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**Proposed Hunter's Hill Wind Farm, between Fintona
and Fivemiletown, Co. Tyrone**

**Non-Technical Summary
February 2005**

Figure 1 Northern Ireland Landscape Character Assessment & Planning Designations within the Study Area
Figure 2 Nature Conservation Designations within the Study Area
Figure 3 Final Infrastructural Layout

1.1. INTRODUCTION

This Environmental Statement was prepared as a result of discussions with officers of the Department of Environment Planning Service and as required by the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999 [1]. It is in support of a planning application for a wind farm that comprises 10 wind turbines, associated transformers, a permanent anemometer mast, two temporary anemometer masts, some upgrading of existing access tracks and extending to new turbine locations, gates, a site control room and substation, electrical cabling, a temporary site compound and all ancillary works at Hunter's Hill wind farm, in the townlands of Tattymoyle Lower, Edergole, Killygordon and Tattanafinnell (known as "Hunter's Hill wind farm").

The application is made in the name of Wind Farm Developments Ltd which is a joint venture company formed by B9 Energy Services Ltd (B9 Energy) and Renewable Energy Systems Ltd (RES) develop wind energy projects in Northern Ireland. Wind Farm Developments Ltd is wholly owned by B9 Energy and RES.

Connection to the electricity grid system is the responsibility of NIE and reference to the grid connection is made in this Environmental Statement.

1.2. THE PROPOSED SITE

The proposed Hunter's Hill wind farm site is located on the highest ridge within the southernmost outlier of the Sperrins, approximately 6.5km to the south of Fintona and 7km north of Fivemiletown in County Tyrone. It occupies a site of approximately 137ha between the 260m and 310m contours. A number of landscape and planning designations have been identified within the 20km study area. These are illustrated in Figure 1. There are no sites designated as being of nature conservation importance within the proposed site boundary. There are a number of designations within 20km of the proposed site. These are illustrated in Figure 2. Throughout the immediate vicinity of the site, land use comprises extensive, rough hill grazing. In the lands adjacent to the west of the proposed site, the peaty upland soils have been planted with commercial coniferous forest.

1.3. THE PROPOSED PROJECT

The proposed development is for a wind farm comprising up to 10 wind turbines, associated transformers, a permanent anemometer mast, two temporary anemometer masts, some upgrading of existing access tracks and extending to new turbine locations, gates, a site control room and substation, electrical cabling, a temporary site compound, and all ancillary works. The final layout proposed is illustrated in Figure 3 showing a radius of 80m for micro-siting.

The wind turbine industry is evolving at a remarkable rate. Designs continue to improve technically and economically. The most suitable turbine model for a particular location can change with time and therefore a final choice of machine for Hunter's Hill has not yet been made. The most suitable machine for the proposed site will be chosen shortly before the time of construction. The overall tip height of the selected turbine will be no greater than 101m. The units proposed will be three bladed horizontal axis wind turbines. A selection of turbines offered by different manufacturers that meet the overall tip height of 101m are shown below.

Manufacturer	Neg Micon 72- 1.65MW	GE 1.5MW	Bonus Energy A/S
Turbine model	Neg Micon 72 – 1.65MW	GE – 1.5MW	BONUS 1.3 MW
Name-plate capacity	1 650 kW	1 500kW	1 300 kW
Axis of rotation	Horizontal	Horizontal	Horizontal
Number of blades	3	3	3
Control system	Full-blade pitch regulation	Individual pitch regulation	Combi-Stall regulation
Tower	Tubular steel	Tubular steel	Tubular steel
Voltage	690 V	690 V	690 V
Cut-in wind speed	4.0 m/s	3.0 m/s	4.0 m/s
Cut-out wind speed	25 m/s	22 m/s	25 m/s
Rotor speed(s)	14.4 rpm	11-20 rpm	13/19 rpm
Rotor diameter	72 m	70.5	62 m
Hub height	65 m	65	65 m
Overall height (max)	101.0	100.25	96.0m

1. Meetings with Anne Garvey and Jane Curley of Department of Environment Planning Service on 20th November 2003

The proposed access route has been designed in consultation with the Roads Service, Dungannon office. It is anticipated that turbines will be delivered from their country of origin (GB and/or Denmark) by sea to the

- Port of Belfast, Co. Antrim
- Killybeggs, Co. Donegal; or,
- Lisahally Docks, Co. Londonderry

From Belfast & Lisahally the route would follow major roads to the A4 Enniskillen to Ballygawley Road, turning right onto the B122 and progressing along the B122 to the site entrance.

From Killybeggs, the route would follow major roads turning left in Fivemiletown onto the B122 and progressing along the B122 to the site entrance.

The civil engineering works will comprise:

- the upgrading of existing tracks, as necessary, and the provision of new access tracks to the turbine locations;
- construction of the on-site control room/sub-station;
- the preparation of compounds and hardstanding areas for cranes;
- the preparation and establishment of temporary site facilities; and,
- at each turbine location, the preparation and construction of the concrete foundation to support the turbine structure and the individual turbine transformer.

The main construction activities during the civil works phase are:

- earthworks for the foundations, hardstandings and access tracks;
- construction of access tracks;
- the fixing of formwork and reinforcement for the foundations;
- the placing of ready mixed concrete for the foundations;
- back-filling and compacting around the foundations;
- construction of substation, security fence and site compound;
- completion of hardstanding areas and landscaping;
- burying cables between the turbine locations and the on-site substation;
- erection of wind turbines; and,
- reinstatement and site clearance.

After construction the turbines require routine maintenance and engineers would be on site on an intermittent basis. The expected life of the wind farm is twenty five years. At the end of this period a decision would be taken as to whether to refurbish, remove or replace the turbines.

1.4. POLICY

1.4.1 European Policy Context

a) Climate Change

The majority of the world's leading climate scientists now agree that the climate is changing. The burning of coal, gas and oil is a major cause of climate change. It is widely recognised that future energy policy must be based on using less fossil fuel, increasing energy efficiency and employing more renewable energy such as wind energy which does not produce atmospheric emissions. The EU recognises that it must take a lead in reducing emissions and has established targets for greenhouse gas reductions under the Kyoto Protocol at an 8% decrease in greenhouse gas emissions by 2001-2012 compared to 1990 levels.

b) Renewable Energy

The overall objective of the Commission's work on renewable energy is to improve energy security by ensuring durable and reliable energy services at affordable cost and conditions and at the same time to reduce the impact of the production and use of energy, particularly the emission of carbon dioxide.

The EU's Renewable Energy Directive came into force in September 2001 and states that 12% of total community primary energy (or 22.1% of electricity) should come from renewable energy by 2010.

1.5. UK POLICY CONTEXT

1.5.1 Climate Change

The UK has remained committed in its support for the Kyoto Protocol, but has adopted a tougher emissions reduction target of 12.5% compared with the overall international Protocol target of 5.2%.

The UK Government's commitment to reduce harmful emissions, and protect the wider environment is outlined within a number of documents including The White Paper *"This Common Inheritance"* published in 1990, the Government's *"Sustainable Development – The UK Strategy"* published in 1994 and the UK Climate Change Programme published in 2001 by DEFRA and the devolved administrations.

1.5.2 Renewable Energy

The Government's renewable energy policy has five key aims:

- To assist the UK to meet national and international targets for the reduction of atmospheric emissions including greenhouse gases;
- To help provide secure, diverse, sustainable and competitive energy supplies;
- To stimulate the development of new technologies necessary to provide the basis for continuing growth of the contribution from renewables into the longer term;
- To assist the UK renewables industry to become competitive in home and export markets and, in doing so, provide employment; and,
- To make a contribution to rural development.

The Government regards renewable energy as being key to reducing levels of harmful atmospheric emissions, while at the same time acknowledging its potential as a valuable contributor to UK electricity needs.

The Energy White Paper *"Our Energy Future – Creating a Low-Carbon Economy"* was published in February 2003, and confirms the crucial contribution of renewable energy to achieving the long term goal of reducing carbon dioxide emissions by 60% (from 1990 levels) by 2050. It indicated that by 2020, 20% of the UK electricity supply will come from renewable sources, with the largest expected contributions coming from both on-shore and off-shore wind and from biomass.

1.6. NORTHERN IRELAND POLICY CONTEXT

1.6.1 Climate Change

In November 2000, the UK Climate Change Programme was presented to the Northern Ireland Assembly. The UK Climate Change Programme sets out the UK Government and the devolved administrations' strategic approaches to tackling climate change. It outlines the measures that Northern Ireland has taken, and will continue to take, to ensure that it makes as significant a contribution as possible to cutting greenhouse gas emissions.

1.6.2 Renewable Energy

There is 71 MW of renewable energy capacity installed in Northern Ireland (Feb 2005). The Department of Enterprise Trade and Investment is currently finalising its Energy Strategy.

The strategy includes setting a Northern Ireland development target of 12% of electricity consumption to come from renewables by 2012. A Renewables Obligation has been proposed similar to that already operating in the rest of the UK to achieve the necessary level of renewable energy development in Northern Ireland. This will place an obligation on suppliers to purchase a proportion of their electricity from renewable generators. This will come into force on 1st April 2005.

1.6.3 Planning

All renewable energy developments are addressed through the operation and use of the planning system, which is the responsibility of the Planning Service, an agency within the Department of the Environment for Northern Ireland.

The strategic and regional planning policy framework is provided by the Department's document "*A Planning Strategy for Rural Northern Ireland*" and all relevant Planning Policy Statements.

The Planning Strategy published in September 1993 is gradually being superseded by individual Planning Policy Statements. Of relevance to this application are PPS 1 – General Principles; PPS 2 – Planning and Nature Conservation; PPS 3 – Development Control: Roads Considerations; PPS6 – Planning, Archaeology and the Built Heritage and PPS10 – Telecommunications.

The Department for Regional Development has also published its regional development strategy for Northern Ireland 2025: "*Shaping our Future*".

1.6.4 Development Plans

a) Omagh Area Plan 1987 – 2002 & West Tyrone Area Plan 2019

The majority of the proposed project lies within the Omagh District Council area. The area plan currently referenced for this area is the Omagh Area Plan 1987-2002. This document does not provide any policy guidance on either renewable energy or wind farm development.

The Omagh Area Plan 1987 – 2002 will be superseded by the West Tyrone Area Plan 2019. Preparation of the West Tyrone Area Plan has now commenced and is currently at the Pre-issues stage. Planning Service recently invited representations on key issues. The closing date for receipt of these was in December 2004. It is expected that the issues paper will be published in late 2005.

b) East Tyrone Area Plan 1974-1994 & Dungannon and South Tyrone Area Plan 2010

A proportion of the project lies within the Dungannon and South Tyrone District Council area. The East Tyrone Area Plan is relevant to this area but expired in 1994. This document does not provide any specific policy guidance on either renewable energy or wind farm development.

The Dungannon and South Tyrone Area Plan 2010 will supersede the East Tyrone Area Plan and is currently at the Pre-adoption stage. The Draft of the Dungannon and South Tyrone Area Plan 2010 does not provide any specific policy guidance on either renewable energy or wind farm development

c) Fermanagh Area Plan 2007

The Fermanagh District Council area lies immediately adjacent to the proposed development and the Fermanagh Area Plan 2007 is relevant to this area. Although, not directly relevant to the proposed development, there is a section within this area plan devoted to energy which states that it is the objective of the plan "*to facilitate development of renewable energy sources in Fermanagh*". The section also states, "*With many exposed upland areas, Fermanagh has good potential for the harnessing of wind power provided this can be achieved without serious detrimental impact on the environment or residential amenity*".

1.7. LANDSCAPE AND VISUAL ASSESSMENT

1.7.1 Landscape Character Assessment

Though carrying no statutory weight, the Northern Ireland Landscape Character Assessment and the more specific Character Assessment for the Fermanagh, Omagh & Dungannon Districts have been reviewed to determine the appropriateness of the District assessments in providing a baseline for the Hunter's Hill proposal.

The Northern Ireland Landscape Character Assessment recognises a total of 130 distinctive character areas. Of these, there are 12 character areas that fall within the 20km study area. Figure 1 illustrates the extent of the 12 character areas relative to the Hunter's Hill Wind Farm site. The proposed Hunter's Hill wind farm lies entirely within the Brougher Mountain character area adjacent to the existing Lendrum's Bridge wind farm.

Character Area	Landscape Quality	Magnitude of Effect	Significance Level of Effect
Brougher Mountain	Medium Quality	Low	Minor
Clougher Valley Lowlands	High Quality	Negligible	Minor/Neutral
Irvinestown Farmland	Medium Quality	Low	Minor
Omagh Farmland	Medium Quality	Negligible	Minor/Neutral
Slievemore	Medium Quality	Negligible	Minor/Neutral
Slieve Beagh	Medium Quality	Negligible	Minor/Neutral
Lough Bradan	Low Quality	Negligible	Minor/Neutral
Enniskillen	Medium Quality	Negligible	Minor/Neutral
Camowen Valley	Low Quality	Negligible	Minor/Neutral
Dungannon Drumlins and Hills	Medium Quality	Negligible	Minor/Neutral
Bessy Bell and Gortin	High Quality	Negligible	Minor/Neutral
Fairy Water Valley	Low Quality	Negligible	Minor/Neutral

1.7.2 Viewpoint Analysis

Of the 13 viewpoints considered, 8 lie within 10km of the site and the other three lie at distances between 14 and 22km from the site.

In all of the viewpoints, the existing Lendrum's Bridge turbines are visible to a greater or lesser degree and therefore forms part of the baseline landscape character against which impacts of the proposed Hunter's Hill turbines are judged. In the viewpoint analysis, cumulative effects are assessed alongside the individual effects of the Hunter's Hill wind farm.

Viewpoint location	Approx. distance from nearest turbine (km)	Sensitivity of receptors	Magnitude of impact	Significance of impact
Tatnadaveny	6.5km	Medium	Medium	Moderate
Lisdergan Road Junction	4.5km	Low	High	Moderate
National Cycle Path 9 Tonnagh-More	5.4km	Medium	Medium	Moderate
Corbally Road Junction	2.3km	Low - High	High	Moderate - Major
Minor Road at Carryglass	3.7km	Low - High	High	Moderate - Major
Murley Bridge	4.6km	Low	Low	Minor / Negligible
Blacklands – NW of Fivemiletown	7.2km	Low - High	Low	Minor/Neutral - Moderate
Crockroe Road north of Clabby	2.0km	Low - Medium	High	Moderate – High/Moderate
Altcloughfin	15.4km	High	Low	Moderate
Ballyness Mountain	3.5km	Low - Medium	Low	Minor/Neutral - Minor
Greaghnacross	14.0km	Medium - High	Low	Minor - Moderate
Golden Hill	13.5km	High	Low	Moderate
Craig Hill	22.0km	High	Negligible	Minor

1.7.3 Cumulative Effects

Both simultaneous and sequential visibility of more than one wind farm is in practice limited given the natural undulation and vegetation cover of the landscape, particularly the fertile Clougher Valley and Irvinestown and Omagh Farmlands. Also, the Brougher Mountain ridge forms an effective east-west visual threshold, effectively segregating zones of visibility to the north from those to the south.

Consequently, the visibility of wind farms on the Slieve Beagh upland ridge is substantially curtailed from areas to the north of the Brougher Mountain ridge. Conversely, visibility of wind farms on the Tappaghan – Lough Braden ridge is substantially curtailed from areas to the south of the Brougher Mountain ridge. This characteristic of restricted zones of visibility further limits the opportunity for Hunter's Hill turbines to contribute to cumulative effects.

Analysis illustrates that there is no significant increase in landscape area that would experience a view of Hunter's Hill turbines brought about by the addition of the scheme. Consequently the opportunity of seeing turbines in the landscape from areas that currently do not have a view of turbines is very small and insignificant. The potential for Hunter's Hill turbines to have a cumulative visual effect is therefore miniscule.

The cumulative effects brought about by the presence of Hunter's Hill through either simultaneous visibility or sequential visibility with existing Tappaghan or the Slieve Beagh or Garrane proposals is consequently considered to be negligible and not of any significance.

1.8. ORNITHOLOGY

Survey for breeding birds totalled eleven dedicated survey visits spread over three consecutive breeding seasons and this should be considered as providing a good baseline of breeding bird survey for the general Hunter's Hill area. Further information on breeding birds in the area was made available from the RSPB database (*per. RSPB*).

Wintering birds were surveyed by means of four site visits in 2004. Each visit lasted 4-5 hours.

Survey for breeding hen harriers extended to all contiguous habitat around Lendrum's Bridge Wind Farm and the proposed Hunter's Hill wind farm (potential harrier breeding habitat extends up to a maximum of 3km). A total of 240 hours of observations were carried out during April - August 2003. A total of 212 hours of observation were carried out during April - August 2004.

Assuming that construction takes place outside the breeding season it is concluded that the proposed development would not have a significant negative effect on breeding and wintering birds at Hunter's Hill.

1.9. HABITAT

The proposed development area comprises semi-improved acid grassland, wet modified bog, and blanket bog. The proposed development area has been significantly modified by human activity such as peat extraction and current heavy grazing by sheep.

The vegetation over approximately half of the proposed development area has been highly modified by human activity. The habitats present in these areas are either man-made habitats (semi-improved acid grassland) or highly modified/degraded natural habitats (wet modified bog) and are of low significance for their flora.

The remaining half of the proposed development is modified but still relatively intact blanket bog. The bog is also of limited interest for its flora and losses within this area to the proposed wind farm structures would not exceed 2% of the habitat.

1.10. IRISH HARE

The population density of Irish hares at Hunter's Hill is 2.1 hares / km². Whilst the result for Hunter's Hill is slightly higher than those reported for Northern Ireland as a whole (1.0 hare/km²) it is comparable to the results obtained for upland areas of Counties Down & Antrim. It is therefore concluded that while hares are present, hare densities at Hunter's Hill are consistent with those reported for similar areas throughout Northern Ireland.

1.11. NOISE

The noise report contains an assessment of the noise impact of the proposed Hunter's Hill wind turbines on nearby dwellings. The assessment has been made according to criteria specified in 'The Assessment & Rating of Noise from Wind Farms'. The proposed wind farm will comprise ten turbines, the precise choice of which is not yet finalised, but are expected to be similar in acoustic properties to the Bonus 1.5MW.

Applying the assessment methodology, the analysis indicates that the noise immission levels at neighbouring properties resulting from the operation of the wind farm would be deemed acceptable for both day and night time operation for all properties.

1.12. ARCHAEOLOGY AND CULTURAL HERITAGE

A desk top survey, was undertaken to identify any known sites of archaeological importance within the development area, extending to a 5km radius surrounding the wind farm. Coupled with this a site inspection was also undertaken to identify any previously unknown or unrecorded upstanding sites which may exist within the area of the proposed development.

A single site, TYR 57:21, was identified within the area of the proposed development. However, this site has been classified by EHS as a non-antiquity and no evidence of an archaeological site was identified in this area during the site inspection. The proposed wind farm development cannot therefore impact adversely on this site.

A number of sites were also identified within the wider landscape. These sites were found to range in date from the pre-historic period to the modern era. Given the extent of the archaeological activity in the surrounding environs it is possible that previously unknown sub-surface archaeological deposits may exist within the limits of the proposed development area, which may be revealed during the construction works and therefore the proposed precautionary measures should be adopted.

1.13. GEOLOGY AND HYDROLOGY

An assessment of the baseline geological, hydrological and hydrogeological conditions at the site was undertaken. In order to complete the assessment of the site, two main work sections were completed comprising:

- A walkover survey of the site including trial pits, water sampling and quality analysis; and
- A desk study of pertinent documentary information.

All potential impacts were identified and it is concluded that through the application of recommended mitigation measures, only minor residual impacts will remain.

1.14. ROADS

In consultation with the Roads Service, haul routes, establishment of site entrance, requirements for passing bays, appropriate traffic management arrangements and measures, along with a condition survey will be agreed prior to construction to minimise the impact on local roads and traffic and to ensure the safety of other road users.

Due to the temporary nature and small number of long vehicles associated with the construction of the wind farm it is considered preferable to use traffic management measures to stop oncoming traffic so that long vehicles can use the entire width of the road in some locations in order to minimise the amount of road widening works required at the various locations.

1.15. COMMUNICATIONS, ELECTROMAGNETIC INTERFERENCE AND AIR TRAFFIC ASSESSMENT

Consideration was given to potential impacts with electromagnetic transmissions; local TV reception; and air traffic communications.

1.15.1 Electromagnetic Transmissions

Microwave and fixed links can be affected by reflection, diffraction, blocking and radio frequency interference caused by wind turbines in their "line of sight"; however, no impact is predicted on major transmission systems from the proposed development.

1.15.2 Local TV Reception

Wind turbines have the potential for causing interference to television reception, primarily where a viewer is in the 'shadow' of and within a few km of the wind farm, with their aerial pointing through the wind farm. Viewers in such locations can have their signal 'scattered' causing loss of picture detail, loss of colour or buzz on sound. Viewers situated to the side may experience periodic reflections from the blades, giving rise to a delayed image or 'ghost' on the picture, which is liable to flicker as the blades rotate.

It is concluded that no widespread interference to domestic TV reception will be experienced in the area of the proposed Hunter's Hill site, however, recommendations for mitigation measures have been detailed should post construction remedial action be required.

1.15.3 Air Traffic Communications

Early consultation with NATS, CAA and Belfast airports indicated no concerns regarding interference to the airports navigational system due to the proposed wind farm extension. There have been no known complaints from any airport due to the presence of Lendrum's Bridge wind farm, which has been operational since December 1999. However due to the proximity of St Angelo airport at Enniskillen, which was closed during the consultation work, it was decided that RES should carry out a study on the potential impact of the wind farm extension. Enniskillen Airport was re-opened in early 2005.

An assessment of the potential effect of Hunter's Hill wind farm on the operation of Enniskillen airport has been completed. The radio profile plots show that there is no radio line of sight between the wind farm and the airport's telecommunication mast. This is due to the presence of Brougher Mountain and other terrain obstacles in between the airport and the wind farm. It has been shown that Hunter's Hill wind farm will not infringe any of the Obstacle Limitation Surfaces of the Enniskillen airport. Therefore it is concluded that it will not have any effect on its operation. The presence of Lendrum's Bridge wind farm in the same site also supports this conclusion.

1.16. AIR AND CLIMATE IMPACT ASSESSMENT

B9 Energy Services Ltd completed an assessment of the impact of the proposed wind farm on air and climate. The assessment was compiled using published UK data.

The use of wind power for generating electricity produces no direct atmospheric emissions, other than those associated with vehicles used by maintenance engineers and is therefore useful in contributing to a reduction in levels of atmospheric pollutants produced by other forms of electricity production. It is concluded that there will be a beneficial impact arising from the proposed development of regional significance.

1.17. HEALTH AND SAFETY

B9 Energy Services Ltd and Renewable Energy Systems Ltd completed an assessment of health and safety. Both companies operate health and safety systems, and have an excellent safety record in wind energy development.

The wind farm will be designed, constructed, operated and decommissioned in accordance with the conditions of the Construction (Design and Management) Regulations and the recommendations of the British Wind Energy Association (BWEA) / Health and Safety Executive (HSE) working group on safety. Properly designed, constructed and maintained wind turbines are safe. The very few accidents that have occurred involving injury to humans have been caused by failure to observe manufacturers' and operators' instructions for the operation of the turbines.

It is considered that if the appropriate regulations are adhered to during the design, construction and operation phases of the development, and the best available technology is used in the selection of turbine design; there will be no adverse impact on the safety of operators during construction or maintenance of the wind farm, or to the general public.

1.18. SOCIO-ECONOMIC AND TOURISM IMPACT ASSESSMENT

An assessment of the impact of the proposed wind farm on socio-economic and tourism issues was compiled using published data provided by NITB, local councils, the NI Statistics and Research Agency and the Planning Service. The Hunter's Hill wind farm is unlikely to effect recreational or local activity in the study area. It is also considered that there will be no adverse impact on tourism within the study area arising from the proposed development.

The construction of this wind farm will have a small positive impact on the local economy of this area. Once the site is fully operational, the socio-economic impact of the wind farm will be minimal, as there will be no increase in the population levels in the development area, as only one wind farm engineers will be required to operate and maintain the site.

The most beneficial impact of this development will be the reduction in the emissions of carbon dioxide, and other greenhouse gases, which are produced during the combustion of fossil fuels in alternative generation processes and which contribute to global warming.

1.19. POSSIBLE LOSS OF AMENITY DURING CONSTRUCTION

It is considered that if the appropriate regulations are adhered to during the construction phase of the development that loss of amenity will be minimal.

1.20. MITIGATION MEASURES

The Environmental Assessment Regulations require the categorisation of effects in terms of their significance. Once identification has taken place, those effects considered by the process to be significantly adverse are subject to "*mitigation measures*" designed to "*prevent, reduce or where possible off-set any significant adverse effects*".

Each topic assessment has made recommendations affecting the design of the project. These have been incorporated into the design of the project as discussed in the relevant sections. The mitigation measures discussed in this section relate only to those aspects judged as resulting in "*significant adverse effects*".

1.21. CONCLUSION

The promotion of renewable sources of energy and in particular wind energy is afforded a prominent position in energy and environmental policy at the European, UK and Northern Ireland. There is demonstrable need for the project on the basis of providing small but significant contributions to meeting the regional renewable energy targets and the regional carbon dioxide emission reduction targets.

Wind energy projects have specific locational requirements and must be sited where the wind resource is found. The Hunter's Hill wind farm has been located following a clear and rational assessment process. The project has been designed to optimise wind energy capture within the planning constraints identified in this environmental assessment process.

The landscape and visual amenity assessment concluded that the proposed wind farm avoids any significant effects on *landscape character*. In addition, it concluded that cumulative effects with either existing operational wind farms or known proposed wind farms currently in the planning process are insignificant.

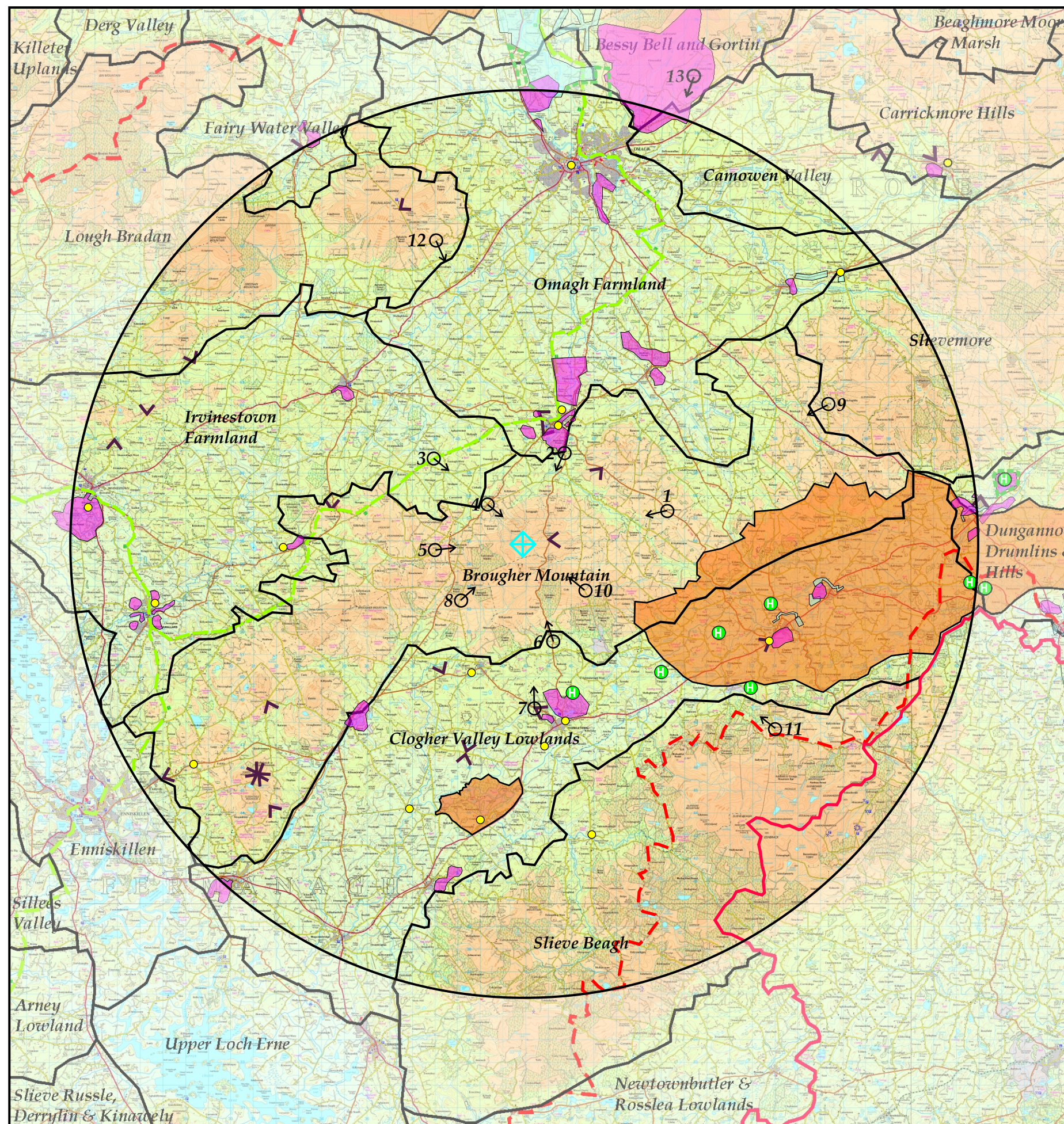
As a result of the visual appraisal, a total of 13 viewpoints were assessed. It was concluded that there would be visual impacts of

- high (or high/moderate) significance in three viewpoints,
- moderate (or moderate/minor) significance in seven viewpoints and
- minor (or minor/neutral) significance in three viewpoints.

Those viewpoints from where the impacts are assessed as significant are limited to the local area to the west of the site and these impacts are not assessed as being of a long-term nature (beyond the life of the project).

Potential significant impacts relating to ornithology are capable of full mitigation.

Positive impacts are predicted to arise in relation to the contribution to reductions in atmospheric emissions and to the local economy through construction and operation activities.



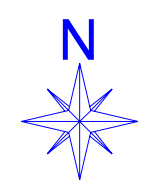
PROPOSED HUNTER'S HILL WIND FARM

(Comprising parts of townlands
Tattymoyle Lower, Edergole,
Killygordon and Tattanafinnell, Co.
Tyrone)

- Landscape Character**
- Proposed Site
 - Photo Viewpoint
 - Landscape Character Areas
 - ROI/NI Boarder
 - Area of Scenic Quality
 - Distinct Landscape Setting
 - Key NILCA Viewpoints
- Planning**
- AONB
 - Landmarks
 - The Ulster Way
 - National Cycle Route
 - Local Landscape Policy Area
 - Countryside Policy Area/Greenbelt
 - Historic Parks & Gardens

Scale NTS

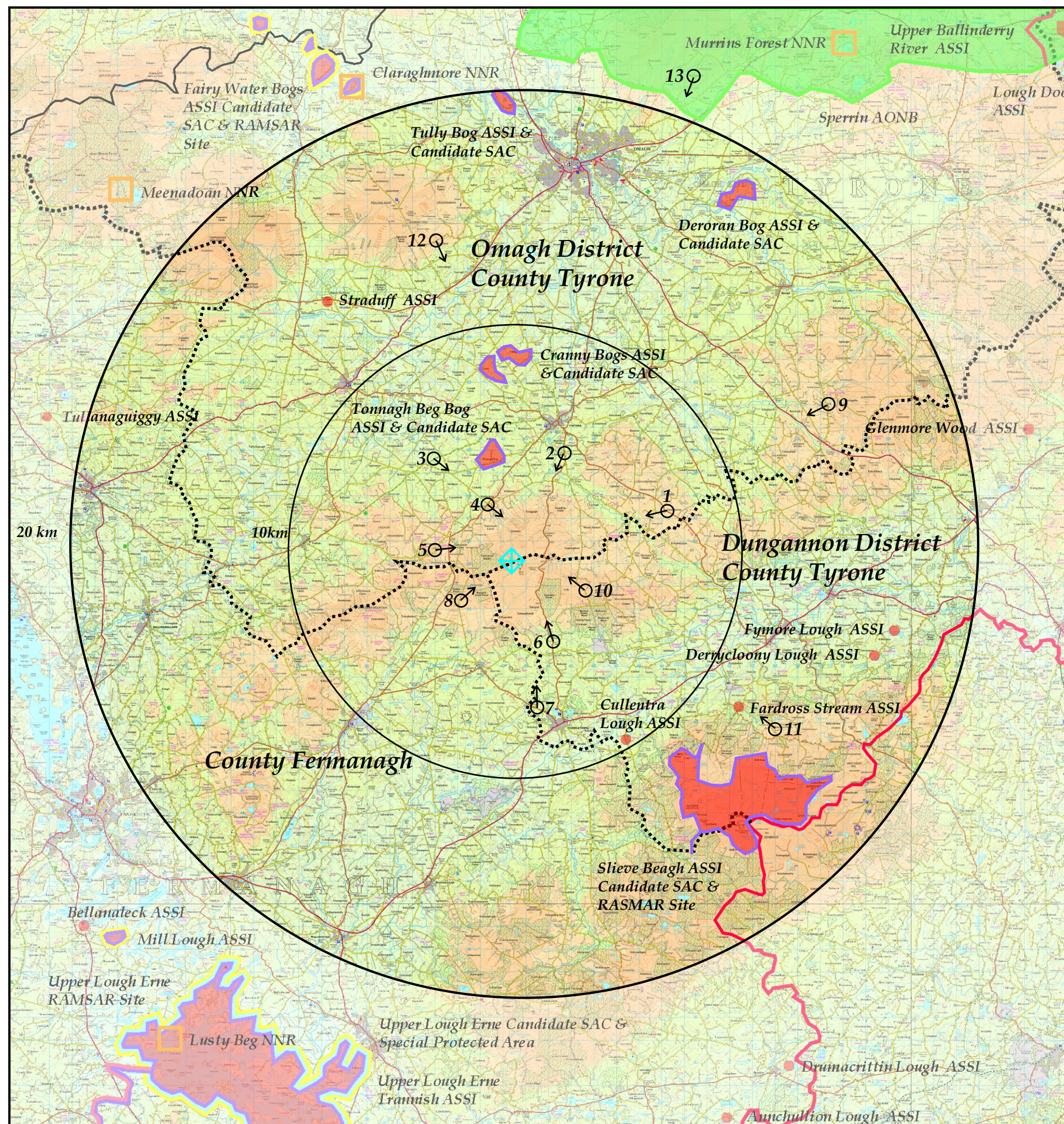
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**Landscape Character &
Planning Designations**

FIGURE 1

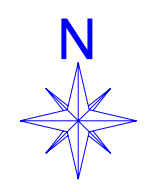


PROPOSED HUNTER'S HILL WIND FARM

(Comprising parts of townlands, Tattymoyle Lower, Edergole, Killygordon and Tattanafinnell, Co. Tyrone)

- Proposed Site
- ROI/NI Boarder
- County & District Boundary
- Area of Special Scientific Interest
- National Nature Reserve
- Special Area of Conservation
- Special Protected Area
- RAMSAR Site

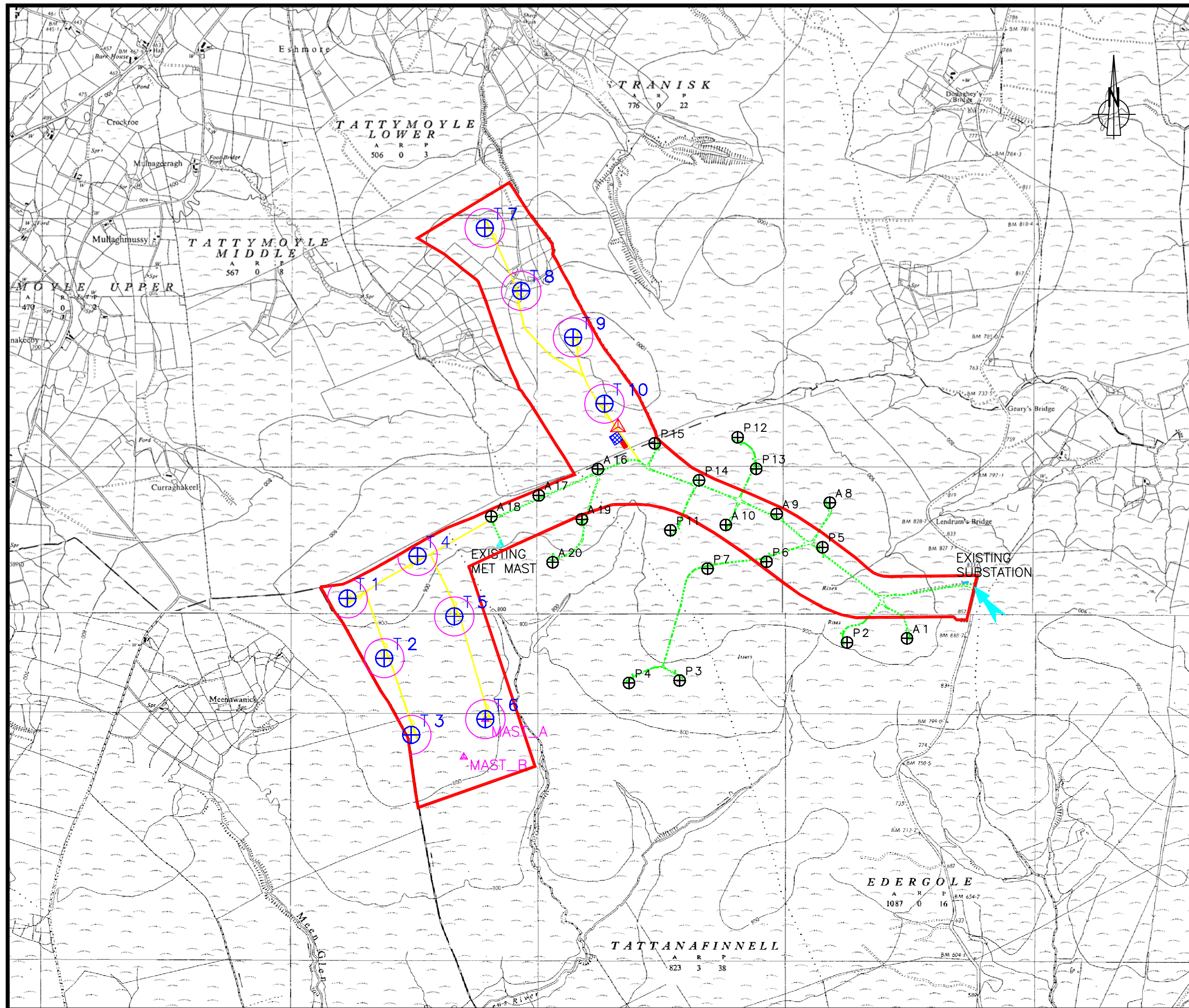
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Nature Conservation Designations

FIGURE 2



HUNTERS HILL WIND FARM

Figure 3

FINAL LAYOUT

LEGEND:

- UNFENCED DEVELOPMENT BOUNDARY
- NEW TRACK INCLUDING HARSTANDING AREAS
- EXISTING TRACK
- LENDRUM'S BRIDGE CONTROL BUILDING & SUBSTATION
- CONTROL BUILDING & SUBSTATION
- LENDRUM'S BRIDGE TURBINES
- PROPOSED HUNTER'S HILL TURBINE WITH 80m MICROSITING
- LENDRUM'S BRIDGE PERMANENT MET MAST
- PERMANENT MET MAST
- TEMPORARY MET MAST
- SITE ENTRANCE
- CONSTRUCTION COMPOUND

TGRQFWEGF#TQO #JG#227#TFCPEG#WIXG[#H#
PQTVJGT#T#GNCPP#32.222#C#R# #J#JG#GTO KOUQP#
QH#JG#EQPVTQNGT#HGT#CIGUV[#JVCVQPGT[#
QH#H#G. © ETQY P#RQ[T#J#V#2270
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LAYOUT DWG 01303D0010-09 T-LAYOUT NO. PNIRhun054

DRAWING NUMBER
01303D1006-01

SCALE - 1:15,000@A3

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