



National Planning Framework

Element Power Ireland

Response to Ireland 2040 Our Plan Issues and Choices





Introduction and Executive Summary

Element Power Ireland (EPI) welcomes the opportunity to make this submission on the National Planning Framework Issues and Choices consultation (*the "NPF"*). The Department of Housing Planning Community and Local Government (*the "Department"*) is to be commended for issuing this consultation that will help form the overall plan for Ireland up to 2040. It is recognised that the NPF identifies a number of issues and choices facing Ireland, however EPI, as a renewable energy business, will focus its response on the energy related matters raised in the consultation.

EPI believes strongly that a plan led approach is required to ensure the successful delivery of key infrastructure for Ireland such as its energy infrastructure. Energy infrastructure can take years to develop and is usually in place for at least two decades once constructed so it is important that much thought is given to the need for, the suitability of, and the location of this key piece of national infrastructure. Plans such as the NPF can set the high-level policy required to ensure successful delivery of the appropriate technologies in the appropriate locations. EPI is heartened that key criteria such as Climate Action, Air Quality and Sustainability are key themes throughout the NPF, as these are not alone major concerns facing Ireland, but indeed will be key themes for all countries globally over the period that the NPF is to be in place for.

The potential of Ireland's renewable energy and renewable electricity resources are well documented. Given the country's vast wind energy resource, the potential of that resource must be considered as a strategic asset, which needs to be planned for at a national level as provided for in the NPF. The benefits of strategically planning how best to harness Ireland's renewable energy resource on a country-wide and regional level, will be felt across all levels of society and sectors of the economy.

It is critical that the NPF provides unambiguous policy support to the renewable electricity sector. It should also clearly outline the role renewable electricity will play in decarbonising electricity generation, improving air quality for our citizens, meeting binding climate change and renewable energy targets, and reducing our country's reliance on imported fossil fuels. EPI agrees with the proposals set out in section 5.3.7 of the NPF where the option of creating Strategic Energy Zones or Corridors is proposed. It is recommended that this policy support should include strategic level guidance on locations for renewable electricity projects, which will take precedent over existing county development plans, and inform future regional and local planning policies. EPI recommends



that the NPF could set the high-level policy for identifying such Strategic Energy Zones and that the detail in terms of actually identifying such zones could be managed at a regional level to help ensure consistency across the country. EPI understands that the regional planning policies are currently being reviewed in tandem with this consultation on the NPF and as such it could be an opportune time to put such a structure in place.

The current situation in terms of the planning process for large-scale renewable electricity developments is unsatisfactory in terms of meeting national and international targets, the outcomes from the planning process, and the uncertainty for those investing in the industry in Ireland.

This submission will set out EPI's comments on how:

- The NPF should overarch all local and regional planning policy documents to successfully deliver renewable electricity projects in a sustainable manner and to allow the full potential of Ireland's renewable energy resources to be harnessed without adversely impacting on landscapes or local communities.
- Strategic areas for renewable electricity generation of scale must be incorporated into any revised National Spatial Strategy and into future revisions of Regional Guidelines and Local Authority development plans.
- All suitable, strategic areas should be identified in the NPF so as to not limit renewable electricity opportunities from the outset, without inferring that any areas not identified are unsuitable for renewable energy development.
- Consistent Frameworks and Guidelines are required for renewable electricity projects as projects can be many years in pre-planning and planning stages, and need to ensure that projects can be delivered to meet the country's needs.
- Interdepartmental consultation will be important for the successful implementation of the National Planning Framework.

This submission also includes further information in the form of answers to the specific questions raised in the *"Ireland 2040 Our Plan Issues and Choices"* document.



Contents

Introduction and Executive Summary	2
Element Power Ireland (EPI)	5
Current Challenges, Successful Precedent	6
Requirement for Overarching Policy	7
Maximising Opportunity	8
Inter-departmental Consultation and an Overall Joined up Plan.....	11
Responses to Specific Queries.....	13
Q1. What strategic energy infrastructure is needed to support the economy and society and realise the transformation of Ireland’s energy system to meet climate change and energy obligations and in what areas should it be located?	13
Need for Renewable Energy Projects	13
Further Interconnection for Ireland.....	18
Q2. An SEA scoping document has been developed in tandem with this paper. What are the relevant significant issues to be addressed by the SEA, AA and SFRA and what environmental objectives should be used?	19
Further advantages To Developing in midlands and East of Ireland	21
Perceived Issues To Developing in the midlands.....	22
Turbine Setback Distance.....	23
Q3. What measures should be implemented in order to safeguard our landscapes, seascapes and heritage and ensure that Ireland continues to be an attractive place to live, visit and work?	25
Conclusion	27



Element Power Ireland (EPI)

Element Power is a global renewable energy company that develops, acquires, builds and operates utility-scale wind and solar power projects. EPI has constructed and operates a portfolio of approximately 100MW, with another 120MW in construction in 2017 and has approximately 1GW of wind farm projects in development in Ireland. EPI has an established track record in wind energy in Ireland, with its Irish team based in Tullamore, Co. Offaly and Cork. This team has previously developed over 16 wind farms in Counties Clare, Cork, Kerry, Donegal, Limerick, Galway, Waterford, Tipperary and Tyrone.

EPI believes that as a developer of wind energy it plays an important role in helping address some of Ireland's most significant challenges including:

- Climate change;
- EU and Ireland's legally binding obligations to limit greenhouse gas emissions;
- National renewable energy targets;
- Security of energy supply;
- Cost effective clean power production; and
- Increasing energy price stability.

EPI fully supports sustainable development and proper planning while recognising the requirement to take into account any potential environmental impacts. EPI's objective is to work closely with communities to provide clean, cost effective and sustainable energy alternatives to limit the harmful effects that climate change is now bringing to our lives, and limit the damage done to the domestic economy through the importation of expensive fossil fuels. EPI believe that Ireland's considerable wind resource has a central role to play in meeting these challenges.



Current Challenges, Successful Precedent

Public surveys¹ continue to show very high levels of public support for renewable energy and moving away from fossil-fuel generated electricity. Despite this, renewable electricity developments and wind energy developments in particular, have attracted increased levels of opposition in recent years from local communities and national groupings. Local, county-level opposition to wind farms, often led by a small number of individuals who do not represent the views of the wider population, has resulted in some changes or proposed changes to local planning policy through revisions or variations to County Development Plans. A number of such planning policy changes have required intervention by the Minister of Environment, Community and Local Government, to bring local policy back into line with national policy. Such proposed changes and uncertainty around planning policy at Local Authority level is most unhelpful, when trying to harness the potential of the Country's wind energy resource. It also wastes the resources of the Local Authorities and Government Departments involved, and creates uncertainty for the renewable electricity industry stakeholders. It is assumed that the NPF will overarch all Local and Regional planning policy documents, and prevent Local policies being varied following pressure from special interest minorities to specifically preclude renewable electricity developments.

A recent and successful precedent for such an approach is evident in the waste policy. The requirement for new landfill capacity in the 1990's and early 2000's resulted in politically-motivated, local planning policy variations to preclude such developments for certain counties or parts of counties. Knowing that landfill and other waste infrastructure was of strategic importance to the state, and necessary to meet increasing requirements of EU Directives, responsibility for waste management planning was removed from Local Authorities and assigned by the Department of the Environment to regional waste authorities. Such an approach successfully delivered the new waste infrastructure that the country critically required. A similar approach is now required in the future delivery of renewable electricity projects to allow the full potential of Ireland's renewable energy resources to be harnessed.

¹ IWEA survey in conjunction with Ipsos MRBI showed that 86% of people would choose to power their homes with renewable energy over fossil fuels if they were available at the same cost.



Requirement for Overarching Policy

The NPF must provide a consistent overarching policy, irrespective of Local Authority boundaries, which addresses current inconsistencies across adjoining Local Authority areas. Such inconsistencies are regularly seen to have serious implications for renewable electricity projects such as wind farms and solar farms. The inconsistencies usually arise in terms of landscape classifications (sensitivity, value, carrying capacity) and wind energy development control policies (areas deemed suitable, unsuitable, strategic, open to consideration, etc.). The established practice of renewable energy projects only being guided by local planning policies within any one county is inconsistent with the real-life challenges faced when trying to progress plans for projects. Difficulties regularly arise for example when the capacity of a landscape character area in one county deems a certain project to be acceptable, but yet is located close to the boundary of another Local Authority area with a different assessment of landscape capacity. Similar challenges arise when a project in one Local Authority area has to be assessed from a landscape and visual impact perspective over a distance of 25-30 kilometres, which may extend into other Local Authority areas with different landscape policies.

Landscape Character Assessments, Landscape Strategies and Wind or Renewable Energy Strategies have all often been prepared by adjoining Planning Authorities, at different times, often following different guidance or approaches.

In order to best guide the development of renewable electricity projects, the NPF should identify a consistent, nationwide approach to selecting areas as suitable for renewable energy projects, regardless of what landscape, renewable energy or planning policy classifications already exist across the country in different Local Authority areas. The NPF must sit above existing regional and county planning policies including local authority renewable energy strategies, and must inform future revision of those regional, county planning policy documents and renewable energy strategies.



The following positive proposals are noted under Section 5.3 of the NPF:

- 5.3.6** There is a need for a co-ordinated approach as to how these projects are delivered if we are to achieve a low carbon economy and carbon neutrality in various sectors. This raises questions about the type, scale and location of renewable infrastructure such as wind and solar renewables and on-shore and off-shore locations to meet renewable targets.
- 5.3.7** At a national level, it may be an option to create Strategic Energy Zones or Corridors, similar to Strategic Development Zones, as areas of national priority for renewable energy investment, as well as to provide a test bed for new technologies and developing solutions for carbon storage and capture.
- 5.3.8** At a regional level, Regional Economic and Spatial Strategies will have a role in this area through regional approaches to renewables such as wind farms, solar farms and district heating provision and coordination across local administrative boundaries. This may also address the overlapping policy area of landscape and landscape characterisation.

This intention is to be welcomed. However, it is suggested that any strategic areas identified for renewable electricity generation must be incorporated into future revisions of Regional Guidelines. As described in the previous section, EPI suggests that the Regional Guidelines should be used instead of the Local Authority development plans to map the renewable energy strategies for the different Local Authorities.

Maximising Opportunity

Part of the rationale for the NPF, among others, is that Ireland's renewable electricity requirements cannot be spread evenly across the country, and not all counties will be in a position to meet their share of the country's renewable energy obligations. Accepting this as a basis for policy guidance on future development of onshore renewable electricity projects, will most likely lead to a concentration of projects in certain geographical locations that have the capacity to accommodate such projects. Indeed it is encouraging to read the sentence below in the NPF which recognises this constraint:

In particular, some areas of the country are better suited to the generation of renewable energy and differing types of renewable energy infrastructure.

It is suggested that the number of suitable, strategic areas should be dictated by the number of suitable, strategic areas that emerge from the SEA process running alongside the preparation of the NPF. It is not considered prudent to only seek to identify a limited number, particularly in light of international and binding EU targets for reductions in greenhouse gas emissions and increases in renewable energy penetration. Any suitable strategic area with the potential to accommodate a



renewable electricity project, should be identified in the NPF to allow its full potential to be assessed further as part of the Regional Plans.

The identification of areas as being suitable, strategic areas, will not necessarily translate into them being actually available for the development of projects. Many areas identified as suitable and strategic in the NPF may never be brought forward through the planning processes due to difficulties in securing landowner consents, assembling a sufficient land bank for a project, grid connection distances or project economics. Therefore, at this stage in the preparation of the NPF, all suitable, strategic areas should be identified for further consideration. Acknowledging the Departments intention to carry out “periodic” reviews of the NPF. This is suggested as a beneficial approach to maximise the potential of Ireland’s renewable energy resources, rather than limiting that potential from the outset. In seeking to maximise the opportunities for renewable energy, one area that EPI suggest the Department should be mindful of is cost competitiveness.

A key area which EPI would urge the Department to be mindful of when finalising the National Planning Framework, is maintaining cost competitiveness of renewables. With Ireland now progressing towards economic recovery, the issue of economic value and securing the most cost effective solutions to our low carbon transition is vital for business and energy citizens. Within the electricity generation sector, wind energy is proven to deliver the most cost effective renewable electricity for Ireland. This point has been acknowledged by the European Commission in the European Commission publication *A policy framework for climate and energy in the period from 2020 to 2030*² and by Government within the recent the Energy White paper³.

The ongoing integration of wind energy onto the Irish grid is assisting in reducing the amount of fossil fuel generators used to produce electricity, which is reducing the wholesale cost of electricity. SEAI states⁴ that 22.8% of total electricity demand in Ireland in 2015 was met by wind energy. A further electricity market report carried out by Vayu showed that the average wholesale price of electricity in the Irish market for 2015 was down 9.4% from the average price recorded in 2014, with strong wind

² <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52014DC0015>

³ <http://www.DCCA.gov.ie/energy/SiteCollectionDocuments/Energy-Initiatives/Energy%20White%20Paper%20-%20Dec%202015.pdf>

⁴ http://www.seai.ie/Publications/Statistics_Publications/Energy_in_Ireland/Energy-in-Ireland-1990-2015.pdf



generation identified as a key factor⁵. It is recognised that other forms of renewables will be added to the renewables mix over the next decades but onshore wind will be the most significant contributor to renewable electricity in Ireland due to it being the cheapest form of renewables in Ireland and its mature and efficient technology status compared to the other forms of renewables.

If the NPF is to broadly identify suitable, strategic areas for renewable electricity generation that should not preclude other areas that might not be broadly identified from being considered to accommodate such projects. The merits and potential of any site should be considered at a project-level, before being definitively ruled out as being unsuitable. For example, EU guidance⁶ is available on wind energy development in accordance with the EU nature legislation (Natura 2000), which does not automatically preclude such developments in such areas, but instead outlines for how such developments should be considered and assessed. In summary, it is suggested that if the NPF identifies certain areas as suitable and strategic for renewable electricity projects of scale, that should not infer that any areas not identified are unsuitable.

Although initially counterintuitive, we strongly recommend that in selecting suitable strategic areas, one constraint that should not be applied is that of wind speed. Ten years ago, when turbines were smaller and couldn't capture an economic capacity factor on lower wind speed sites, it may have made sense to assume that turbines in low wind speed (<7.5m/s) areas could or should not be constructed. However recent advances in turbine technology, marrying smaller generators with longer blades has resulted in turbines that can achieve capacity factors over 30% (the national average) from even the lowest lying sites in Ireland, in wind speeds closer to 6.5m/s at hub height. This does require taller turbines with longer blades, but generally these flat low lying landscapes have a greater capacity to accommodate such machines from a visual impact perspective.

⁵ <http://vayu.ie/2015-vayu-annual-energy-report-23-drop-in-irish-wholesale-gas-prices-in-q4-2015-compared-with-last-year/>

⁶ Guidance Document – Wind energy developments and Natura 2000. Publications Office of the European Union, 2011 http://ec.europa.eu/environment/nature/natura2000/management/docs/Wind_farms.pdf



Inter-departmental Consultation and an Overall Joined up Plan

Renewable electricity projects of large scale are largely influenced by the policies of two Government Departments, the Department of Housing, Planning Community and Local Government and the Department of Communications, Climate Action and Environment (DCCA).⁷

It is noted that the DCCA are currently consulting on the Renewable Energy Policy and Development Framework (REPDF) which seeks to identify areas for large scale renewable energy projects (>50MW). Also it is noted that the Wind Energy Development Guidelines 2006 (WEDG 2006) are the subject of an ongoing targeted review process.

In preparing the NPF, the two Departments are trusted to actively engage together on the targeted review of the Wind Energy Guidelines for Planning Authorities and the implementation of REPDF to ensure the NPF will be consistent with both of these documents once published. It would be futile to publish the NPF, only for it to be superseded or undermined by a future revision of the Wind Energy Guidelines or REPDF. Renewable electricity projects of large scale can be many years in pre-planning and planning stages, and require consistent Frameworks and Guidelines to ensure the projects can be delivered to meet the country's needs.

Similarly, EirGrid and the CER are putting plans in place for a long term grid access regime for renewable energy projects, so it is very important that the NPF works in conjunction with the conclusions of the CER consultation on future grid access. Indeed it is noted that section 5.3.3 of the NPF states that *"the extent of our electricity network is over 35 metres of electricity grid per capita, which is high in comparison to other EU countries"*. Similarly the recent *"Review of Connection and Grid Access Policy: Initial Thinking & Proposed Transitional Arrangements"*⁷ consultation issued by the CER includes some strong indications as to where the preference for future energy generation is from the CER's point of view. In this regard it is noteworthy that two of the eight key principles that the CER propose to be applicable to developing the future grid access regime are in relation to efficient use of

⁷<http://www.cer.ie/docs/001060/CER%2015284%20Review%20of%20Connection%20and%20Grid%20Access%20Policy.pdf>



the existing network in an attempt to avoid unnecessary and costly future upgrades of the network.

See extracts below from this consultation:

4.4.3 Network Issues

Significant levels of network investment have occurred in Ireland since 2010. Over €1.1 billion has been spent by EirGrid and ESB Networks in upgrading and expanding the transmission system between 2010 and 2015, with further significant investment to be made between now and 2020. With such significant levels of investment by consumers in the electricity system, it is important that the most efficient use of this network capacity is made and that connection policy incentivises efficient use of the existing infrastructure.

deep network to make this capacity available. Making the best use of existing and planned network capacity, suggests that those proposed developments that make the most efficient use of the existing network should be prioritised. Indeed some generation developments may off-set the need for network investment, depending on location and system characteristics; these connections should be favoured. This may mean that existing generation sites should have access to further network capacity, where that capacity is available, at no additional cost to the consumer.

In this regard it is recommended that a number of workshops between the two Departments, CER and EirGrid would be beneficial to ensure an overall joint up policy approach to developing any strategic areas.



Responses to Specific Queries

EPI has structured its response to this consultation request to respond to the specific questions raised in Section 5 of the NPF.

Q1. What strategic energy infrastructure is needed to support the economy and society and realise the transformation of Ireland's energy system to meet climate change and energy obligations and in what areas should it be located?

Need for Renewable Energy Projects

Climate Change

At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C above pre-industrial levels. Under the agreement, Governments also agreed on the need for global emissions to peak as soon as possible, recognising that this will take longer for developing countries and to undertake rapid reductions thereafter in accordance with the best available science.

The International Panel on Climate Change (IPCC) has put forward its clear assessment that the window for action on climate change is rapidly closing and that renewable energy sources such as wind will have to grow from 30% of global electricity at present to 80% by 2050 if we are to limit global warming to below 2 degrees⁸ and in accordance with the COP 21 agreement to limit global warming to well below 2°C above pre-industrial levels. Former Minister Kelly remarked in 2015 that '*As a nation we must do everything in our power to curb our emissions*'.

In this regard the Government enacted the Climate Action and Low Carbon Development Bill 2015 which provides for the approval of plans by the Government in relation to climate change for the purpose of pursuing the transition to a low carbon, climate resilient and environmentally sustainable economy.

⁸ IPCC Fifth Assessment Synthesis Report, Intergovernmental Panel on Climate Change AR5 Report



RES Targets

The most recent Grid Capacity Statement⁹ from EirGrid estimates that up to 4.1GW of wind energy could be required to meet the 2020 40% RES E target. Furthermore, it should be pointed out that the full impact of the demand from datacentres may be underestimated in this latest report as it is understood that only the datacentres with signed connection offers have been considered in this year's capacity statement. Please note this report is due to be updated in early April by EirGrid.

The Irish Wind Energy Association (IWEA) recently commissioned a study¹⁰ which was undertaken by Callaghan Engineering and concluded that an extra approx. 1GW of electricity demand may materialise between now and 2020 due to growth in datacentre's. Many of the proposed datacentres have committed to using 100% renewable energy which will result in a further increase to demand for renewable electricity.

On the basis of the 2016 figures alone, EirGrid estimates that an additional 300MW of extra wind farms will be required each year between now and 2020 to meet the current estimated demand of between 3.8 - 4.1GW in 2020. A report from the SEAI¹¹ in April 2016 states that the average build rate of wind farms over the last 10 years has been 180MW per year, if this rate is assumed for the next 5 years then only approx. 3.3GW of wind will be built out between now and 2020 leaving an up to 800MW shortfall on the current demand forecast.

⁹http://www.eirgridgroup.com/sitefiles/library/EirGrid/Generation_Capacity_Statement_20162025_FINAL.pdf

¹⁰ <http://www.iwea.com/index.cfm?page=viewNews&id=139&cYear=2015&cMonth=10>

¹¹ https://www.seai.ie/Publications/Statistics_Publications/Energy_Modelling_Group_Publications/Ireland%20-%20Energy-Targets-Progress-Ambition-and-Impacts.pdf



The situation is compounded further by the fact that there have been a number of large projects refused planning permission recently. In fact there are now over 800MW¹² of projects which have been refused planning permission by An Bord Pleanála since May of last year.

Ireland is now in real danger of missing its 2020 RES-E target due to:

1. Recent growth in electricity demand due to the economic recovery and the increased demand from datacentres;
2. Unprecedented amounts of wind energy being required annually in order to reach the anticipated target;
3. The recent planning refusal of many large scale projects; and
4. The likely requirement for renewable electricity (RES-E) to over-perform to fill any shortfall in renewable heat (RES-H) in particular.

The 2020 40% electricity from renewable sources target has provided a particular focus for Irish Government policy and the renewables industry in recent years. However, 40% should only be considered as an interim target rather than an end in itself. The Scottish Government's ambition to generate 100% of its electricity from renewables by 2020 and Denmark's strategy to generate all heat and electricity from renewables by 2035 and all energy from renewables by 2050, points towards the likely direction ahead. In fact to achieve the ambition set out in the 2015 Energy White paper of emissions from the energy sector to be reduced by between 80% and 95%, compared to 1990 levels by 2050 the NPF will need to plan for a large increase in the deployment of renewable energy.

The NPF must therefore look beyond the immediate 2020 40% targets and towards the more ambitious 2030 requirements and beyond, in framing the need to guide and identify renewable electricity projects of scale. EU countries have agreed on a new 2030 Framework for climate and

¹² Figure assumes 3MW turbines. Projects refused planning permission include Cluddaun (150MW), Cregg (18MW), Altnagapple (39MW), Tullynageer (15MW), Arderroo (87MW), Emlagh (125MW), Glenahiry (24MW), Carrickaduff (147MW), Maighne (125MW), Ardglass (21MW), Seven Hills (47MW)



energy, including EU-wide targets and policy objectives for the period between 2020 and 2030. These targets aim to help the EU achieve a more competitive, secure and sustainable energy system and to meet its long-term 2050 greenhouse gas reductions target. The specific targets include at least a 27% share of renewable energy consumption. Looking beyond 2020, Ireland will therefore have to meet even more demanding climate change and renewable energy supply obligations in order to play its part in achieving the European climate and energy ambitions.

In addition, Ireland currently has one of the highest external dependencies on imported sources of energy, such as coal, oil and natural gas. The development of additional indigenous wind energy generating capacity will not only help to reduce carbon emissions but will also improve Ireland's security of energy supply. When drafting the NPF the Department should include the potential for onshore wind to backfill potential missed renewable heat and renewable transport targets should the expected electrification of these sectors materialise in the future by the anticipated adoption of Electric Vehicles and SMART meters.

In addition to there being a clear need for increased renewable energy in Ireland, Wind Energy can also contribute to Ireland's economy. Onshore wind energy has been determined as the cheapest form of renewable energy for electricity generation in Ireland at present by the Sustainable Energy Authority of Ireland (SEAI). This can be seen by the current support scheme for renewable energy in Ireland. According to the DCCAE website, onshore wind energy is at a significantly lower price than the other forms of renewable energy supported by the REFIT scheme.

In February 2014, SEAI in its report Renewable Energy In Ireland 2012¹³ stated that renewable electricity (mostly wind energy) in the past five years:

- has saved over €1 billion in fossil fuel imports;
- has reduced CO2 emissions by 12 million tonnes and
- has not added to consumers' bills.

13

[http://www.seai.ie/Publications/Statistics Publications/Renewable Energy in Ireland/Renewable-Energy-in-Ireland-2012.pdf](http://www.seai.ie/Publications/Statistics%20Publications/Renewable%20Energy%20in%20Ireland/Renewable-Energy-in-Ireland-2012.pdf)



In addition a cost benefit study¹⁴ conducted by international energy specialists Poyry and Cambridge Econometrics concluded that Ireland's renewable energy policy will reduce fossil fuel imports by nearly €700m by 2030, reducing CO2 emissions by 5.5million tonnes per annum. This will actually lead to an increase in household disposable income.

An IWEA member survey in 2014 indicated that 3,400 people are employed in the Wind Energy sector in Ireland. A report published in 2014 by the ESRI and Trinity College Dublin, estimated direct and indirect employment under various realistic scenarios. The report, which estimates multiple thousands of jobs depending on the scenario, shows that there will be 8,355 jobs in the sector by 2020 if Ireland meets a 4,000MW wind energy target.

In addition wind farms bring significant local benefits to the local communities such as:

- Construction jobs;
- Long term jobs;
- Lease payments to landowners in the local area;
- Commercial rates; and
- Community benefit schemes.

One particular policy that will be important in terms of the Strategic Environmental Assessment (SEA) and is not referenced in the scoping report is the current consultation that is being run by the Commission for Energy Regulation (CER) which is "*A Review of connection and grid access policy*"¹⁵.

14

https://www.google.ie/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKewibyJCskLbLAhUI6xQKHUIUC5MQFggBMAA&url=http%3A%2F%2Fwww.iwea.com%2Findex.cfm%2Fpage%2Findustryreports%3FtwfId%3D1467%26download%3Dtrue&usq=AFQjCNHtSWyRAnIIbn9INMzOohxS_b_OOQ

15

<http://www.cer.ie/docs/001060/CER%2015284%20Review%20of%20Connection%20and%20Grid%20Access%20Policy.pdf>



This consultation will determine how grid access will be made available to renewable energy projects going forward, with the current proposal being that planning permission will be a pre-requisite to achieve a grid connection and also that projects in preferred areas from a grid network point of view (i.e. in areas where the existing grid network is strong and can facilitate projects without major upgrades) could be given priority in terms of access to grid connections. This consultation should be considered in conjunction with the grid constraint identified as one of the criteria in the Environmental Baseline Data.

Further Interconnection for Ireland

One of the key goals of EU energy policy is to create a single market for electricity across all countries, and to facilitate that, the EU is pushing for increased levels of interconnection between member countries. Ireland's Energy White Paper recognises that we have limited electrical interconnection, and specifically calls for "promoting and facilitating interconnection with other countries and regions" (p209).

Element Power is developing a 500-700MW interconnector from Wales to Wexford. This project Greenlink utilises some of the 3GW grid capacity reserved originally for the Greenwire project. The project has been awarded Project of Common Interest (PCI) status by the EU, and is in receipt of Connection Europe Facility funding for development activities. The project has applied and been awarded Initial Project Assessment Status under the UK's Cap and Floor interconnector regulatory regime. The UK is seeking significant additional interconnection with its neighbours. A full cost benefit study has been completed and is being assessed by the Commission for Energy Regulation (CER) in Ireland. We expect a policy decision in Ireland by end of 2017, with the Greenlink project permitted by 2018 and in operation by around 2022. The project brings significant savings to consumers in both UK and Ireland through increased competition in the energy market, sharing of system services such as reserve, and sharing of capacity with this bringing increased security of supply for both GB and Ireland.



Ireland already has two interconnectors, Moyle from NI to Scotland and EWIC from Dublin to Liverpool. However strong economic growth has pushed up demand and these interconnectors are now congested at critical times. Both interconnectors have also had operational difficulties and low availability. The Greenlink project will in almost all respects mirror those projects, and traders will be free to use any or all of the interconnectors whenever there is a difference in price between the two markets. It is not specifically designed to carry wind, but of course given that there is significant amounts of wind in both GB and Ireland, the link will carry some wind power, and in both directions, as the wind tends to blow at different times in Great Britain (and in particular offshore in the north sea) compared to the west of Ireland. It does not create a route to export power from any particular projects such as Element Power's Greenwire project, but it does help manage the intermittent nature of renewable generation (wind and in the future solar and marine) on the power system, and should be seen as a coherent part of an overall energy policy.

Q2. An SEA scoping document has been developed in tandem with this paper. What are the relevant significant issues to be addressed by the SEA, AA and SFRA and what environmental objectives should be used?

EPI agrees with the baseline data sources mentioned in the SEA that is appended to the NPF. The hierarchy of these constraints will be important when selecting areas for future development as there are likely to be very few areas that satisfy all of the constraints mentioned in the SEA.

Ireland has experienced significant growth in wind farm development in Ireland over the last decade, in particular to the west, south west and North West of the country. The reason for locating wind farms in these areas was largely driven by the need for wind farms to be developed in high wind speed sites. However, the level of development in some of these areas is now leading to significant cumulative impacts (as referenced in **sections 5 and 7** of the SEA) that reduces the capacity these areas have for future wind farms. In addition the majority of the environmentally sensitive areas (NHA's, SAC, SPA's etc.) are located along the west, south west and North West of the country and the



Habitats Directive has limited development in or near these areas which is evidenced through the recent refusals of the Cluddaun, Arrderroo and Carrickaduff Wind Farm projects.

Moreover, there is now a lack of sufficient existing grid capacity to connect wind generated electricity to the national grid, with the exception of the east of the country, see below map of electricity network from EirGrid.

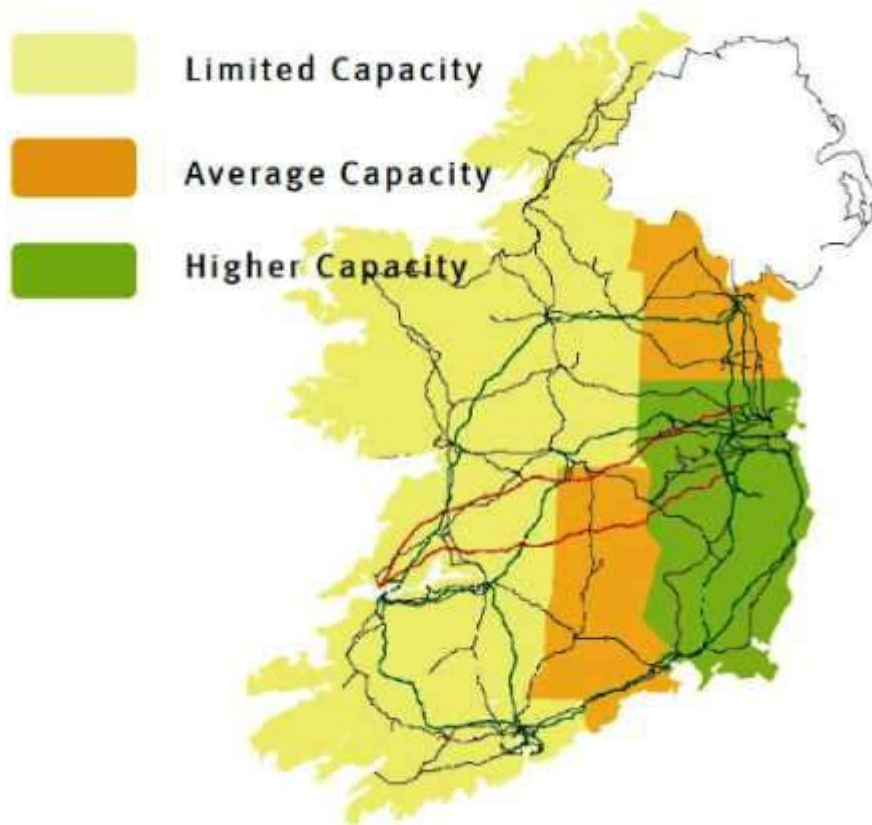


Figure 1: EirGrid Map of Potential Opportunities post Gate 3 Grid Connections (Source EirGrid 2012 10 year transmission statement)



In summary, wind farm development in the large parts of the southwest, west and northwest of Ireland has become severely constrained and restricted by the following key factors:

1. Significant cumulative impacts from existing wind farm developments.
2. A large portion of these areas being restricted for development due to environmental designations as demonstrated by the maps in the Scoping Report.
3. The distance from these areas to parts of the Irish electrical grid which have the capacity to take the electricity generated by wind turbines.

On this basis it appears that one of the most suitable regions in Ireland for future wind development are areas to the east and midlands of Ireland.

[Further advantages To Developing in midlands and East of Ireland](#)

In addition to the above, there are some other advantages with locating wind farm projects in the east and midlands of Ireland, in that the electricity generated from these projects is closer to large demand centres such as Dublin which will mean less requirement for the upgrade of the grid infrastructure and less electricity will be lost in transmitting the power generated to the point where the power is consumed.

As pointed out in the introduction to this paper, it should also be noted that the grid access regime for renewable projects is currently under review for future projects. The current proposal in this consultation being run by the CER is that projects that make efficient use of existing network could be prioritised over projects that do not, i.e. projects in locations where the grid network has existing capacity will be prioritised. In this regard EPI believe that this SEA should give consideration to the existing grid network infrastructure and specifically areas where the existing infrastructure can accommodate large scale renewables when choosing areas as being appropriate for large scale renewable development. The reasons for this are that the type and length of any grid connection for a project will be a key part of the Environmental Impact Assessment (EIA) for any project and if a



project will trigger large scale deep reinforcements of the grid network this should be considered when determining an area as suitable for development.

Another advantage to developing projects in the midlands and East of Ireland is that the road infrastructure in these areas is generally good with most areas accessible by motorway and National primary routes. This is in contrast to areas closer to the west coast where more often than not road upgrades are required to facilitate the transport of turbine components, and construction traffic has much greater potential of causing local effects.

[Perceived Issues to Developing in the midlands](#)

There are perceived issues with wind farm development in the midlands and east of Ireland such as the lack of suitability of these areas due to low wind speeds. With the significant improvements in turbine technology over the last decade, turbines can now be economically viable in areas with lower wind speeds. In fact the majority of the major wind development regions like Germany and other central European countries and North America (where larger turbines of up to 200m tip heights are considered common place) would consider the lower wind speed areas in Ireland's midlands as high wind speeds given their wind profiles. As such the advances in turbine technology has allowed the development of wind farms in the midlands and east of Ireland.

The first examples of wind farms in flat and more low lying areas are the Lisheen Mines Wind Farm (Co Tipperary) constructed in 2009, the Mount Lucas Wind Farm (Co Offaly) and Monaincha Wind Farm (Co. Tipperary). EPI developed the Monaincha Wind Farm in 2014.

It should be noted that in order to maximise the wind energy generated from these (and other sites) and to make these areas commercially viable larger tip heights of greater than 150m (similar to what has been consented in Monaincha, Mount Lucas and the permitted Yellow River Wind Farms) will be required. A lot of the smaller scale turbines are now becoming obsolete with most turbine suppliers only supplying larger turbines due to the increased efficiency of these turbines.

A key point to note in this regard is that larger turbines are not noisier turbines, in fact most of the large scale turbine providers are reducing noise outputs in their more modern technologies.



Two key advantages of turbines with larger rotor diameters are:

1. If larger rotor diameters are permitted then less turbines will be required to generate an equivalent amount of power. In order to generate the existing 2.4GW of installed wind energy there are approx. 2,000 turbines deployed onshore today in Ireland. The remaining approx. 1.7GW could be produced by approx. 500 turbines with rotor diameters of 130m which means a considerably smaller overall environmental impact.
2. Increased energy capture and therefore more economical power production than smaller rotor diameters, which means cheaper energy bills for consumers. This is especially true in the midlands with larger rotor diameters able to maximise yield from sites that would have traditionally been considered to have lower wind speeds. It is accepted that larger rotor diameter turbines of up to 130m may not be feasible from a planning and wind assessment point of view on more mountainous or high wind sites.

Turbine Setback Distance

As already stated in the introduction to this response, liaison with the DCCAE when preparing the NPF will be very important especially considering that the results from the review of the 2006 Wind Energy Development Guidelines are likely to have been published in advance of finalising the NPF.

EPI agrees that areas of low population density should be identified and used as one of the key constraints for development of renewable projects as part of the SEA. As part of this exercise, it should be noted that even wind farms that were traditionally built in more remote areas, have always been built in proximity to dwellings (in many cases even less than 500m from houses) due to the dispersed nature of housing settlement in Ireland. Specific consideration and awareness of historic settlement patterns in Ireland will be important to bear in mind. The nature of rural ribbon development will be a key factor when assessing areas of low population density. The application of setbacks or buffers of greater than 500m from wind turbines to dwellings will lead to the largescale sterilisation of land for wind farm development when taken in conjunction with the other proposed setbacks from environmentally sensitive areas. Historic settlement patterns in Ireland have resulted in much dispersed housing throughout Ireland and any increase to the current setback of 500m would have implications for Ireland's ability to meet its targets in a cost effective way. NUI Maynooth has carried out studies which shows that a 1km setback from dwellings would mean only 9.4% of the country



would be viable for consideration for wind turbines. This study did not factor in the environmentally unsuitable areas or areas where wind farms are already built, so when these areas are added this number would decrease much further.

In addition an increase in the setback is not considered necessary when an analysis of the previous approx. 220 wind farms in Ireland is conducted. It is apparent that very few complaints materialise once wind farms become operational, and aspects such as noise and shadow flicker levels are managed to the specified limits in accordance with best practice guidelines. An internal assessment by EPI based on An Post geo-directory of all residential address's in Ireland, mapping information suggests there are over 7,000 people currently living within 1km of wind turbines. It is important to note that noise and shadow flicker from all turbines can be controlled and set to pre-approved levels to limit the exposure of nearby dwellings.

Furthermore it should be noted that locating turbines at a distance of 500m to houses is not restricted to Ireland, in fact it is common in the UK & other European countries particularly in Northern Europe (Germany, France, Sweden) where the 500m distance is generally the requirement. This can be verified by reviewing the study by the Minnesota Department of Commerce who undertook an international review of Policies and Recommendations¹⁶ for Wind Turbine Setbacks from Residences.

Many critics of wind farms have suggested that turbines were much smaller in 2006 when the wind energy guidelines were drafted. This isn't accurate as turbines up to 125m in height were being permitted since as far back as 2003¹⁷ and the guidelines did envisage turbines of greater than 100m hub height (see section 3.5 of the Wind Energy Development Guidelines) and turbines of 140m tip

¹⁶

http://mn.gov/commerce/energyfacilities/documents/International_Review_of_Wind_Policies_and_Recommendations.pdf

¹⁷ [Planning references 03/2176, 03/2306, 03/2508 in Co. Kerry.](#)



heights were being applied for before the guidelines were issued¹⁸. The current 500m setback is not a mandatory setback, rather it is a distance at which sound limits are likely to be met. Crucially it should be noted that larger wind turbines are not louder and do not require a bigger setback to meet noise limits.

Q3. What measures should be implemented in order to safeguard our landscapes, seascapes and heritage and ensure that Ireland continues to be an attractive place to live, visit and work?

The method of assessment of all constraints mentioned in the SEA under each category will be important as will the level of impact deemed acceptable for each. In this respect, rather than imposing blanket setback distances from areas of high scenic amenity or cultural heritage value it is strongly recommended that site specific consideration should be given to each individual amenity area / heritage site that is intended to be protected. The assessment of impacts on the setting of features is important in this regard, as simple metrics such as potential visibility of a development from a feature being determined as having a negative impact is not sufficient or an appropriate metric to determine potential impacts on a specific feature.

In this regard it should be noted that there are a number of different heritage sites around Ireland (and the world) with modern developments (including renewable energy projects) already visible. There are many examples in Ireland where modern developments are visible from sensitive heritage features, these include: the Rock of Cashel in Co. Tipperary which is on the tentative UNESCO WHS list where over 7 wind farm developments either permitted or constructed are or will be clearly visible at distances ranging from approx. 16km to approx. 22km away (see picture below), the Cliffs of Moher where the 29 turbines from the permitted Slievecallan Wind Farm will be visible approx. 17km away and, the Burren where turbines from the constructed Derrybrien Wind Farm are visible at a distance of approx. 25km.

¹⁸ [Planning reference 6510773](#) in Co. Laois



Figure 2: Wind Farms visible from the Rock of Cashel

In summary, because a certain development may be visible from a particular feature doesn't automatically mean that the development will have a significant negative impact and would not be appropriate.

In relation to landscape and visibility aspect of the SEA, EPI would encourage the Department to consider recent trends in other European countries where turbine dimensions have been increasing. Specifically larger rotors on turbines allow for much more efficient energy capture on lower wind speed sites, as has been demonstrated in Germany, Holland and Denmark. As stated previously larger turbine dimensions will allow wind energy to become even more economical than what it is today as the turbines will capture more wind energy and have a higher rated power which will also mean less turbines will be required.



Conclusion

EPI is encouraged by this step by the Department to put in place a National Planning Framework as an update to the National Spatial Strategy.

EPI encourages the Department to adhere to and achieve its projected timeline for implementing this plan. EPI believes that the NPF must provide a consistent overarching policy, irrespective of Local Authority boundaries, which addresses current inconsistencies across adjoining Local Authority areas. EPI recommends that the NPF could set the high-level policy for identifying such Strategic Energy Zones and that the detail in terms of actually identifying such zones could be managed at a regional level to help ensure consistency across the country. EPI understands that the regional planning policies are currently being reviewed in tandem with this consultation on the NPF and as such it could be an opportune time to put such a structure in place.

In addition EPI recommends that:

- The proposed Framework should overarch all Local and Regional planning policy documents to successfully deliver renewable electricity projects and to allow the full potential of Ireland's renewable energy resources to be harnessed.
- Strategic areas highlighted for renewable electricity generation of scale must be incorporated into future revisions of Regional Guidelines, Local Authority development plans and Renewable Energy Strategies.
- All suitable, strategic areas should be identified in the Framework so as to not limit renewable electricity opportunities from the outset, without inferring that any areas not identified are unsuitable for wind farm development.
- Consistent Frameworks and Guidelines are put in place for Renewable electricity projects of large scale as projects can be many years in pre-planning and planning stages, and we need to ensure that projects can be delivered to meet the country's needs.



- Interdepartmental consultation for the successful implementation of the National Planning Framework.