



Your Grid, Your Views, Your Tomorrow.

Responding to
Tourism Concerns



EIRGRID

The current. The future.

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Executive Summary

Feedback received by EirGrid during public consultations on its major projects in 2013 identified a number of areas of particular concern. In response, in January 2014 EirGrid announced a number of initiatives to address these concerns. This included a commitment to **“Comprehensively address major issues arising such as tourism, agriculture and equine concerns”**.

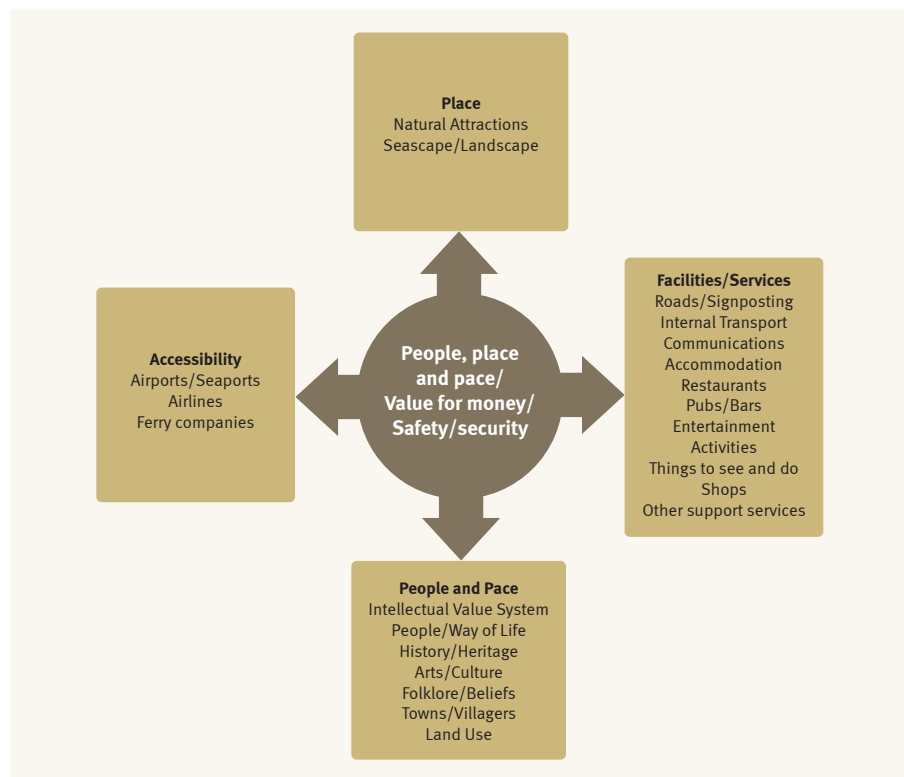
EirGrid in its role as the state-owned operator and developer of the national grid recognises the importance of tourism to the Irish economy. We look forward to working with tourism-related agencies and bodies as we seek to deliver the network necessary to help secure Ireland’s energy needs now, and for future generations.

In order to carry out this review we looked at our existing approach, international best practice, and we consulted with Fáilte Ireland and the Department of Transport, Tourism and Sport.

Tourism is defined as the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes. This includes both domestic and international visitors.

The Draft *National Tourism Policy for Ireland* published by the Department of Transport, Tourism and Sport in July 2014 estimates that total tourism revenue in 2013 was around €5.7 billion. Overall employment in tourism is estimated to be approximately 200,000 persons.

A tourist’s experience of Ireland must be understood as the complete experience from beginning to end of the visit. This has a number of inter-related elements.





Understanding of the Irish tourism experience is of particular importance in undertaking grid development. Key to rural tourism (the focus for this Review, given that grid development generally occurs within rural rather than urban areas) is Ireland's generally open landscape. Ireland's *Beautiful Scenery* and *Natural, Unspoilt Environment* are repeatedly identified by visitors as being criteria which score highly in terms of satisfaction rating.

Public and stakeholder feedback in respect of tourism can be expressed as two key issues:-

- Tourism is clearly associated with the natural environment and landscape;
- There is the potential for grid development to impact on the existing (or future) wider tourism experience of an area, not just the specific place or site that constitutes the tourism attraction;

These key issues reflect the findings of International literature regarding the potential impacts of grid development on tourism, which generally concludes that the issue of tourism is fundamentally bound to the quality of the natural environment.

The concern arises that any disturbance to the natural environment, or even the perceived "naturalness" of the environment, risks an impact upon rural tourism. EirGrid accepts the concerns raised regarding tourism in public and stakeholder feedback, and is committed to delivering a revised and enhanced approach to addressing tourism in the development of EirGrid's major grid projects.

Protecting and conserving the quality, character and distinctiveness of the Irish landscape, and the key assets and settings of tourism destinations, will also have a positive knock-on effect for local providers such as hotels, guest houses and other services.

Arising from public and stakeholder feedback, and from the wider International experiences of considering tourism in grid development, three key themes emerge in this Review:-

- Tourism comprises both specific tourism destinations and associated activities, businesses, etc. which are linked to those destinations;
- Tourism is influenced by a variety of environmental topics, in particular landscape as well as people and buildings, and natural and cultural heritage.
- Tourism, including its environmental features, must be considered and assessed appropriately in considering the design and routing of grid infrastructure.

EirGrid has identified a number of commitments for how it will address tourism in the development of its transmission infrastructure projects going forward. The essential change is that there will now be a greater and specific focus on identifying and ranking the rural landscape against other environmental criteria, as well as exploring how that landscape influences tourism in an area.

This Review provides the starting point for the development of an enhanced approach to consideration of tourism issues in the development of grid projects. We intend that this will occur in consultation and partnership with key stakeholders and experts, particularly in the areas of tourism development, landscape, built and natural heritage etc.



Commitments

1. A new approach to evaluating landscape

The tourism potential of an area is generally linked to the quality of its landscape. EirGrid will develop a clear, uniform, approach to evaluating the different landscapes in a project area. This will include identifying the most sensitive landscapes, scenic views and tourist amenities and evaluating them all in a consistent way.

2. Give appropriate consideration to landscape when identifying and evaluating project options

EirGrid will ensure that the identified landscape of an area or region will be appropriately compared with other environmental (and technical) factors when evaluating project options.

3. Identify the nature of tourism in the project area

EirGrid will identify the “tourism experience” of an area or region. This will inform a robust examination of a proposed grid development project on tourism.

4. Consider cumulative/in-combination impact on tourism

A proposed project can have a greater impact on the landscape because there is already a substantial amount of other infrastructure present or planned for the area. EirGrid will examine the potential effect of this on the environmental, heritage and cultural features of an area that contributes to tourism.

5. Consider short-term and long-term impacts of grid development on tourism

EirGrid will consider the potential impact on tourism in an area from the construction and operation of planned grid development. This is particularly important given that most tourist visits are short in duration.





1. Introduction and Context

Feedback received by EirGrid during public consultations on its major projects in 2013 identified a number of areas of particular concern to the public. In response, in January 2014 EirGrid announced a number of initiatives to address these concerns. This included a commitment to **“Comprehensively address major issues arising such as tourism, agriculture and equine concerns”**.

EirGrid recognises the critical nature of the tourism industry to our economy. In particular, we acknowledge that rural communities have concerns about the potential for electricity transmission infrastructure to undermine their past work and future plans to attract visitors.

This report is EirGrid’s response to the commitment made in January 2014 to comprehensively address the major issues arising with regard to tourism from the submissions received in response to consultations on the major projects.

Both EirGrid and ESB play a role in the development and operation of electricity transmission infrastructure. It is worth setting out the respective roles of EirGrid and ESB in order to understand the different responsibilities, and how we work together.

EirGrid plc is a state-owned commercial company with full responsibility for the Transmission System Operator (TSO) and Market Operator (MO) functions. EirGrid’s role is to operate and ensure the maintenance of and, if necessary, develop a safe, secure, reliable, economical, and efficient electricity transmission system and to explore and develop opportunities for interconnection of its system with other systems, in all cases with a view to ensuring that all reasonable demands for electricity are met and having due regard for the environment. EirGrid is also tasked with implementing aspects of Government energy policy. Our long-term strategy - Grid25 - is our plan to meet these responsibilities in the Republic of Ireland.

The ESB (Electricity Supply Board) is the licensed Transmission Asset Owner (TAO), with responsibility for the management of capital work programmes related to transmission. This includes the construction of new high voltage substations, and their associated overhead lines and underground cables. Their responsibility also involves responding to network faults and carrying out planned maintenance and refurbishment on these assets.

This report is a review of how we, as a company, approach tourism when planning our transmission development projects. It also outlines how we will change this approach.

The first section of this review outlines EirGrid’s approach to tourism up to now. It summarises feedback on issues regarding tourism received during consultation on our major grid development projects.

The second section examines international best practice with respect to considering tourism in the development of electricity transmission infrastructure development.

The final section makes a number of commitments designed to enhance our approach to tourism when developing grid projects.

The review should be understood as the starting point for this new approach. The detail of how we implement these commitments needs to be worked out in the coming months, in consultation with the key bodies and agencies associated with tourism development.



2. Defining Tourism and the Tourism Experience

What is Tourism and who are Tourists?

The tourist industry is one of Ireland's economic success stories. The Draft *National Tourism Policy for Ireland*¹, published by the Department of Transport, Tourism and Sport in July 2014, estimates that total tourism revenue for the economy in 2013 was around €5.7 billion.

It is one of the country's top sources of employment with the Draft Policy document confirming that the tourism sector supports 137,000 jobs in the accommodation and food sector alone, and overall employment in tourism is estimated to be in the region of 200,000 persons.

Defining Tourism

The United Nations and World Tourism Organisation (UNWTO) defines tourism as:- “the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes”².

The recent Position Paper of the Irish Tourist Industry Confederation (ITIC) – *Protecting the Irish Environment and Landscape*³ (p.2) says, “Tourism is all about exploring and experiencing places or destinations away from home”.

Ireland's Tourism - “the complete experience”

Ireland has invested heavily in its tourism sector.

Nationally, the Department of Transport, Tourism and Sport is responsible for fostering and developing the sector.

Data from the Central Statistics Office for 2013 show that, while overall visits to Ireland in 2013 rose by 7.2% (6.98 million trips), core tourism visits grew strongly: Holiday trips increased by 8% and business trips by 5.1%.

Similarly, visits to friends and relatives in Ireland rose by 10.8%, while spending by visitors to Ireland also increased. In total, tourism and travel earnings from overseas visitors grew by 9.4% to €4.12 billion in 2013.

1 Department of Transport, Tourism and Sport (DTTS) *A National Tourism Policy for Ireland*, (Draft), July 2014, available at <http://www.dttas.ie/sites/default/files/content/tourism/english/general/tourism-policy-review-2013/2014/draft-tourism-policy-statement-2014.pdf>

2 UNWTO *technical manual: Collection of Tourism Expenditure Statistics*. UN World Tourism Organization, 1995, available at <http://pub.unwto.org/WebRoot/Store/Shops/Infoshop/Products/1034/1034-1.pdf>

3 ITIC *Protecting the Irish Environment and Landscape: A Critical Issue for Irish Tourism* – Position Paper, August 2014, available at http://www.itic.ie/fileadmin/docs/ITIC_Environment_Report_August_14.pdf



According to the Department's website, the Department's Tourism Division sets national tourism policy, providing the strategic direction required to support the growth of a competitive and sustainable tourism industry. It does this through the development, implementation and influencing of a range of policy actions and programmes. This work is done by the Department, its agencies and other Government departments, in consultation with industry partners.

A number of tourism agencies, operating under the aegis of the Department, have been established to deal with the administration of that policy.

Fáilte Ireland was established under the National Tourism Development Authority Act 2003. This followed the amalgamation of Bord Fáilte Éireann and CERT - this new entity was founded to encourage, promote and support tourism as a leading indigenous component of the Irish economy.

Tourism Ireland was formally incorporated on 11 December 2000 following the designation of tourism as an area for cooperation under the Good Friday Agreement (1998). Its remit is to carry out overseas promotion of tourism for the island of Ireland.

Local authorities and community initiatives across Ireland also invest enormous effort and resources into developing and supporting tourist attractions and amenities, particularly in the area of activity holidays such as hillwalking, fishing, water sports and cycling.

Groups such as Leader companies, Tidy Towns, regional authorities etc. also make a huge contribution.

The Organisation for Economic Co-operation and Development's (OECD) report "*National Tourism Policy Review of Ireland*" (June 2004), refers to tourism as "*the complete experience of the tourist from time of departure from home to the time of return*".

Hence, a tourist's experience of Ireland can be understood as an experience from beginning to end, and not simply as a series of visits to tourist attractions.

This "experience" incorporates a number of inter-related elements, as captured in Figure 3 of the Report, (reproduced over as Figure 1).

4 OECD "*National Tourism Policy Review of Ireland*," June 2004, "*Figure 3. The Irish Tourism Experience*", available at <http://www.oecd.org/ireland/33648366.pdf>





Figure 1: The Irish Tourism Experience (reproduced from Figure 3 of *National Tourism Policy Review of Ireland*, June 2004).

Tourism attractions comprise features and activities in both rural and urban locations. Given the context of overhead line grid development - primarily located in rural areas – this review will only consider the rural aspect of the Irish tourism experience.

Ireland's generally open landscape is repeatedly identified by visitors as being one of the country's outstanding features, expressed in terms of "*natural, unspoilt environment*" and "*beautiful scenery*" (see Table 1 and Figure 2 below). Landscape⁵ is considered the critical focus for rural tourism (the visitor destination) with accommodation and other activities being linked to and dependent upon this asset.

As identified in the OCED Report (2004), between 1999 and 2002, a number of factors emerged from Fáilte Ireland's Visitor Attitudes Surveys as being important to people choosing to holiday in Ireland. This is summarised in Table 9 of the Report, reproduced at Table 1 below.

⁵ "Landscape" is defined in the European Landscape Convention (2000) as, "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors".





	Very Important	Rating - % Very Satisfied			
		1999	2000	2001	2001
Friendly, hospitable people	87	88	89	88	90
Beautiful scenery	86	89	89	89	91
Memorable experience	82	82	83	84	82
Natural, unspoilt environment	81	77	79	79	83
Safe and secure	77	77	78	79	80
Easy, relaxed pace	74	83	82	82	82
Suitable for touring	66	72	73	73	71
Attractive cities/towns	64	62	66	64	65
Overall Satisfaction Rating	–	91	94	94	93

Source: Fáilte Ireland, Visitor Attitudes Surveys

Table 1: Important Factors when Choosing to Holiday in Ireland and Satisfaction Ratings (reproduced from Table 9 of National Tourism Policy Review of Ireland,” June 2004).

The results of the surveys carried out between 1999 and 2002 can be compared with the reasons that visitors cited for choosing Ireland as a tourism destination in 2013, as set out at Figure 1 of the 2014 ITIC Position Paper, (reproduced as Figure 2 below). This shows that “reasons to visit” has varied little in the ten years between the publication of these two reports. This suggests a very stable Irish tourism product.

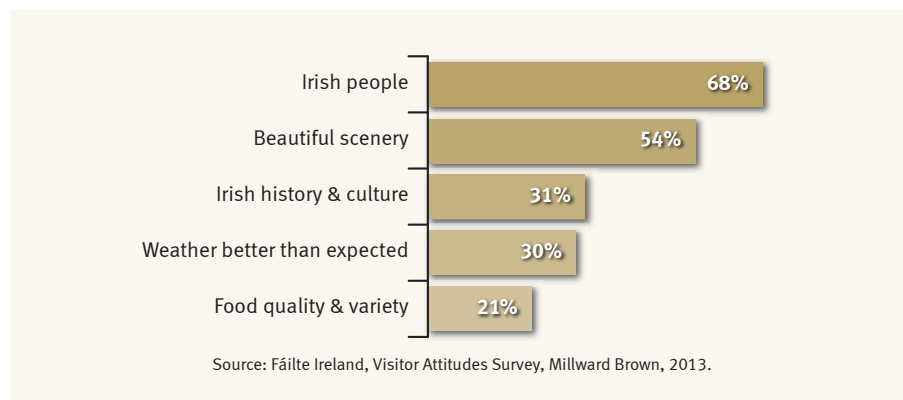


Figure 2: Reasons why Ireland Exceeded Overseas Tourist's Expectations (reproduced from Figure 1 of ITIC Position Paper, August 2014).

A clear understanding of Irish tourism is beneficial when considering the current programme of grid development, under EirGrid's Grid25 strategy which is the plan to develop and upgrade the electricity transmission network from now until 2025. This major initiative will put in place a safe, secure and affordable electricity supply throughout Ireland.

As confirmed in Table 1, criteria such as *Beautiful Scenery* and *Natural, Unspoilt Environment* scored highly in terms of satisfaction rating between 1999 and 2002.



The research that underpinned the findings of these reports was conducted in the context of existing grid infrastructure in the Irish landscape. There are currently almost 6,400 kilometres of overhead transmission lines crossing every county in the state, including almost 440 kilometres of 400 kV overhead lines.

It is important to note that satisfaction ratings for these various visitor attitudes studies are based only on measurable facts: The tourism experience is also likely to be influenced by how a tourist perceives a place.

For example, a particular rural environment might include historic demesnes and landscapes, housing, farmyards and other infrastructure – including transmission infrastructure – without interfering with the tourist's enjoyment of the scenery, or the perception of a “*natural, unspoilt environment*”.

This is reflected in the ITIC Position Paper (August 2014). It notes (p.1) that “*It is, perhaps, a truism of tourism that the appearance of a place – its presentation and scenic qualities – strongly influences how it is perceived by tourists*”.

The ITIC Position Paper focuses on threats to the environment and landscape quality that could impact on such enjoyment/perception, and therefore Ireland's national brand imagery. Threats to the environment and landscape quality, which in turn have potential to impact on tourism, are the focus of the commitments arising from this review.

The issue of visitor expectation, enjoyment, and its link to environment and landscape quality is also addressed in the DTTS Draft Policy document; Section 1.2 Protecting Key Tourism Assets notes that:-

“Visitors who travel to Ireland do so with certain expectations... Meeting and exceeding the expectations of visitors in this area is critical to our future success as a destination. The quality of our natural scenery, the qualities of physical heritage, and the range of activities for visitors, are areas in which the State has a key role to play, through preservation of that which is irreplaceable and the development of that which enhances the visitors overall experience”.

The Draft Policy document concludes, “*Development of public infrastructure and private construction activity should be carried out with as much sympathy as possible for the natural landscape, as well as with regard for the value of built heritage. Effective conservation of key natural and built heritage is essential for continued growth in tourism*”.

Protecting and conserving the quality, character and distinctiveness of the Irish landscape, and the settings of tourism destinations, will also have a positive knock-on effect for local providers such as hotels, guesthouses and other services.

It is noteworthy that the recently published Planning Policy Statement 2015 from the Department of Environment, Community and Local Government includes a key principle (number eight) that, “Planning will conserve and enhance the right qualities of natural and cultural heritage of Ireland... so that these intrinsic qualities of our country can be enjoyed... for this and future generations”.⁶

⁶ Department of Environment, Community and Local Government Planning Policy Statement (2015): <http://www.environ.ie/en/PublicationsDocuments/FileDownload,39991,en.pdf>





3. EirGrid's Approach to Tourism in Project Development

Until recently, EirGrid's approach to the development of its major grid projects followed a structured framework. This progressed from the initial design of the project, through statutory consenting, to construction and finally to energisation.

The process included provision for on-going consultation and engagement with stakeholders and the general public, including directly affected landowners.

However, it did not generally examine the impact of a project on the tourist attractions and features of an area – “the complete experience”, as discussed in Section 2 above.

In December 2014, EirGrid announced a number of commitments for reviewing and improving our public consultation process. One such commitment is to develop a new approach to consultation, and the steps in delivering major projects. This will include defining and explaining the opportunities for the public and other stakeholders to participate in the development of a project, including agreeing the need, and identifying technology and other options. This revised approach will therefore explain the transmission technology options we are considering, and will allow us to seek to learn from local knowledge and specific expertise.

This new approach will ensure that matters such as tourism and the evaluation of landscapes are appropriately addressed in collaboration with key stakeholders and specialists, as we develop our major grid projects. It is envisaged that the project development process will include face-to-face meetings with key stakeholders, to discuss both project-specific, and wider strategic issues. Key stakeholders include Fáilte Ireland - the National Tourism Development Authority, and the Department of Transport, Tourism and Sport.

EirGrid will continue to obtain baseline information from official sources, such as scenic landscape designations, which are sourced from the County Development Plans and other publicly available datasets. However, we recognise the quality of this information can vary, as there is currently no standardised national framework for recording and quantifying this information.

For example, there is currently no agreed methodology across all of the local authorities for evaluating the scenic value of landscapes. However, there is a common approach to undertaking Landscape Character Assessments (LCA)⁷ and identifying associated sensitivities at county level. Even there, though, there is limited inter-county co-operation.

A National Landscape Strategy, currently being prepared by the Department of Arts, Heritage and the Gaeltacht (DAHG), will ensure a uniform and independent approach to the identification and classification of different types and character of landscapes.

⁷ Landscape Character Assessment (LCA) is a process which describes and classifies landscapes in terms of their character, value, sensitivity and capacity.



4. Review of Public Submissions Concerning Tourism

In the development of its grid projects, as outlined in the previous section, we undertake non-statutory consultation with key stakeholders and the general public. Public and stakeholder feedback is critical, shaping the development of projects, and decisions we make.

We received a considerable number of public and stakeholder submissions in respect of our major projects, in particular the North-South Interconnector, Grid Link and Grid West.

While underground options were considered for the North-South Interconnector, and are being considered for both the Grid Link and Grid West projects, to date they have primarily been presented to the public as 400 kV overhead lines, requiring large lattice steel support structures (pylons).

This section summarises public and stakeholder feedback in respect of tourism that EirGrid received for these projects.

Project specific feedback is separately considered by the relevant project team, and is documented and addressed accordingly. For the purpose of this review, the public and stakeholder feedback concerning tourism has been summarised below into a number of key issues:

- Beautiful scenery is one of the main competitive tourist advantages of Ireland. Development will visually impact on areas of outstanding natural beauty, mountain scenery, important heritage sites and, as a consequence, key tourist destinations;
- Request for substantial annual funding for tourist entities if overhead line (OHL) is built;
- Route of underground cables (UGC) could become 'greenway' cycle tracks;
- Negative visual (and other environmental) impact on inland fishery areas;
- Need for protection of 'everyday landscapes', not just areas of outstanding natural beauty. Suggestion that Ireland is in breach of the European Landscape Convention;
- Will put at risk the considerable resources that have been invested in marketing county and regional tourism products;
- Agri-tourism will be destroyed by pylons;
- Pylons destroy the setting and commercial attraction of golf courses and other sporting and leisure activities (e.g. fishing, kite-surfing), with impact on local businesses;





- Potential impact of overhead line development on the strength of region to attract tourism.
- No cost benefit analysis undertaken on impact on tourism - impact on hotels, B&Bs, pubs, restaurants and other local businesses etc.;

At a strategic level, feedback in respect of tourism can be expressed as two key issues:-

- **Tourism is clearly associated with the natural environment and landscape;**
- **There is the potential for grid development to impact on the existing (or future) tourism experience of an area, not just the specific place or site that constitutes the tourism attraction;**

Particular attention was paid to a submission from Fáilte Ireland in respect of the Stage One Report for the Grid Link project. The submission is summarised below:-

- Tourism is a key export sector with capacity to generate overseas earnings and create jobs at home;
- Fáilte Ireland advocates for sensitive development of the landscape, and protection of key tourism assets and amenities in the context of development;
- Landscape is a cornerstone of international tourism marketing campaigns;
- Core Tourism Assets are identified as Natural heritage, Built heritage, and Cultural heritage;
- The South and East of Ireland are linked in terms of landscape and tourism by a common topography of pastoral lands, rolling hills, soft coastline, river valleys, as well as a common theme of built, natural and cultural heritage;
- Tourism development initiatives have been initiated to showcase this area, including the Boyne Valley, Dublin City, the Kilkenny Medieval Mile, the Waterford Viking Trail, the Kildare/Wicklow Grand tour, Cork City and Harbour, and the River Barrow Corridor;
- The significance of landscape and visual factors was underestimated in the Stage One Report. The Holford Rules⁸ (established principles for design and routing of overhead electricity lines) are notable for the omission of landscape aspects amongst highest rated criteria; This had the effect of underestimating the significance of landscape and visual factors;
- Tourism factors and associated weightings are insufficiently developed, and thus potential impacts on tourism have not yet been assessed. Further data collection, analysis and evaluation is required;
- Landscape is the primary asset for tourism. Location and setting comprise the core of Ireland's tourism assets;
- Tourism products should be considered in terms of the wider attending landscape resource; they should not be regarded as point specific;

⁸ The Holford Rules are available online at <http://www.nationalgrid.com/NR/rdonlyres/E9E1520A-EB09-4AD7-840B-A114A84677E7/41421/HolfordRules1.pdf>





- Tourism elements that are not considered in the Grid Link project development to date include promoted aspects, as well as matters of general amenity and recreation resources, including trail heads, loop walks, ‘open forests’, picnic areas, golf courses, open farms, etc.;
- Construction-related impacts on tourism should be considered in the corridor decision- making process.

The feedback arising in the Fáilte Ireland submission reflects, and expands upon, that received in submissions from the general public and other stakeholders.

In subsequent engagement between EirGrid and Fáilte Ireland it was confirmed that the same issues arise in respect of our other major grid projects.

The Fáilte Ireland submission makes nine recommendations, summarised below:-

- Carry out an objective overview of landscape character assessment across the study area, including examining the inter-relationship and inter-dependency with human beings, landscape, cultural heritage, natural heritage, etc.
- Consider landscape resource in its broadest sense, in terms of impact on the region’s overall tourism brand;
- Take account of the extent of a ‘landscape unit’ as it applies to landscape and tourist features, e.g. river corridors, walks, scenic drives, designed landscapes, tourist facilities etc. This is particularly important, given the dispersed nature of tourism amenities, and the concept of ‘borrowed landscape’;
- Address the impact on the experiential, physical, and visual qualities of landscape, as it acts as a primary tourist asset;
- Take account of the ‘viewshed’⁹ as it applies to ‘views and prospects’;
- Prepare ‘zones of visual influence’, based on the centrelines of corridors to assess impact on tourism assets;
- Take account of likely cumulative effects of the proposed development with other existing and planned infrastructure including existing transmission lines, wind farms etc.;
- Constraints and route selection should take account of the medium and long-term impacts of construction, including removal of trees and woodlands;
- If the emerging preferred route is close to the boundary of the study area, the impacts will extend beyond the boundary of the study area and must be addressed.

The high volume of submissions on tourism, and in particular the technical submission from Fáilte Ireland, reflects the importance of tourism to those working in the industry and to the wider public.

Certain tourism feedback received from public and stakeholders related to matters that we consider better addressed by EirGrid’s approach to Environmental Impact Assessment (EIA).

⁹ “Viewshed” is defined as an area of land, water, or other environmental element that is visible to the human eye from a fixed vantage point.





5. International Review of Tourism Issues in Infrastructure Project Development

This section of the report presents a review of the literature in terms of potential impacts on tourism in other countries. The literature base for this topic is limited and much of the available literature comes from the UK where the assessment of renewable energy projects and associated grid infrastructure is advancing.

In most western industrial democracies, the most significant and observable public response to the development and building of high voltage transmission lines is opposition (Furby et al. 1988, Gerlach, 2004¹⁰). One of the main reasons cited in public opposition is the visual impact of transmission infrastructure on the landscape. This is typically due to concerns about reduction in scenic quality that could negatively impact on tourism and, indeed, general amenity.

Examination of the literature shows that the impact of high voltage transmission lines on tourism is less well researched compared to renewable energy projects. The small number of studies that have addressed the subject have focused on visitors' opinions of pylons. These studies consistently find that reactions are far more negative than toward wind turbines (NFO 2002, 2003¹¹).

The development of energy projects are associated with a range of environmental impacts which might also impact on other economic activities such as those based on tourism and nature tourism.

According to research on public views of other energy projects - such as wind farms - the perceived visual impact on landscape is one of the most important predictors of public opinion (Sustainable Energy Ireland, 2003; Devine-Wright and Batel 2013¹²). Studies of landscape perception have found that the closer a landscape is to a preconceived "pristine" state (regardless of whether or not in reality it is actually pristine), the more positively it is perceived. In contrast, any disturbance to this perceived natural state is viewed negatively (Devine-Wright and Batel 2013).

10 Furby, L., Slovic, P., Fischhoff, B. and Gregory, R. (1988) public perceptions to electric power transmission lines. *Journal of Environmental Psychology*, Volume 8, Issue 1, available at <http://sds.hss.cmu.edu/risk/articles/PublicPercElectricPowerTrans.pdf>; Gerlach, L. P. (2004) Public Reaction to Electricity Transmission Lines. *Encyclopaedia of Energy*, Volume 5;

11 NFO. (2003). Investigation into the potential impact of wind farms on tourism in Wales, available at http://www.ecodyfi.org.uk/tourism/Windfarms_research_eng.pdf;

NFO. (2002). Investigation into the Potential Impact of Wind Farms on Tourism in Scotland;

12 Devine-Wright, P. and Batel, S. (2013) Explaining public preferences for high voltage pylon designs: An empirical study of perceived fit in a rural landscape. *Land Use Policy* 31 (2013) 640– 649



Therefore, disturbance and a lack of naturalness are usually associated with the presence or introduction of human-made elements or interventions in the landscape. In Iceland, research has been carried out in response to plans to exploit natural resources in the Icelandic Highlands. This attitudinal survey (Sæþórsdóttir, 2010¹³); has shown that for most visitors, the wilderness experience will be reduced if the plans for energy production in the highlands are realised.

A recent study in Finland (Soini et al. 2011¹⁴) concluded that power lines are the most negatively evaluated of several human elements in the landscape. These findings were part of a study that also included telecoms masts and primary roads. In comparison to these other infrastructural elements, power lines were perceived as having the most unpleasant effect on the environment. This was found to be the case for both established and new transmission infrastructure.

A case study undertaken by Cotton and Devine-Wright (2011¹⁵) in Somerset examined public perspectives on the impacts of overhead transmission lines. This study showed that in addition to health impacts, the participants had significant concerns regarding visual intrusion.

In the UK, the existing evidence suggests that pylons tend to be viewed more negatively than wind turbines in terms of their detrimental effect on landscape quality. For example, visitor attitude surveys from both Scotland and Wales (NFO 2002, 2003¹⁶) showed that a greater proportion of tourists highlighted pylons over wind turbines when presented with a list of factors that could detract from their tourism experience.

In Scotland, the development of the Beaulieu-Denny 400kV transmission line has seen significant opposition (Munro and Ross¹⁷). The strongest case for opposition was the visual impact of the proposed pylons, and the assumption that this would deter visitors to the Highlands. Over 90% of the 17,250 objectors to the project cited the effect on tourism, the need to underground the line (to mitigate visual impacts) and the anticipated impact on recreational use.

These studies show evidence of concerns about perceived harm to the natural landscape caused by transmission lines. However, there is very little evidence to show causal effect - that these damaged perceptions actually had a negative impact on tourism.

13 Sæþórsdóttir, D. A. (2010) Tourism Struggling as the Icelandic Wilderness is Developed. *Scandinavian Journal of Hospitality and Tourism*, Volume 10, Issue 3.

14 Soini, K., et al., (2011). *Local residents' perceptions of energy landscape: the case of transmission lines. Land use policy*, 28 (1), 294–305.

15 Cotton M, Devine-Wright P, 2011, "Discourses of energy infrastructure development: a Q-method study of electricity transmission line siting in the UK" *Environment and Planning A* 43(4) 942 – 960.

16 <http://www.scotland.gov.uk/Publications/2008/03/07113554/7>.

17 Munro A.M. and Ross D.M (2011): Contested Energy: A long term perspective on opposition to renewable power developments in Scotland, available at http://www.gla.ac.uk/media/media_167021_en.pdf



There has been research undertaken to look at the impact of windfarms on tourism (Regeneris, 2014¹⁸). However unless the studies also examine the associated infrastructure such as overhead lines, these studies should not be relied upon to infer similar impacts for transmission. This is because the linear nature of overhead lines has a different impact on landscape compared to isolated wind farms.

The few studies that have addressed the subject have focused on visitors' opinions of pylons. They consistently find that reactions are far more negative to pylons compared to wind turbines. While this information is useful in understanding general public reaction to such developments, they cannot be extrapolated to conclude evidence of an actual causal effect on tourism.

An attitudinal investigation into the potential impact of wind farms on tourism in Wales was undertaken by the NFO for the Wales Tourist Board (2003). The report cited that the scenery, wild landscapes and unspoilt environment are all regarded as key strengths of the Welsh tourism product amongst visitors to the country.

In a prompted questionnaire, almost half (48%) of the visitors surveyed claimed that electricity pylons and wires had detracted from the experience of visiting the countryside. Transmission infrastructure was cited as the most negative type of development in the eyes of most visitors.

Mobile telephone masts were also seen negatively by over a third of visitors (37%), whilst almost a third mentioned army firing ranges, quarries and planted forestry (31%, 30% and 28% respectively). Some 23% of respondents felt that wind farms and turbines had detracted from the experience. This was a similar proportion to those who mentioned telephone wires and poles (25%) or hydroelectric and other power stations (24%).

Similar results were found in Scotland (NFO, 2002). In the Scottish study, when tourists were asked to indicate what structures affected landscapes negatively, 51% selected pylons and 29% selected wind farms.

However, it is important to note that these responses were prompted. When, in earlier questioning, visitors were asked to spontaneously identify aspects of the countryside which detracted from their experience, only a very small proportion mentioned pylons or wind turbines.

This shows that pylons are ranked as more visually intrusive than wind turbines if they are specifically mentioned when seeking opinions. However the unprompted research suggests that pylons are not actually a key and constant concern for tourists.

18 Regeneris (2014) *Study into the potential economic impacts of wind farms and associated grid infrastructure on the Welsh Tourism Sector*: A report for the Welsh Government by Regeneris Consulting and the Tourism Company, available at <http://www.renewableuk-cymru.com/wp-content/uploads/2014/04/140404economic-impacts-of-wind-farms-on-tourism-en.pdf>



Studies on the Economic Impact of Grid Infrastructure on the Tourism Sector

In 2014 the Welsh Government commissioned a study to examine the potential impacts of onshore wind farms and associated grid infrastructure on the visitor economy within Wales.

This study was undertaken by Regeneris Consulting and the Tourism Company (Regeneris, 2014).

While primarily focused on the implications of wind farms, the infrastructure required to connect power stations to the grid was included in the study. This included substations, underground cables and overhead power lines on pylons.

The report acknowledges that in Wales, pylons and overhead lines are a key source of concern as they have a higher visual impact than other types of connecting infrastructure.

The report highlighted that strong reaction toward grid infrastructure is an increased risk in areas where new pylons are proposed alongside considerable wind farm development – such as North Powys.

However, the report acknowledges there is no evidence that existing grid infrastructure, - concentrated in often scenic areas of North and South Wales - discourages visitors.

Case Study #1: Beauldy-Denny 400kV Overhead Transmission Line (Scotland)

In Scotland, the Beauldy-Denny transmission line has experienced significant opposition (Munro and Ross). However, the strongest case for opposition was the visual impact of the proposed pylons and the assumption that this would deter visitors to the Highlands. Of the 17,250 objectors to the project prior to the public Inquiry, 99.32% mentioned 'landscape and visual amenity'. More than 90% of those who objected cited the effect on tourism and the impact on recreational use of the area – they requested undergrounding the line to mitigate these visual impacts¹⁹.

The Environmental Impact Assessment included a dedicated chapter in the Environmental Statement on *Tourism and Recreation*. The assessment included a review of the existing baseline conditions in the study area, which was a 10km distance either side of line. This assessment looked at tourism, recreational resources, historic and current tourism market conditions, trends and features and factors influencing these – and considered direct and indirect impacts from the proposed line. The assessment also included a survey of locally based tourism and recreational businesses.

The assessment of effects was focused on the degree to which the proposal would impact on activities, resources, local business or the local population. Potential impacts on businesses were classified as “major” in the event of a >15% reduction in business turnover, or “minor” in the case of a <10% reduction in business turnover.

¹⁹ <http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Infrastructure/Energy-Consents/Beauldy-Denny-Index>



The results of the assessment focused largely on the response of businesses to the survey. The Landscape and Visual Impact section of the EIS then considered the potential impact on actual tourist assets such as National Parks like Cairngorms.

Overall, some localised effects were predicted in a limited number of instances (4 areas). The scale of the negative effects of the proposal on tourist business as a whole across the survey area was assessed as being limited. It was also predicted that these could be reduced by mitigation measures, largely related to routing and sensitive tower spotting, sensitive construction timing and related works. Following mitigation, the scale and nature of the residual effects of the project on tourists, tourism business and recreation were not predicted to be significant.

One condition of the Statutory Approval of the proposed transmission line was the establishment of a tourism, historic sites cultural heritage and community liaison group. The following bodies were invited to participate in the group:

- (a) The local authorities for the areas in which the development is situated;
- (b) Scottish Natural Heritage;
- (c) Historic Scotland;
- (d) The Forestry Commission;
- (e) Visit Scotland;
- (f) The National Trust for Scotland;
- (g) Scottish Enterprise;
- (h) Highlands and Islands Enterprise; and
- (i) Skills Development Scotland.

The purpose of the Group is to:

- provide advice on appropriate and necessary mitigation and construction procedures that impact on tourism, historic sites and cultural heritage;
- advise Scottish ministers of any concerns relating to the construction of the Development;
- identify opportunities associated with the development and make recommendations to the applicant, and local and national enterprise and skills agencies how these can be delivered.

The actual effect of this project on tourism in Scotland remains to be seen. Monitoring of the effects of the construction and operation of the line over time on specific indicators will provide this information.

The developer is undertaking an economic analysis of the project and how it contributes to the overall Scottish economy²⁰.

20 <http://sse.com/media/229256/SSE-Economic-Contribution-Study-FINAL-REPORT.pdf>





Case Study #2: Remedial Landscape Measures (United Kingdom)

As noted previously, there is limited evidence of the objective impacts of grid infrastructure on the natural landscape. However, given the concerns expressed by members of the public about the potential for negative impacts on amenity and tourism - National Grid in the UK has started to consider undergrounding parts of the grid that pass through the most sensitive landscapes.

The cable undergrounding initiative is being funded by a special allowance, granted by energy regulator Ofgem. This enables the removal of power lines in Areas of Outstanding Natural Beauty and National Parks^{21, 22}. To illustrate this initiative: UK Power Networks is working closely with the Suffolk Coast and Heaths Unit on a £342,000 project that will see the removal of nearly a mile and a half of existing overhead power lines in the rural area – designated as an Area of Outstanding Natural Beauty (AONB) – between Chillesford and Butley. This area is popular with bird watchers, cyclists and ramblers.

These low voltage power lines are considered to dominate the landscape in a number of places, especially in Chillesford village centre. They also affect the views from parts of the Suffolk Coast Path and Suffolk Coastal Cycle Route. Sections of the overhead electricity network are also clearly visible from the main Butley to Orford Road.

Conclusion

Overall, this review of international practice reflects the key issues arising from public and stakeholder feedback received in respect of EirGrid's major grid projects (see Section 4 of this Review). In summary, the issue of tourism is fundamentally bound to the quality of the natural environment. This raises a concern that any disturbance to the natural environment – or, more correctly, the perceived “naturalness” of the environment – risks an impact upon the tourism experience of a rural area. These concerns are appropriate and legitimate.

It is noteworthy that no unprompted visitor attitude surveys have been undertaken in Ireland to date that establishes the extent to which visitors (particularly overseas visitors) actually notice transmission infrastructure when visiting the country. Such surveys would be an important addition to the research in this area.

21 <http://www.ukpowernetworks.co.uk/internet/en/news-and-press/press-releases/powerlines-to-be-removed-from-landscape.html>

22 <http://www.theguardian.com/business/2014/nov/09/national-grid-500m-fund-to-put-pylons-underground-in-beauty-spots>.



6. Commitments

EirGrid's *Grid25 Initiatives* published in January 2014, includes: '*Comprehensively address major issues arising such as tourism... concerns*'.

EirGrid accepts the concerns raised regarding tourism in public and stakeholder feedback received in respect of EirGrid's major grid projects (see Section 4 of this Review). We are committed to delivering a revised and enhanced approach to addressing tourism in the development of EirGrid's major grid projects.

Arising from public and stakeholder feedback, and from the wider International experiences of considering tourism in grid development, three key themes emerge in this review:-

- Tourism comprises both specific tourism destinations and associated activities, businesses, etc. which are linked to those destinations;
- Tourism is influenced by a variety of environmental topics, in particular landscape as well as people and buildings, and natural and cultural heritage;
- Tourism, including its environmental features, must be considered and assessed appropriately in considering the design and routing of grid infrastructure.

EirGrid has identified a number of commitments for how it will address tourism in the development of its transmission infrastructure projects going forward.

The essential change, based on the key themes above, is a greater and specific focus on identifying and ranking the rural landscape against other environmental criteria, as well as exploring how that landscape influences tourism in an area. As part of this we will continue to identify and consider tourism destinations.

These commitments are proposed as three key elements:

1. We will design a consistent new approach to evaluating different landscapes in a project area;
2. We will understand the nature of tourism in a project area;
3. We will ensure a robust and complete assessment of the environmental, heritage and cultural features of an area that contributes to tourism.



Evaluating Landscape

1. A new approach to identifying landscape

The tourism potential of an area is generally linked to the quality of its landscape. EirGrid will develop a clear, uniform, approach to evaluating the different landscapes in a project area.

This will include identifying the most sensitive landscapes, scenic views and tourist amenities and evaluating them all in a consistent way. This will be done before any route corridor or substation options are identified.

The anticipated publication of a National Landscape Strategy will, in time, assist in defining the landscape character of a study area.

2. Give appropriate consideration to landscape when identifying and evaluating project options

EirGrid will ensure that the identified landscape of an area or region will be appropriately compared with other environmental (and technical) factors, for example in the generation of heat mapping. This process is part of the essential toolkit for the subsequent identification of route and site options.

Understanding the nature of tourism

3. Identify the nature of tourism in the project study area

EirGrid will identify the “tourism experience” of an area or region. This will be based on the rural landscape, in combination with other factors, such as communities, cultural heritage and natural heritage. This will inform a robust examination of a proposed grid development project on tourism.

Assessing the impact of a project on tourism

4. Consider cumulative impact on tourism

A proposed project can have a greater impact on the landscape because there is already a substantial amount of other infrastructure present or planned for the area. EirGrid will examine the potential effect of this on the environmental, heritage and cultural features of an area that contributes to tourism.

5. Consider short-term and long-term impacts of grid development on tourism

EirGrid will consider the potential impact on tourism in an area from the construction and operation of planned grid development; for example the impact of construction works in the area and wider landscape of a tourist attraction. This is particularly important given that most tourist visits are short in duration.



Implementation

EirGrid intends that the development of an enhanced approach and methodology will occur in consultation and partnership with key stakeholders and experts, particularly in the areas of tourism development, landscape, built and natural heritage etc.

In this context, it is considered that certain commitments are likely to be capable of being implemented immediately, for example those relating to understanding the nature of tourism in a project area. Others may take longer to translate into meaningful, practical and effective measures.

These commitments will be applied to the relevant stages of project development where key stakeholders and the general public have significant opportunity to influence the evolving nature and extent of a project.

Separately, EirGrid is publishing reviews of our approaches to agriculture, equine and to public consultation, as well as details of a community gain fund for individuals and communities affected by transmission infrastructure.

Many of the commitments in these reviews will also have implications for those working in tourism development or the wider tourism industry. Copies of these publications can be found on the EirGrid website.



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