have useful contributions to make to this type of work.
41	*How can energy policy be designed to maximise and grow Irish employment in the sector in the long term?*
	As outlined in response to Question 39, SSE is not convinced that it should be an objective of Irish energy policy to maximise employment in the sector. Where this can be done without damaging competitiveness it is a positive output, as is shown to the be the case of Ireland's 2020 renewables target in Poyry's recent study. SSE is proud of the fact that its investments have created employment and economic growth. However, creation of employment in the sector should not be at the expense of competitiveness, as this will damage jobs and growth in other sectors. SSE considers that energy policy is best viewed as a facilitator rather than a creator of jobs.
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?*
	SSE is involved in R&D projects in Ireland and has a number of suggestions for how government funding can best be targeted. • Given the long lead time in rolling out more complex RD&D projects it would be beneficial if there could be foresight of funding budgets, if applicants could be awarded funding in advance of drawdown (eg one to two years in advance) or multi-year funding could be awarded. At present budgets are annual and the window for drawdown is short. Greater flexibility in this regard would provide projects with the assurance that funding will be available at the appropriate stage so that projects do not wither in the misalignment between funding processes. We note that this would also assist in achieving EU level funding as it is beneficial to have won national funding, but it can be difficult to synch national and EU funding rounds. • It is our experience that R&D funding for energy projects tends to focus on small scale projects. We consider that larger scale projects should also receive support and that the demonstration stage be supported more than presently as it is an important stage in commercialisation. • Our involvement in promising technologies across energy and other sectors such as ICT has illustrated to us the importance of the availability of cross-thematic funding. We note that such funding is available in GB and find it a useful way to capture the multiple benefits of smart technologies in particular.

	In terms of priorities for the energy sector SSE would propose the following: • System stability with higher renewable penetration and minimisation of curtailment • Demand Side Management • Energy storage
43	*How should research funding organisations modify their support programmes?*
	See response to Question 42.
44	*How should Ireland best position itself to maximise the benefit from Horizon 2020?*
	As outlined in response to Question 42, timing can be an issue and if national funding could be awarded further ahead than within year, Irish projects would stand a better chance of benefitting from Horizon 2020.
45	*What else should be done to maintain and improve the integrated innovation support process, from basic research to commercialisation?*
	See response to Question 42
46	*How can there be more collaboration and ongoing structured interaction between researchers, modellers and policy-makers to ensure that energy research and modelling address the real energy policy problems including impacts on citizens, and challenges as policy-makers perceive them, and that the resulting analysis and publications have policy relevance?*
	SSE considers that introducing a standard practice of Impact Assessments and Cost Benefit Analysis for policy and regulatory decisions will illustrate where costs arise and will illustrate many of the problems and solutions impacting upon citizens. This will also enable industry to assess those studies and to challenge any assumptions made, which will lead to more robust decision-making and lively academic and industry debate. In terms of facilitating discussion between all actors, SSE recognises the positive work being carried out by UCD's Electricity Research Centre and attends seminars held by the Centre.
47	*Do any other areas within the energy/enterprise policy space need to be addressed in the forthcoming Energy White Paper?*
	As outlined with respect to the Smart Metering project in the Main Messages section of this response, SSE is concerned that overly-prescriptive regulation may inhibit innovation in the energy space and we submit that this should be guarded against. We note the proposal in the Green Paper for an ad-hoc group to examine issues preventing the delivery of energy projects. SSE would welcome such a development and proposes that a wide range of interested parties should be included, such as consumers and industry. At the very least we consider that industry should be entitled to include items for consideration by the group. We would propose that a further principle be included, that of ensuring the delivery of energy policy, presumably as stated in the forthcoming White Paper. As a preliminary step we believe that all interested agencies and parties should build knowledge and capacity to interact meaningfully with the relevant debates; each participant should be an empowered energy citizen in its own right. Once in operation, such a group should focus on getting results and should not be prepared to accept undue delays by the bodies responsible in reaching and implementing decisions.