



**DEPARTMENT OF HOUSING, PLANNING, AND LOCAL
GOVERNMENT**

SSE RESPONSE TO

**PUBLIC CONSULTATION ON IRELAND 2040 – OUR PLAN,
NATIONAL PLANNING FRAMEWORK**

NOVEMBER 2017

ABOUT SSE

SSE is Ireland's second largest energy utility and the country's leading developer and investor in cleaner energy infrastructure. It is part of SSE plc, a UK-listed, FTSE 100 company and the broadest-based energy utility on the London Stock Exchange. Since 2008, we have invested over €2 billion in the development of Ireland's sustainable energy infrastructure, helping to green our economy and secure our energy future.

In Ireland, SSE owns and operates 2,061MW of generation capacity, of which 768MW is from its portfolio of 28 onshore wind farms, making SSE the largest generator and provider of renewable energy in the all-island Single Electricity Market.

As the largest company by market capitalisation in the FTSE 100 whose revenues are derived solely from the UK and Ireland, SSE plc is committed to continuing to invest in new renewable energy development to help Ireland meet its 40 per cent renewable energy generation targets by 2020. SSE produces more renewable energy supply in the SEM than any other company, making it the most significant contributor towards Ireland's current performance level of 27 per cent of electricity generation from renewable sources. We will continue to play a leadership role with policy makers and regulatory authorities as we set our low carbon ambition for 2030 and 2050.

SSE has jointly developed Ireland's largest and best performing wind farm, the 169MW Galway Wind Park, which has now entered commercial operation. Jointly developed and constructed by SSE and Coillte at a total investment cost of over €280m, Galway Wind Park will be Ireland's highest producing wind farm and is forecast to produce almost 600GWh of green energy each year – enough renewable energy to power 140,000 average-sized Irish homes including the equivalent of all of the 112,000 homes in Galway city and county.¹

As Ireland's largest wind farm, Galway Wind Park will make the biggest single contribution of any renewable energy site towards greening national energy supply and decarbonising power generation across the island of Ireland. In a typical year, the green energy produced at Galway Wind Park will offset over 230,000 tonnes of harmful CO₂ emissions. The project was named Green Project of the Year at the 2017 Irish Construction Industry Awards.

In 2015, SSE commissioned Ireland's newest and one of its cleanest power plants, the 464MW CCGT (combined cycle gas turbine) power station at Great Island, Co. Wexford, which is generating enough greener energy to power over half a million Irish homes.²

SSE's retail arm, SSE Airtricity, is proud to be Ireland's largest provider of 100% renewable energy to all its home and business customers and the second largest energy provider on the island of Ireland, supplying greener electricity, natural gas and essential services to around 800,000 homes and businesses. In addition to the renewable energy offtake from SSE plc's fleet of wind farms, SSE Airtricity also has long term Power Purchase Agreements in place with third party renewable energy generators for over 300MW of wind and solar sourced power on the island, including energy from the largest solar farm on the island of Ireland, Bann Road at Rasharkin in Co. Antrim. Its street lighting division SSE Airtricity Utility Solutions is Ireland's largest public lighting contractor responsible for the maintenance of over 250,000 street lights across the country.

In September 2017, SSE unveiled plans by enet-SSE, a new commercial joint venture between it and Ireland's largest open-access fibre network provider enet to commercially bring superfast fibre broadband connectivity to 115,000 homes and businesses in regional Ireland in two phases between now and 2019.

¹ Homes powered based on typical annual consumption of 4,200 kWh (Commission for Regulation of Utilities, 1 October 2017) and 1-year average forecast capacity factor of Galway Wind Park; quoted figures are for guideline purposes – actual future performance may vary. Equivalent homes in Galway city and county based on 112,054 housing stock recorded in Census of Population 2016, Central Statistics Office.

² 232,725 tonnes of CO₂ emissions offset based on projected annual energy output of 592,176MWh and average CO₂ emissions in the Single Electricity Market of 0.393t/MWh (latest All Island Project Fuel Mix Disclosure, published 2016).

Since 2010, SSE has contributed over €5bn to Irish Gross Domestic Product (GDP), demonstrating the scale of economic activity that SSE's operations support across Ireland. In the last year, SSE's Irish operations have contributed almost €800m to GDP, equivalent to 0.4% of the country's entire GDP and supporting over 4,700 jobs regionally and nationally. In direct capital expenditure, SSE has invested over €2bn since 2008 in the developing new and cleaner energy infrastructure for Ireland.

SSE is Ireland's largest single contributor of funding to rural communities from wind energy. Since 2008, SSE's Community Funds have provided voluntary funding totalling over €5million to over 2,100 groups near SSE wind farms in regional Ireland supporting community-led energy efficiency and sustainability projects. **To view the report in full, click on the link here: [Energising Communities in Rural Ireland - Community Funds Annual Review 2016/17](http://ireland.sse.com/media/21125/Energising%20Communities%20in%20Rural%20Ireland.pdf)**³

INTRODUCTION

SSE wishes to make the enclosed submission for consideration as part of the Department of Housing, Planning, and Local Government (DHPLG) consultation concerning *Ireland 2040 – Our Plan, National Planning Framework* (NPF). SSE welcomes the publication of the Consultation Document and the work being done by DHPLG to produce a stable planning policy framework to support sustained and regionally balanced progress on social, economic and environmental fronts.

SSE Considerations on the Consultation Document

SSE supports the vision of the NPF to “set a new strategic planning and development context for Ireland and all of its regions in the period between now and 2040, setting a high-level framework for the coordination of a range of national, regional, and local authority policies and activities, planning and investment, both public and private” which is based on the values of: opportunity, choice, quality, creativity, connectivity, collaboration, self-reliance, and commitment.

Ireland's population and economy are set to grow and develop over the next 20 years. Increased growth brings about significant challenges due to increased strain on resources and the link between economic success and increased emissions. In order to address projected future growth and change in Ireland the NPF will need to enable public and private investment decisions to be guided and prioritised in a manner that can benefit the country as a whole e.g. increased broadband connectivity and energy infrastructure. In addition, it will be necessary to support a decoupling of emissions from economic activity through decarbonisation and the development of a cost effective approach to climate change.

Our submission focuses on a number of key considerations which we believe must be taken into account in the next stages of NPF preparation in order to deliver the vision and the various National Planning Objectives (NPOs) outlined in the Consultation Document:

- Affordable, Secure, and Low Carbon Energy Supply
- Energy Efficiency and the Electrification of Heat and Transport
- Increased Connectivity
- All-Island Context
- Governance

SSE welcomes the intention for the National Investment Plan (NIP) to support the implementation of the NPF and in this regard we have made a number of comments throughout this submission. Further information on the NIP and the associated National Strategic Outcomes (NSOs) is needed in order to provide additional feedback. As such, SSE would welcome a separate consultation on the NIP in the near future.

³<http://ireland.sse.com/media/21125/Energising%20Communities%20in%20Rural%20Ireland.pdf>

Policy Backdrop

A strong NPF will be necessary to support future development and investment in Ireland between now and 2040. Our submission is focused on the role of a strong planning framework with reference to the significant challenge posed globally and nationally by climate change and the transition to a low carbon economy, the subject of the separate but very much interlinked National Mitigation Plan.

Energy is central to Ireland's economy and society. Ireland's ability to attract and retain Foreign Direct Investment (FDI) and sustain Irish enterprise depends on achieving a secure, sustainable supply of energy at a competitive cost. Between now and 2040, a key objective will be to effectively balance the competing challenges of achieving the necessary transition in a manner that will be affordable for customers and businesses whilst ensuring secure energy supplies and the certainty needed to invest in low-carbon alternatives and smarter energy initiatives.

Ireland has a challenging outlook to achieve its ambition as outlined in the Government White Paper on Energy entitled "Ireland's Transition to a Low Carbon Energy Future – 2015-2030" where it stated:

'Our vision of a low carbon energy system means that greenhouse gas (GHG) emissions from the energy sector will be reduced by between 80% and 95%, compared to 1990 levels, by 2050, and will fall to zero or below by 2100.'

Furthermore, the 2020 EU Energy and Climate Framework includes a 20% reduction in GHG emissions by 2020 and a 16% renewable target for Ireland for 2020, which Ireland is seeking to meet through 40% renewable electricity, 12% renewable heat and 10% renewable transport.

In October 2014, the EU Energy and Climate Framework was agreed which includes a 40% reduction in GHGs by 2030 and was the EU submission to the COP 21 discussions and subsequent global agreement. This is all set against an EU leaders' commitment to a reduction in the EU's GHG emissions of 80-95% by 2050 compared to their 1990 levels. This position is continuing to develop through the Draft Effort Sharing Regulation published by the EU in 2016 which is being progressed towards a definitive target for Ireland for 2030.

The decarbonisation challenge is particularly acute in the area of the non-emissions trading scheme (ETS), where most of Ireland's emissions lie (approximately 70%). A strong contributor to this is that Ireland has proportionately the largest agricultural sector in the EU. This effectively means that efforts to decarbonise heat and transport in Ireland must move more quickly than in other EU Member States. A recent EPA report⁴ noted that Ireland will likely achieve a 4-6% reduction on its 2005 emissions rather than its 20% target. As such, the electrification of the heat and transport sectors will be vital in achieving Ireland's decarbonisation goals. In doing so, it would absorb the non-ETS emissions into the ETS and help reduce the cost of abatement. The electrification of the heat and transport sectors therefore contributes to both the achievement of Ireland's renewable and non-ETS targets.

The proposed revised Renewable Energy Directive,⁵ which was released as part of the European Commission's Clean Energy Package, indicates that Member States cannot reduce the renewable share of energy use below the target for 2020 i.e. Ireland will have a target of at least 16% (made up of 40% RES-E, 12% RES-H, and 10% RES-T) in the period 2020-2030. Ireland's population and economy are set to grow and develop over the next 30 years, which will in turn bring about increased demand for electricity. As such, where demand for electricity continues to increase – a greater amount of electricity from renewable sources will be needed to, at a minimum, meet the 2020 EU targets.

⁴ http://www.epa.ie/pubs/reports/air/airemissions/ghgprojections/EPA_2017_GHG_Emission_Projections_Summary_Report.pdf

⁵ http://eur-lex.europa.eu/resource.html?uri=cellar:3eb9ae57-faa6-11e6-8a35-01aa75ed71a1.0007.02/DOC_1&format=PDF

Whilst very welcome, increased growth and economic activity brings about significant challenges due to increased strain on resources and the link between economic success and increased emissions.⁶ There is a need for early and definitive action to decouple emissions from economic activity. As noted in PwC's recently published report – *Transitioning to a Low Carbon Energy System* – a country's ability to realise a sustainable low carbon future is intrinsically linked to its capability to successfully decouple economic and emissions growth.⁷

There are a number of important infrastructure projects that will require delivery between now and 2040. The delivery of this infrastructure must contribute to the transition to a low carbon society and avoid the lock in of technologies which rely heavily on fossil fuels. Many infrastructure decisions are implemented over a number of decades and hence decisions on infrastructure in the 2020's could affect Ireland's emissions profile in 2040. Effective spatial strategies will help to facilitate the incorporation of long-term emissions considerations in infrastructure decisions. If settlement/development patterns are known, this will help ensure appropriate infrastructure is in place ahead of time to support demand, whilst avoiding the lock in of fossil fuels.

Smart energy and planning policies will assist in creating the conditions for building the economy, creating jobs, delivering regional development and tackling Ireland's climate change targets.

AFFORDABLE, SECURE, AND LOW CARBON ENERGY SUPPLY

Energy is a vital component of a strong, competitive, and regionally balanced economy – without an energy supply that is secure, sustainable, and cost-efficient it will be difficult to achieve the ambitions to foreseen in the NPF.

SSE strongly supports the NPF's overarching aim "Resource Efficiency and Transition to a Low Carbon Economy" and the NPOs to "reduce our carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaptation objectives as well as targets for greenhouse gas emissions and reductions" (NPO-56) and "promote renewable energy generation at appropriate locations within the built and natural environment to meet objectives towards a low carbon economy by 2050" (NPO-57).

Outlined below are important elements which SSE believe, should be given greater consideration under the NPF in order to achieve these objectives.

Onshore Wind

Renewable energy contributes to meeting all three energy policy goals, namely: energy security; cost competitiveness; and protection of the environment through the reduction of greenhouse gas (GHG) emissions. In 2015, the use of renewables in electricity generation⁸ both reduced CO2 emissions by 3.2 Mt and avoided €286 million in fossil fuel imports.⁹

The electricity sector is one of the most successful at decarbonising and is poised to assist others, including transport and heating. Emissions related to the power generation sector have approximately halved since 1990. SSE has made an important contribution to the decarbonisation of the sector. SSE is Ireland's largest provider of wind power and we currently own and operate 768MW of renewable energy at our 28 onshore windfarms.

Repowering and co-location are ways to make best use of existing infrastructure and will be a key consideration within the timeframe of the NPF. Repowering is the process of replacing older wind installations in order to increase wind power capacity and generation, while also utilising existing grid

⁶ <http://www.epa.ie/pubs/reports/air/airemissions/ghgemissions/GHG%201990-2015%20Provisional%20November%202016.pdf>

⁷ <https://www.pwc.ie/media-centre/assets/publications/transitioning-to-a-low-carbon-energy-system-pwc-ireland-2017.pdf>

⁸ 84% onshore wind

⁹ http://www.seai.ie/Publications/Statistics_Publications/Renewable_Energy_in_Ireland/Renewable-Electricity-in-Ireland-2015.pdf

infrastructure. Where repowering is to be effective, there will be a need for a simplified planning process for existing sites, ability to amend connection capacity at existing sites in order to facilitate the re-development, and eligibility for future support schemes. Activities such as this will make efficient use of grid infrastructure and renewable energy infrastructure already in place and help to sustainably manage the resource of land throughout Ireland – whilst meeting ongoing requirements for RES-E within a growing economy. In addition, there may also be opportunities to utilise other forms of generation at the same site, maximising the value of existing assets built for the wind farm. The co-location of storage and/or solar with onshore wind (rather than large scale ground mounted solar) is an efficient use of existing resources.

The development of renewable energy, such as onshore wind, is not only supportive of achieving the NPOs outlined above, but also the economic aims of the NPF such population and employment growth as well as rural growth and regeneration. In this regard, SSE welcomes the aim to “enhance the competitiveness of rural areas by supporting innovation in rural economic development and enterprise through the sustainable diversification of the rural economy into new sectors and in particular those with a low our zero-carbon output” (NPO-20) and the idea that the sustainable harnessing of renewable energy, as one of Ireland’s biggest assets, “will not only sustain local employment but also contribute to driving the economy” (p69). SSE also considers the development of renewable energy to be central to achieving the NPOs identified in the context of “Planning for Diverse Rural Places” e.g. rural growth and reversal of rural decline.

It is a well-recognised fact that the construction and operation of onshore wind farms within Ireland contributes significantly to employment directly within the sector as well as indirect and induced employment arising from construction and operation activities. Accordingly, the development of onshore and offshore wind could particularly assist in providing the planned employment growth of 330,000 jobs and associated population growth in the Northern and Western and Southern Regions over the Plan Period to 2040. The [Galway Wind Park Sustainability Impact Report](#) clearly illustrates the local **economic, social, and environmental benefits** that can be realised from onshore wind energy development. This report¹⁰ highlights that, in addition to the approximately 190,000 tonnes of CO2 emissions which will be saved as a result of Galway Wind Park’s first year of energy generation compared to fossil fuels, the project has added €88.7 million to Irish GDP. Construction of Galway Wind Park is also so far responsible for supporting 1,657 years of full-time employment in Ireland. Regionally, more than 100 local businesses have provided products and services to the project, representing a €20m spend with the local supply chain in Co. Galway. The report also shows that at peak construction 63 per cent of all civil contract workers and 43 per cent of all grid connection contract workers lived within 30km of the site.

Additional financial benefits are also in the form of **community benefit funds** which provide significant financial investments in local communities over the lifetimes of associated wind farm projects. To date, SSE Ireland has invested over €6.6 million into local communities across the island of Ireland through our wind farm community funds, which have supported over 2,600 projects through our windfarm community funds. This investment continues to transform schools, communities, and sport clubs in the local areas in which we operate in addition to supporting the local supply chain. SSE fully supports the need for community engagement and we are proud of the community funds we operate and the difference this makes to those communities.

It has also been shown that renewable developments themselves help to drive growth in rural areas by attracting **foreign direct investment**. Technology companies will locate multi-million euro data centres in locations where there is ease of access to green power from renewable sources and robust grid infrastructure e.g. Apple in Co. Galway or Facebook in Co. Meath¹¹. Locating demand and generation in close proximity also drives greater environmental benefits.

Given the significant contribution the wind energy sector makes to rural economies, through local direct investment, job creation, increased demand for local services and local authority rates – SSE

¹⁰ http://ireland.sse.com/media/18737/Galway%20Wind%20Park_Sustainability%20Impact%20Report_WEB.pdf

¹¹ <http://www.techweekeurope.co.uk/cloud/facebook-ireland-data-centre-clonee-184452>

would argue that stronger support for its development should be evidenced in the NPF e.g. through a specific NPO.

Offshore Wind

SSE supports the inclusion of NPO 44 “support, within the context of the Offshore Renewable Energy Development Plan (OREDP) and its successors, the progressive development of Ireland’s offshore renewable energy potential, including domestic and international grid connectivity enhancements”. As greater volumes of renewable generation will need to be deployed, Ireland should begin to build its capacity of offshore wind generation. In order to meet Ireland’s 2020¹² and 2030 targets we will need to build a large quantity of renewable capacity quickly – offshore wind, the costs of which are falling globally, is a proven technology which can be delivered at scale.

According to the Offshore Renewable Energy Development Plan (OREDP)¹³ Ireland has the potential for up to 4,500 MW of installed capacity of offshore wind by 2030, without having a likely significant impact on the environment (SEA and AA have been applied). In general terms this means that Ireland’s offshore wind industry alone could power 4.5 million homes per annum.¹⁴

In addition to support for floating turbines, support for the more established, gravity based foundation turbines should also be given within the NPF.

Ireland has one of the strongest offshore wind resources in the world; yet we are the only country in Northern Europe not to be developing offshore wind projects. Offshore wind development, will not only help Ireland reach its climate targets, reduce reliance on imported fuels and improve air quality, it will also bring about significant economic benefits. We have seen a number of FDI companies, particularly data centres seek out locations with green energy. In order to continue to attract this type of investment, Ireland will need to continue increase the share of renewables on the system. The scale of onshore wind will allow us to meet this demand, and encourage this type of FDI. In addition, offshore wind developments bring significant local benefits the form of jobs and support for the local supply chain.

SSE has considerable experience in progressing offshore projects in other jurisdictions and would welcome further engagement with the Department on this matter.

While onshore and offshore wind will play a significant role in supporting objectives of the NPF – there is a need to ensure that there is a flexible policy framework and support for the development of infrastructure:

Support Schemes

DCCAE is currently carrying out a consultation on the new Renewable Electricity Support Scheme. Given the role identified in the NPF offshore renewable energy, SSE strongly advocates for support for both onshore and offshore wind projects under the new scheme.

Carbon Pricing

Strong carbon pricing (in both ETS and Non-ETS sectors) will be required to provide a more stable, cost effective and technology neutral incentive to decarbonise. The current carbon price (c.€5) is too low to effectively incentivise the necessary transition. SSE emphasises the need to strengthen the ETS to deliver a stronger carbon price. In order to effect a smoother transition over a longer period, and

¹² Ireland has a legally binding EU target to achieve a 16% renewable energy share of gross energy consumption by 2020. This covers all forms of renewable energy usage for heat, transport and electricity. This 16% target combines national targets of 40% of electricity from renewables, 12% of heat, and 10% of road and rail.

¹³ <http://www.dccae.gov.ie/energy/SiteCollectionDocuments/Renewable-Energy/20140204%20DCENR%20-%20Offshore%20Renewable%20Energy%20Development%20Plan.pdf>

¹⁴ <http://www.seai.ie/Renewables/Ocean-Energy/Ocean-Energy-Explained/Offshore-Wind.html>

the fact that the ETS may take time to become effective, we believe there is strong merit in considering the introduction of a broader carbon tax or a carbon price floor mechanism.¹⁵ In assessing the best approach for Ireland, the Government should look to other countries where such mechanisms have been effective, for example GB. As outlined in the recently published National Mitigation Plan and Budget 2018, the review of existing carbon taxes and levies by the Department of Finance, in conjunction with the Department of Communications Climate Action and Environment, is welcomed. A strong, stable and long-term price for carbon would ensure a technology neutral approach is adopted and ensure the best value for money low carbon investments would go ahead.

Grid Infrastructure and Connection

In order to help ensure security of supply and to support increased renewables on the grid it will be necessary to support further enhancement of grid infrastructure along with the delivery of the North-South Interconnector (discussed in further detail in the “All-Island Context” section below).

The electricity grid is a fundamental factor in Ireland’s ability to benefit from renewable electricity e.g. onshore wind. Increasing the share of renewables coming on to our electricity network requires both expansion and upgrading of the grid. Limited grid capacity makes it difficult to develop, even if the area is rich in renewable resources. Many rural areas have surplus energy resources, while urban areas lack sufficient space and resource to meet their needs through renewable energy. There is a need for sufficient grid capacity to transport electricity from rural regions to urban areas. The location of suitable industries (demand) close to energy generation is most cost effective, as this helps to minimise the need for network infrastructure. It is of note that, where there is an increase in self-generation, challenges may arise in relation to network costs – it will be necessary to consider the need to ensure that both cost-effectiveness and social equity in terms of grid infrastructure are maintained.

SSE would note that grid connection will also be important in the overall considerations for developing an offshore renewable project. The NPF notes “given potential for renewable generation in the western part of the island, this may necessitate reinforcing the existing transmission network in the west to facilitate the transfer of renewable energy generated to the major demand centres in the east” – in SSE’s view the NPF should instead, seek to support the efficient and optimal deployment of offshore renewable energies and related grid infrastructure, the Irish Sea is close to Ireland’s largest demand centre, Dublin, which reduces the grid reinforcement required to connect large scale MW to the grid.

As well as the need for grid reinforcement, a major obstacle to project delivery is the grid application process. An improvement in this, allowing for quicker decisions and delivery of connections, would allow more projects to be built.

Planning

Spatial planning can make a significant contribution to addressing climate and energy obligations by helping to shape new and existing onshore wind developments. In this regard, it is critically important that a coordinated and coherent approach to integrating planning policy (e.g. National Planning Framework) and climate policy (e.g. National Mitigation Plan) is adopted. There should also be alignment between national, regional and local planning policies e.g. the national aims regarding renewable development should be fully reflected in the soon to be published Wind Energy Guidelines and other planning guidance such as County Development Plans and Regional Spatial and Economic Strategies.

Clear timeframes for planning decisions are a vital aspect of permitting and licensing procedures as they allow developers to plan and make investment decisions with confidence. Difficulties arise for developers where there is a lack of clarity surrounding different permitting procedures e.g. where

¹⁵ <https://www.pwc.ie/media-centre/assets/publications/transitioning-to-a-low-carbon-energy-system-pwc-ireland-2017.pdf> (p.16)

they cannot run together or when they produce conflicting requirements. Any changes in planning policy should not be applied retrospectively. Increased clarity and efficient processes are necessary to create an environment which is attractive for investment.

In relation to offshore wind, SSE welcomes the intention to develop a Maritime Spatial Plan by 2021. Marine Spatial Planning (MSP) assists planners, investors, communities and a wide range of other stakeholders to make informed decisions about offshore wind development, which would help to minimise costs and incentivise investment. SSE notes the acknowledgement in the consultation document that land-based planning for the infrastructure needed to capture, store and transmit such energy to consumers will be required. There is also a need for clarity around the foreshore application process. An efficient and streamlined licensing and permitting procedure for offshore projects will support investment.

Cost-Based Challenges

In order to incentivise investment in the renewable sector, it will be necessary for the Department to address increasing cost-based challenges, such as commercial rates increases.

Flexible Thermal and Security of Supply

SSE would advocate for a planning framework that, as required over time, supports the development of new build thermal generation which can provide low carbon, efficient baseload power. In addition, efficient, flexible thermal generation will contribute to the decarbonisation of the sector, increased security of supply and support a transition to a generation portfolio that operates significantly differently to what we have relied on previously.

National Investment Plan – NSO: Transition to Sustainable Energy

As outlined above, increasing the share of renewables on the system requires both expansion and upgrading of the grid. SSE welcomes the intention to “reinforce the transmission network to facilitate the planned growth and the transfer of renewable energy generated to the major demand centres”. SSE considers the delivery of the North South Interconnector to be an urgent priority for the island. Any future investment in large infrastructure projects such as the Celtic Interconnector, the National Interconnector, or CCS should be considered by way of a thorough cost-benefit analysis.

ENERGY EFFICIENCY AND THE ELECTRIFICATION OF HEAT AND TRANSPORT

Increased energy efficiency and the electrification of heat and transport will bring about better living conditions, decreases in air and noise pollution and benefits to people’s health – helping to deliver NPOs outlined in the Consultation Document such as, “ensure the creation of attractive, liveable, well-designed, high quality urban places that are home to diverse and integrated communities that enjoy a high quality of life and well-being “(NPO-4) and “improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas (NPO-61), as well as helping to support the “Healthy Communities” identified in Chapter 5.

In the context of these NPOs, SSE believes energy efficiency and electrification should underpin the “Key Future Growth Enablers” for each of the 5 cities identified in the NPF – Dublin, Cork, Limerick, Galway, and Waterford.

In addition, SSE welcomes the long term vision for Ireland’s housing future i.e. “to balance the provision of good quality housing that meets the needs of a diverse population, in a way that makes our cities, towns, villages and rural areas good places to live now and in the future”. In SSE’s view, ensuring housing developments are sustainable, fit for purpose, and affordable should be at the core of any decisions going forward. The adoption of energy efficient and sustainable practices in revitalising the housing sector in Ireland is paramount. As such, SSE believes that energy efficiency and electrification should underpin the “Priorities and Principles” outlined in the NPF (p85).

Energy Efficiency

The NPF sets out the NPO to “target the delivery of 550,000 additional households up to 2040” (NPO-33). SSE would urge DHPLG to adapt sustainable and energy efficient approaches and measures in supporting the delivery of increased housing stock. Energy efficiency not only helps tackle Ireland’s climate change objectives, but also reduces energy bills, increases comfort and health standards and improves social inclusion. International Energy Agency analysis demonstrates that energy efficiency has the potential to support economic growth, enhance social development, advance environmental sustainability, ensure energy system security and help build wealth.¹⁶

In addition, improved energy efficiency helps to address the affordability of housing.¹⁷ As noted in the DCCAE Strategy to Combat Energy Poverty,¹⁸ research by the Vincentian Partnership for Social Justice found that improving the Building Energy Rating (BER) of a home from E1 to B2 can lead to energy savings of €2,524 a year on a typical energy bill.

The Building Regulations will have an increasingly central role to play in relation to energy efficiency requirements e.g. the role out of Nearly Zero Energy Buildings (NZEB). An NZEB is defined in the Energy Performance of Buildings Directive as a building that has a very high energy performance and that the nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby. The definition of NZEB was transposed in January 2017 into the Building Regulations through the Building Regulations (Amendment) Regulations 2017. Not only will the Building Regulations assist in increasing the energy efficiency of buildings, but they will also play an important role in increasing the consumption of energy from renewable sources. Earlier this year, DHPLG consulted on the amendment of Part L of the Building Regulations to set the specific NZEB performance requirements for buildings other than dwellings in Ireland. This process will be replicated to amend in respect of dwellings during 2018. SSE would recommend that the policies outlined in the NPF are developed with regard to the Building Regulations.

SSE would like to commend the Government for its continued commitment to energy efficiency, which includes a variety of programmes and grant schemes run by SEAI. SSE recognises the benefits that this brings for residential customers and those in the fuel poverty bracket, and would encourage ongoing commitment to Exchequer funded schemes. Ireland has made real progress on energy efficiency, however, this has come from tackling easier, cheaper measures e.g. attic insulation. Over the coming years there will be a need for increased efforts to achieve larger amounts of more durable energy savings from large scale projects, in particular deep renovation of buildings and more sustainable new build – with electric heating solutions.

SSE is proud to support the Government’s efforts through a partnership approach between suppliers, local authorities, and exchequer grants etc, in delivering energy efficiency obligations. However, SSE believes such policies can be funded in different ways and simply putting the cost of such policies on electricity bills (e.g. Energy Efficiency Obligation Scheme) is a regressive way to impose policy charges. Paying for such policies through bills has no regard to a customer’s ability to pay – creating the most difficulties for those in fuel poverty, has the ability to undermine the broader social, health and wellbeing benefits that the activity brings, and damages competitiveness. In SSE’s view, policy costs are more progressively and appropriately recovered through the Exchequer (which takes account of ability to pay) rather than through energy bills, and as such welcomes the recently announced increase in resources under Budget 2018. In this regard, energy efficiency measures should also be supported by the NIP and the future allocation of resources.

Listed below are a number of possible alternatives, to help ensure that the cost does not lie with the energy consumer under the EEOS:

¹⁶ IEA (2014): ‘Energy efficiency: a key tool for boosting economic and social development’

¹⁷ [McKinsey Global Institute - A blueprint for addressing the global affordable housing challenge](#)

¹⁸ <http://www.dccae.gov.ie/documents/A%20Strategy%20to%20Combat%20Energy%20Poverty.pdf>

- Carbon Tax and EU ETS Revenues – A portion of these revenues could be ring-fenced to fund energy efficiency measures.
- Capital Plan Building on Recovery: Infrastructure and Capital Investment 2016-2021 – Could provide funding for supporting energy efficiency measures and/or supplement Exchequer funding.
- European Investment Bank (EIB) – The EIB could be interested in providing low interest financing for energy efficiency measures at a national or county level.
- Low Cost Financing – Access to low cost financing would assist in the implementation of energy efficiency measures. SSE considers 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.

SSE recognises the benefits energy efficiency brings for residential customers and those in the fuel poverty bracket and would encourage its inclusion as an underlying principle of the NPF.

Electrification of Heat

In addition to general energy efficiency measures, SSE believes that the electrification of heat has a role to play in terms of realising Ireland’s decarbonisation potential and reducing air pollution.¹⁹ The development of the NPF and the revitalisation of the housing sector give the Government a unique opportunity to address its EU targets and deliver high quality homes in a concentrated and coordinated way. This will in turn support the growth of both urban and rural areas. Electric heat technologies have the potential to assist with renewables integration through demand side management and system services. Electric heating technologies also bring a significant energy efficiency increase e.g. pumps.

The on-going decarbonisation of electricity supply and recent innovations in relation to electricity based renewable technologies including air source pumps, makes electricity an attractive option as the clean, low carbon energy choice for heating. Given the difficulties with reducing carbon emissions in Ireland’s non-ETS sector and the impact some forms of renewable heat have on air quality, SSE argues that the electrification of heat has a lot to recommend it in terms of realising Ireland’s decarbonisation potential. Electric heating technologies also bring significant energy efficiency and have the potential to assist with renewables integration through demand side management and system services.

The building regulations have been supportive of the transition at a domestic level in terms of directly requiring greater levels of energy efficiency and indirectly the installation of heat pumps in new residential dwellings, however more needs to be done. The NPF will need to support this type of activity, acknowledging that potential rural clusters of dwellings could be served by technologies, such as a larger central heat pump.

In addition, SSE alongside energy market participants such as Glen Dimplex, EirGrid and ESB Networks are involved in a Horizon 2020 project titled ‘Real Value’. The project commenced in June 2015 and involves installing thousands of Smart Electric Thermal Storage Systems (SETS) into 1,250 homes across Ireland, Germany and Latvia. This technology has been developed to meet householders’ space and water heating needs in a low cost and energy efficient manner while also providing additional energy storage capacity. This is the type of technology we see becoming common place i.e. where a consumer’s carbon footprint and energy costs are reduced, with little impact on their daily routine. Again, this is expertise in the Irish market that could provide workable solutions in retrofitting existing housing stock to best suit the flexibility and living requirements of occupants.

¹⁹ The electricity sector is one of the most successful at decarbonising (emissions have approximately halved since 1990) and is poised to assist others, including heating. SSE has made an important contribution of the decarbonisation of the sector. SSE is Ireland’s largest provider of wind power and we currently own and operate 768MW of renewable energy at our 28 onshore windfarms.

One of the barriers to electrification at present is the current calculation of energy efficiency savings by reference to an outdated Primary Energy Factor (PEF). The PEF, generally, is a static and backward facing measure and does not take into account the decarbonisation trajectory that electricity is on. We believe that this not only hinders the decarbonisation agenda, but also has the ability to prolong Ireland's energy import dependence on fossil fuels. We recommend that given the focus of climate and energy policy on the 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 the electricity supply. By failing to recognise these advances, policy incentivises the lock in of fossil fuel technologies for another investment cycle reduces Ireland's ability to tackle climate change. In this regard, we advocate for the application a factor 0 to RES-E sources in the overall PEF calculation methodology at both EU and national level (where Ireland has the ability to apply its own calculation under the Package) in order to ensure that the NPF does not lock in carbon intensive technologies.

Effective planning is also needed to ensure that homes and businesses are connected to appropriate energy networks and/or sources. Natural gas is considered an appropriate bridging fuel in the near term to help facilitate the transition to a low carbon economy – however it will be necessary to maintain a degree of flexibility to ensure that there is no “lock in” of emissions in the heating sector. The NPF should take steps to support the conversion of homes that are not connected to the gas network in the first instance, and hence using higher carbon fuel sources such as solid fuel or oil for heat, to an appropriate electric heating solution. Given Ireland's dispersed settlement pattern, the electricity network provides an appropriate solution to the issue of geographic dispersion, as properties already have an electricity supply.

Connected Buildings

In line with EU policy direction, buildings will become increasingly “smarter” over the coming years. Connected devices will go from c.10 per household today, to c.60 in the next 10 years e.g. smart plugs and smart thermostats. Smart metering will also play a central role, in providing consumers information which will enable them to transition from passive to active energy consumers. In addition, the roll-out of smart meters will help users to respond positively to price signals, reduce their bills and achieve greater energy efficiency. Smart metering will be key to enabling demand side management in the electricity sector, whereby users can be financially rewarded for reducing their energy usage at times of peak demand.

Electrification of Transport

In 2015, transport sector emissions amounted to the second largest contributor to overall emissions at 19.8%, an increase of 130% since 1990. In order to meet climate change targets and to avoid a lock in of fossil fuels, the transport sector must transition away from the use of fossil fuels, moving predominately to electricity for passenger cars, commuter rail, taxis, and (urban) buses by 2030. Transport is closely aligned with economic activity, creating a very challenging outlook for both air quality and carbon emissions associated with the sector.

Sustainable Mobility is outlined as an NSO in the context of the NIP, however in order to achieve this outcome further support for the decarbonisation of the sector will be needed – for example through investment in the electrification of the public transport fleet (rail, buses etc) and further subsidies to incentivise the uptake of electric vehicles (EVs).

The electrification of transport can bring a number of additional benefits including –

- Energy Efficiency: EVs are more energy efficient. In addition to reducing Ireland's carbon emissions EVs will also help to deliver against Ireland's energy efficiency target.
- Improved Air Quality and reduced noise: no point of use emissions and reduced noise is particularly important in cities.
- Security of Supply: This is strengthened through diversification and also introducing an element of battery storage and potential grid support.

- Demand Response: It will offer the opportunity for customers to influence consumption and provide electricity system services.

Strategic transport planning is needed to align development with the need to transition to a sustainable, low carbon economy and society. The NPF can play a key role in integrating transport policies with other policies employed across Government at both national and local levels. Integration of these policies will help to align investment priorities.

Given Ireland's dispersed settlement pattern and high reliance on commuter vehicles, long term planning policies will need to support the deployment of the infrastructure required to transition to a low carbon economy e.g. appropriate placement of EV charging points throughout the country – for both private vehicles and public transport – including its integration into existing infrastructure as technology develops, such as inductive charging points. Ireland's private car fleet makes the biggest contribution to CO2 emissions, and along with the decarbonisation of public transport, should be tackled as a priority.

In supporting “the provision of lifetime adaptable homes that can accommodate the changing needs of a household over time” (NPO-36) the Department should consider the Irish Government's recently published National Policy Framework on Alternative Fuels Infrastructure for Transport in Ireland and the proposals outlined in the EU Clean Energy Package²⁰ in relation to the electro-mobility under the Energy Performance of Buildings Directive (EPBD).

The *National Policy Framework on Alternative Fuels Infrastructure for Transport in Ireland – 2017 to 2030* forecasts the use of 250,000 passenger EVs by 2025 and 800,000 by 2030 - it will be necessary to ensure that the roll-out EV charging infrastructure is proportionate to the uptake of EVs. Parallel to this the Commission's EPBD proposal introduces new requirements as regards infrastructure for electro-mobility – new non-residential buildings with more than ten parking spaces, and non-residential buildings with more than ten parking spaces undergoing major renovation will have to equip one parking space per ten for electro mobility. This will apply to all non-residential buildings with more than ten parking spaces as of 2025. The proposal also outlines, that new residential buildings with over ten parking spaces, and those undergoing major renovation, will have to put in place the pre-cabling for electric recharging. These stipulations are indicative of the new types of infrastructure that will be required to support the transition to a low carbon transport sector.

The Low Emissions Vehicles Task Force is working in a cross-departmental capacity to consider ways we can move towards our transport targets more quickly.

Given the additional requirements that will be required in relation to electro-mobility, SSE would recommend taking a pro-active approach within the NPF.

Leadership Role of the Public Sector

The Public Sector has a key leadership role to play in taking steps towards reaching Ireland's energy and climate targets. There will be a requirement for the public sector to introduce Nearly Zero Energy Buildings²¹ from 31 December 2018 – which will require increased energy efficiency and the electrification of heat.

In addition, the Department of Communications Climate Action and Environment have published a Public Sector Energy Efficiency Strategy (PSEES) which outlines various actions to be taken in relation to energy efficiency, including the need for procurement frameworks for energy efficiency works to State owned buildings occupied by Government Departments and Agencies. Public procurement, including utility contracts, should also be undertaken in a manner to reduce overall emissions – in

²⁰ <http://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition>

²¹ Energy Performance of Buildings Directive - An NZEB is a building that has a very high energy performance and that the nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources.

particular where large public infrastructure is being developed e.g. buildings, transport fleet, and transport networks. For example, where practicable, requiring EVs rather than ICE vehicles to be purchased, would have a tangible impact from both an emission and perception perspective. SSE welcomes the publication of the PSEES, and we believe that the NPF should support the development of the role of the Public Sector. Investment under NIP will also be needed to support the Public Sector's move to more efficient and decarbonised infrastructure.

INCREASED CONNECTIVITY

SSE strongly supports the need for increased connectivity across Ireland and welcomes the NPOs identified in the context of "Planning for Diverse Rural Places" e.g. rural growth, reversal of rural decline, and addressing connectivity gaps as well as NPO-22 "support and facilitate delivery of the National Broadband Plan as a means of developing further opportunities for enterprise, employment, education, innovation and skills development for those who live and work in rural areas". In addition, SSE welcomes the NSO's identified in the context of the NIP such as, "A Strong Digital Economy" and "Empowered Rural Communities".

Increased connectivity will support economic growth, attract FDI and promote inward investment. Support for investment in this area will also be central to revitalising and regenerating areas outside our main cities by attracting industries to locate there. Broadband speeds and infrastructure should not be a prohibiting factor in these decisions.

ALL-ISLAND CONTEXT

SSE welcomes the need for Ireland 2040 and the Northern Ireland Regional Development Strategy to provide a basis for long-term coordination on energy matters. In the context of Brexit, the following points should be considered priorities in an All-Island context under the NPF:

- Delivery of the North-South Interconnector: SSE strongly supports the NPO to strengthen all-island energy infrastructure and interconnection capacity to enhance the security of electricity supply (NPO-104). In this regard, SSE considers the delivery of the North South Interconnector to be an urgent priority for the island of Ireland in order to increase security of supply, but also, importantly to reduce electricity costs for all consumers on the island. The development of the interconnector will also help support economic growth, sustain business operations and jobs, and attract investment. Clarity on the expected timeframe for the delivery of the interconnector is needed in order to provide certainty for investors. SSE believes that any future interconnection with mainland Europe, such as the Celtic Interconnector (p138) should be considered by way of a thorough cost-benefit analysis.
- Continuation of the SEM and Delivery of I-SEM: The Single Electricity Market (SEM) has provided Ireland with market efficiencies, delivering security of supply, and savings for consumers. Following Brexit, the continuation of the single harmonised scheme for the wholesale market on the island is to the benefit of consumers in on the island of Ireland. Work is currently underway to deliver the Integrated Single Electricity Market (I-SEM) – bringing the SEM in line with the requirements of the European Network Codes and the Target Model. The delivery of I-SEM should be supported by the Government and not delayed unnecessarily in order to provide certainty and economic stability in the energy market.
- Coherent Policies: There is also a need to maintain coherent energy, climate, environmental, and planning policies to ensure a balanced approach is adopted across the island. A coherent set of policies across the island (and indeed GB) with respect to energy and climate will support efficient investment.

GOVERNANCE

SSE welcomes the statutory backing of the NPF through the Planning and Development (Amendment) Bill 2016.

It will be necessary to ensure there is a continued interdepartmental support for the NPF and a coordinated and coherent approach between the NPF and other Government policies, such as the National Mitigation Plan.

Regional Assemblies will also play a vital role in terms of implementing the NPF through Regional Spatial and Economic Strategies. It will be important for Regional Assemblies to appropriately align themselves with national policy. In addition to coordination at regional level local/county development plans should also seek to align themselves with wider national policy.

An integrated and monitored approach will help to ensure the implementation of the NPF at all levels. Under the Climate Action and Low Carbon Development Act 2015, the National Mitigation Plan will have the built in flexibility of a 5 year review cycle to ensure it reflects the necessary requirements. The NPF should also follow a 5 year review cycle and incorporate the flexibility required to adapt to any identified changes.

SSE notes that Ireland 2040 sets out a methodology for a tiered approach to land zoning and the prioritisation of development land. In this regard, SSE would argue that it will be necessary to ensure that the NPF does not include policies which limit the land available for onshore wind development. It is clear that the wind energy sector makes a significant contribution to the local economy. As such, SSE would request the adoption of a policy based approach to the development of land which recognises the economic benefits that may be derived from wind energy developments. There is a strong case to ensure that land zoning policies consider the opportunities for wind farm development or alternatively do not exclude wind farm development from certain areas.

CONCLUSION

SSE is available to discuss any aspect of this submission further and would like to thank the Department of Housing, Planning, and Local Government for the opportunity to respond to this consultation.