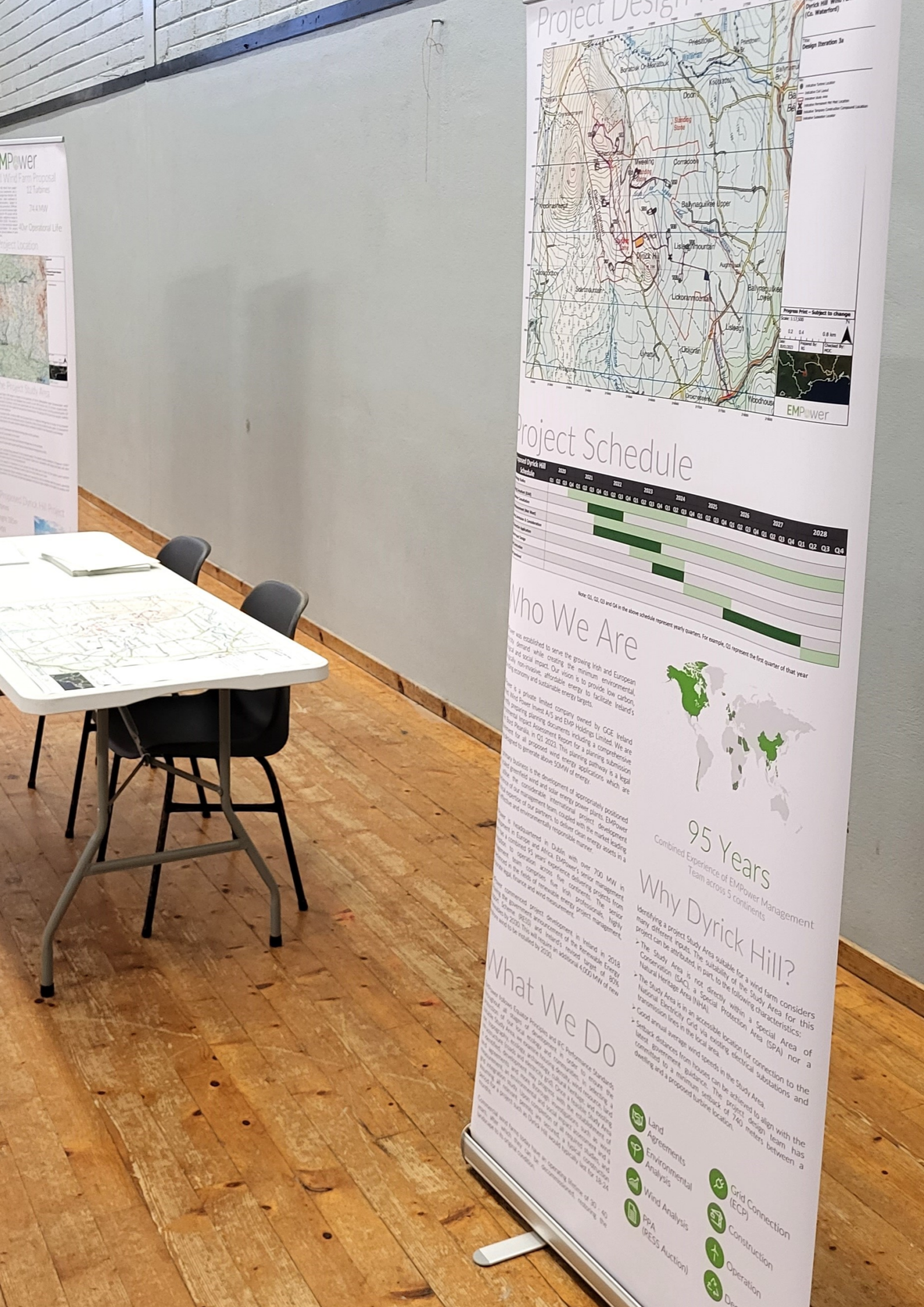
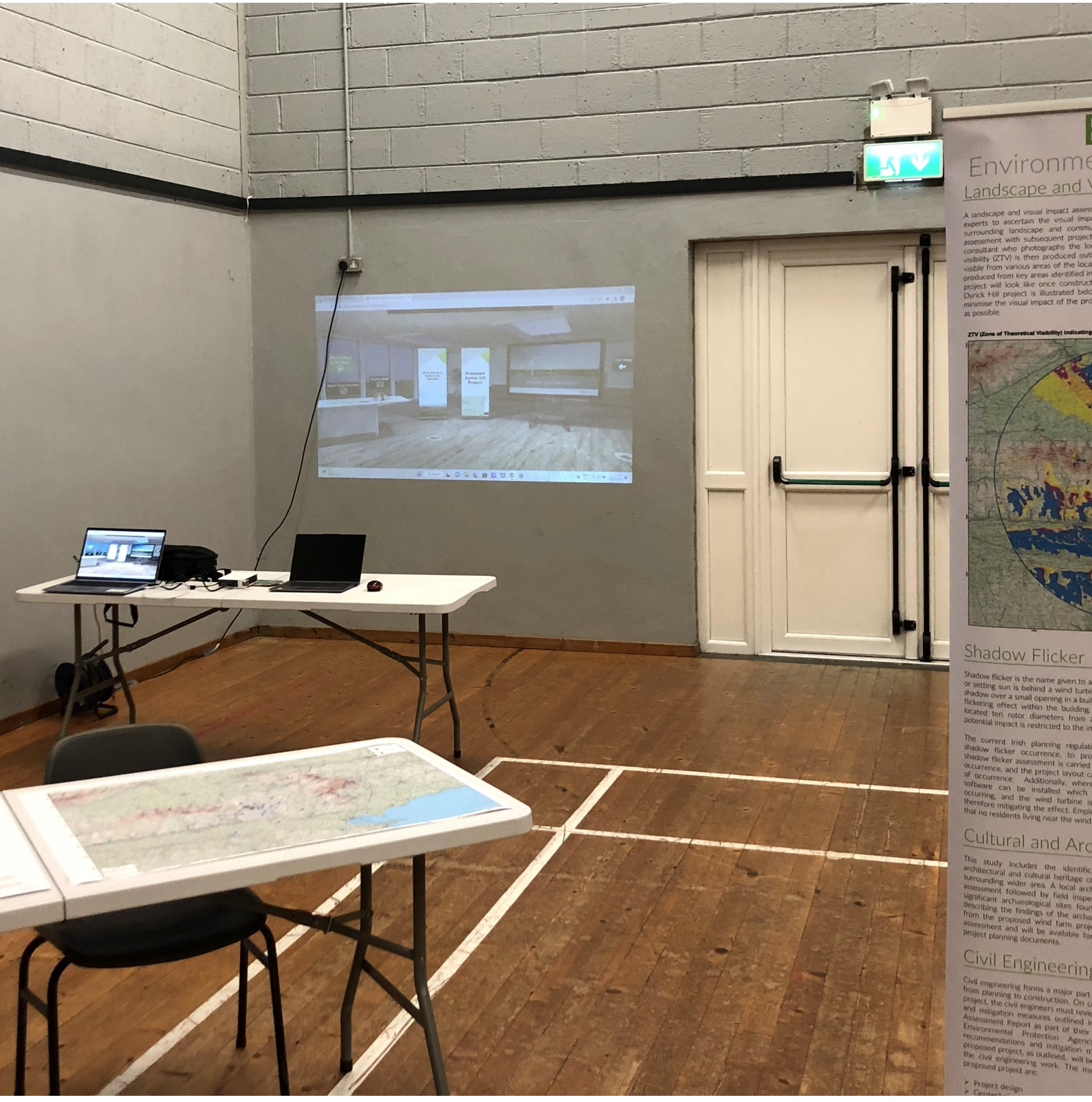

Wind Farm Location
Project Maps
Wind Energy & Community Benefits
Proposed Dyrick Hill Project
Project Introduction


Proposed Dyrick Hill Project


Project Design
Design Iteration 3a
Progress Print – Subject to change
EMPower
Project Schedule
Who We Are
95 Years
Combined Experience of EMPower Management Team across 5 continents
Why Dyrick Hill?
What We Do
Land Agreements
Environmental Analysis
Wind Analysis
PPA (RESS Auction)
Grid Connection (ECP)
Construction
Operation

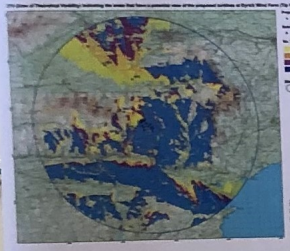

EMPower
Wind Energy in Ireland
3.7 GW
32%
80%
Community Benefit
EMPower
Environmental & Social Impact Statement
EMPower
Environmental Impact Assessment
EMPower


Environme
Landscape and
A landscape and visual impact assess
experts to ascertain the visual impa
surrounding landscape and comm
assessment with subsequent project
consultant who photographs the lo
visibility (ZTV) is then produced outl
visible from various areas of the local
produced from key areas identified in
project will look like once construct
Dyrick Hill project is illustrated belo
minimise the visual impact of the pro
as possible.
ZTV (Zone of Theoretical Visibility) indicating
Shadow Flicker
Shadow flicker is the name given to a
or setting sun is behind a wind turbi
shadow over a small opening in a bui
flickering effect within the building.
located ten rotor diameters from
potential impact is restricted to the in
The current Irish planning regulati
shadow flicker occurrence, to pro
shadow flicker assessment is carried
occurrence, and the project layout c
of occurrence. Additionally, where
software can be installed which
occurring, and the wind turbine is
therefore mitigating the effect. Empi
that no residents living near the wind
Cultural and Arc
This study includes the identific
architectural and cultural heritage o
surrounding wider area. A local arch
assessment followed by field inspe
significant archaeological sites foun
describing the findings of the archa
from the proposed wind farm proj
assessment and will be available fo
project planning documents.
Civil Engineering
Civil engineering forms a major part
from planning to construction. On c
project, the civil engineers must revie
and mitigation measures outlined in
Assessment Report as part of their
Environmental Protection Agency
recommendations and mitigation m
proposed project, as outlined, will b
the civil engineering work. The m
proposed project are;
Project design

EMPower

Environmental Impact Assessment

Landscape and Visual



Shadow Flicker

Cultural and Archaeological

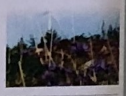
Civil Engineering

EMPower

Environmental Impact Assessment

Population and Human Health

Biodiversity



Ornithology

Noise & Vibration

Water & Hydrology


EMPower
Environmental Impact Assessment
Landscape and Visual
Shadow Flicker
Cultural and Archaeological
Civil Engineering


EMPower
Project Location
Project Sche
Who We Are
What We Do


OVERALL SITE LAYOUT PLAN

EMPower

Wind Energy in Ireland

Current Situation

Wind energy is currently the largest contributing resource of renewable energy in Ireland. It is both Ireland's largest and cheapest renewable electricity resource. At present the Republic of Ireland has over 300 operational onshore wind farms consisting of 2,500 turbines and a combined capacity of c.4,300MW. In Q1 2019, wind energy provided 37% of the state's electricity demand and had a total installed capacity of 3,700 MW (IWEA 2019). This is enough to power 2.2 million Irish homes and accounts for the second largest source of electricity generation in Ireland after natural gas. Ireland is one of the leading countries in the deployment of wind energy and 3rd place worldwide in 2018, after Denmark and Uruguay.

3.7 GW

Enough power for 2.2 million Irish homes in 2019

National Goals

In June 2019, the government published the Climate Action Plan 2019, which sets out Ireland's proposed pathway to 2030. This Plan is also consistent with a net zero carbon emissions target by 2050. The Plan commits to increasing Ireland's renewable share in electricity from 32% in 2018 to 80% by 2030, which will involve the addition of 12 GW of renewable electricity generation. In the (SEAI) techno-economic analysis referred to in the Climate Action Plan, onshore wind is identified as the most cost-effective energy source, accounting for 8.2 GW, or two thirds of additional renewable generation being targeted by the government for 2030.

32% 2018 Renewable Electricity Share → **80%** 2030 Renewable Electricity Share

- 300 Operational Wind Farms in Ireland.
- 2,500 Wind Turbines.
- 4,300MW of Installed Capacity.
- Displaced 2.7 million tonnes of CO_2 emissions in 2017

RESS Auction

The new Renewable Electricity Support Scheme (RESS), announced in July 2018, will help deliver Ireland's contribution to our national and EU-wide binding renewable energy targets. The scheme is based on competitive, technology neutral auctions in which renewable energy projects compete with one and other for contracts. This ensures minimum cost to the consumer. One of RESS' key objectives is to increase community participation, as well as community benefits, some of which are highlighted below. The first RESS auction began in late 2019 with subsequent auctions scheduled over the coming years.

Community Benefit

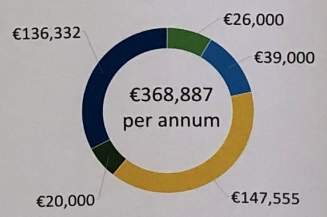
The proposed Dyrick Hill Wind Farm will require an approximate €105 million investment and will provide sustainable, low carbon energy generation infrastructure to meet Ireland's growing demands. The benefits to the local community would include significant investment in local infrastructure such as roads and electrical systems, local job creation, and an estimated contribution of €23.8 million in county council rates over the project lifetime.

The proposed Dyrick Hill Wind Farm will also provide a community fund made available to the local community for the duration of the Renewable Electricity Support Scheme (15 years). The total fund is calculated as €2 per every Mega Watt Hour (MWh) of electricity which is produced by the project once commissioned. The average capacity factor of wind energy projects in Ireland is 28.3% (SEAI, 2019). Using this efficiency figure as an example and assuming a capacity of 74.4 MW, the community benefit fund would amount to approximately €368,887 per annum. The eventual fund may vary slightly depending on the final permitted project capacity and generation performance of the project each year.

A minimum of 40% of the fund, amounting to approximately €147,555 per year, will be allocated to not-for-profit community enterprises, with an emphasis on low-carbon initiatives. An annual minimum payment of €1,000 will also be provided to each household within 1km of any constructed wind turbine which forms part of the Dyrick Hill Wind Farm project. An annual minimum payment of €500 will be provided to each household located between 1km and 2km of a constructed Dyrick Hill wind turbine. The balance of the fund is proposed to be allocated to clubs, societies and other worthy local causes successful in the annual application process. We welcome any suggestions from the community on suitable local projects that could be supported under this initiative.

As well as these direct financial benefits, The proposed Dyrick Hill Wind Farm will provide local job creation, expected to total 126 direct jobs, as well as 30 operations and maintenance jobs which would endure throughout the project's lifetime.

Dyrick Hill Community Fund Allocation Example



- Combined Fund for Households <1km distance
- Combined Fund for Households >1km, <2km distance
- Not-for-profit community enterprises
- Fund administration
- Local initiatives, clubs and societies

€ 105 million Infrastructure Investment

€ 5.5 million[1] Community Fund

€ 23.8 million[2] County Council Rates Contribution

156 Direct jobs in construction and operational phases

126 Direct jobs in construction phase

30 Highly skilled jobs over proposed 40 year operations

1 – Over 15 year RESS contract
2 – Estimated €8,000 per mega watt installed for 40 year project lifespan

EMPower

Dyrick Hill Wind Farm Proposal

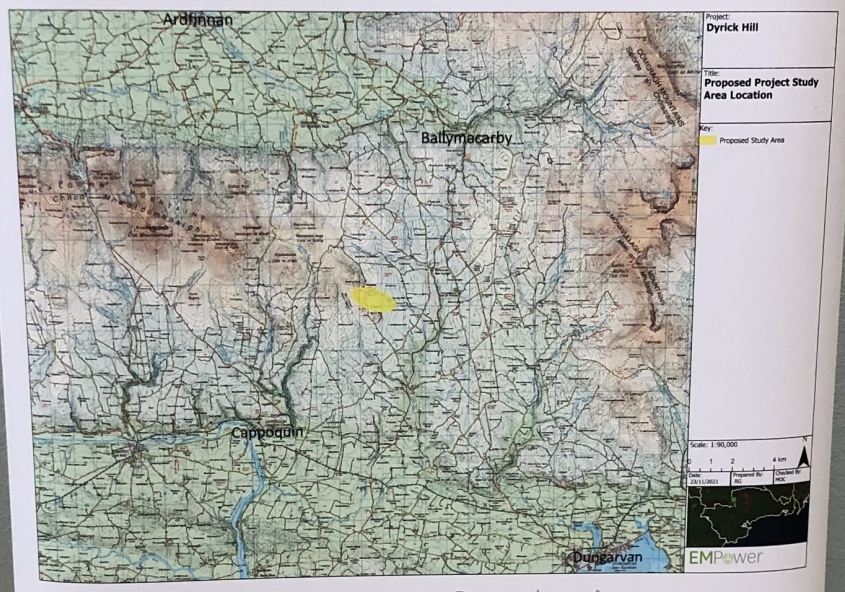
The Study Area for the proposed Dyrick Hill Wind Farm project consists of over 400 hectares owned by local landowners and is located in Co. Waterford. Measured in a straight-line direction, the Project's Study Area is located approximately 16km northwest of Dungarvan and 8.5km southwest of Ballymacarbry. Subject to environmental impact assessment and planning permission, EMPower are proposing a 12 wind turbine project, at an overall maximum blade tip height of 185 metres. The proposed Dyrick Hill project will be capable of providing enough clean, affordable, indigenous energy to power over 43,900 average Irish homes (SEAI 2018). The project is currently assessing grid connection options to the electricity network including a connection to Dungarvan Sub-Station. The project's Turbine Delivery Route assessments centre around delivery of wind turbine components from Waterford City port.

12 Turbines

74.4 MW

40yr Operational Life

Project Location



The Project Study Area

The Study Area for the proposed Dyrick Hill project is located in the townlands of Dyrick, Ballynaguilkee Upper, Broemountain and Lisleaghmountain in Co. Waterford. The Study Area and Buildable Area consists of over 400 hectares and 115 hectares, respectively. Generally, the Study Area is comprised of farmland, forestry and upland heath with soils and subsoils present consisting predominantly of shallow bedrock with minor peat pockets and minor glacial till and podzols in lowland areas. The geology of the Study Area consists mainly of upper Devonian age sandstone and mudstone.

The Project's Study Area is not located within a Natura 2000 site (European Site) or a National Heritage Area. A number of European designated sites do occur within the wider area surrounding the project's Study Area. Some of these sensitive locations within 15 kilometres of the project's Study Area are listed below. All nearby sensitive habitats will be considered in detail for the final project's overall design.

- Blackwater River Special Area of Conservation and National Heritage Area to the southwest;
- Lower River Suir Special Area of Conservation to the north;
- Nier Valley Woodlands Special Area of Conservation and National Heritage Area to the northeast;
- Glendine Wood Special Area of Conservation (south) and Glenboy Wood National Heritage Area (north).

The grid connection options are currently being assessed for the proposed project. The nearest existing substation is Dungarvan 110kV substation which is located approximately 15 kilometres south of the project's Study Area. Consultation with Eirgrid and ESBN will also dictate the eventual connection point chosen for this proposed project.

If the project is consented the seaports of Waterford or Cork provide the most likely port of entry for the project's wind turbine components. Delivery route surveys are currently underway in order to select the most viable access route.

The final Environmental Impact Assessment Report, including all studies and assessments, will be submitted with the project's planning application to the consenting authority. The final report and planning application will also be made available to the public for viewing and comment.

The Proposed Dyrick Hill Project

- 12 Turbines
- Tip Height 185m
- 74.4 MW
- On-Site 110KV Substation
- Access From N72
- Grid Connection Options Nearby
- Clean Power For Over 43,900 Irish Homes

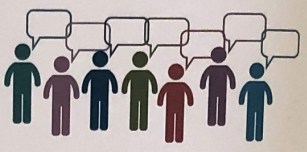

Typical upland Irish wind farm, Co. Cork

EMPower
Environmental Impact Assessment

EMPower have commissioned an ongoing Environmental Impact Assessment (EIA) for the proposed project to assess what effects the project might have on the local human and ecological environment. EMPower are the primary project management contacts during the project assessments and the company will engage with the key stakeholders at every stage of this research to ensure we keep the local community and all interested stakeholders up to date with accurate project information. The results of all these assessments will form part of the final publicly available Environmental Impact Assessment Report (EIAR) and the planning submission to the consenting authority. The following studies will be conducted as part of this process.

Population and Human Health

The Population and Human Health assessment includes the processes of analysing, monitoring and managing the intended and unintended consequences, both positive and negative, of planned interventions (e.g. a wind farm project) on the local human population. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment.



This will include the following activity at a minimum:

- identify interested and affected people;
- collect baseline data (social profiling) to allow evaluation and audit of the impact assessment process and the planned intervention itself;
- give a rich picture of the local historical and cultural context
- predict (or analyse) likely impacts and how different stakeholders are likely to respond;
- recommend mitigation measures;
- describe potential conflicts between stakeholders and advise on resolution processes;

Biodiversity

A detailed biodiversity, flora and fauna study will be conducted in order to understand the current biological conditions present within the Study Area, as well as the likely impacts of such a development on surrounding environments. Surveys include habitat mapping and targeted sampling of flora and non-avian fauna at a variety of survey points within different identified habitats within the proposed projects Study Area as well as additional survey points along the transmission corridor. Timed species counts can be used to record resident fauna species at each survey point.

Plant species will be recorded using baseline study investigations and any protected or endangered species will be noted. The final site design will avoid any sensitive habitats and mitigate by design where possible.

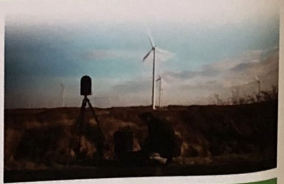
Ornithology

The Royal Society for the Protection of Birds (RSPB) states that wind power has the greatest potential to make a significant difference in mitigating climate change in the coming decade as: 'it is the most advanced and widely available of the new renewable technologies'. RSPB insists that wind farm proposals that may affect sensitive bird populations or their habitats are subject to rigorous environmental assessment before development is permitted and that the effects of any approved developments are monitored before and after a projects construction.

Impacts of wind farms on bird populations can occur through collisions, habitat loss, avoidance/barrier effects, disturbance displacement or exclusion, e.g. from breeding grounds or foraging areas. For this reason, EMPower take the utmost due care and diligence to ensure that any proposed wind turbines are positioned to cause the minimum possible impact to the native birds well being and habitat. In line with industry best practice, EMPower will be conducting a minimum of 2 years bird surveys prior to submission of a any planning application.

Noise & Vibration

The evolution of wind farm technology over the past decade has rendered mechanical noise from turbines almost undetectable with the main sound being the aerodynamic 'swoosh' of the blades passing the tower. However, strict guidelines on wind turbines and noise emissions remain to ensure the protection of residential amenity.



Noise assessments that will be undertaken as part of the EIA will comply with the wind farm planning guidelines. Independent noise consultants will undertake a noise assessment to consider the impact of proposed turbine positions on the surrounding area, in particular on nearby residential properties. Measurements of background noise will be taken from the closest dwellings to the Study Area, allowing wind farm noise emissions to be simulated based on the background levels measured and combined with turbine noise emissions. All windfarms must comply with the current guidelines which state that noise levels shall not exceed the greater of, 5dB(A) above background noise levels or 43dB(A) when measured externally at a dwelling or other sensitive receptors.

Source/Activity	Indicative noise level dBA
Rural night-time background	20-50
Quiet bedroom	35
Windfarm at 350m	35-45
Busy road at 5 km	35-45
Car at 65km/hr at 100m	55
Busy general office	60
Conversation	60
Truck at 50km/hr at 100m	65
Inside a typical shopping centre	70-75
Passenger cabin of jet aircraft	85
City Traffic	90

Comparison of sound pressure levels in our Environment
(Source: Factsheet by Australian Government (Greenhouse Office) & Australian Wind Energy Association)

The final EIA will include a report describing the findings of the noise assessment and any impact on local dwellings from the proposed wind farm. This final report and research will be available for review by any member of the public.

Water & Hydrology

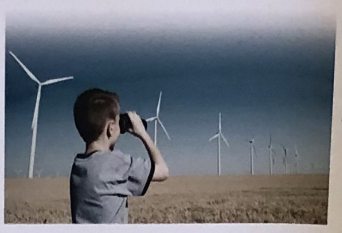
Hydrology and hydrogeology refers to the study of how water flows under and through the landscape. A desktop survey to establish the baseline conditions within and adjacent to the Study Area will be undertaken. Following this desktop survey, field visits will confirm a number of these findings and inform any required actions or mitigation strategies for the various stages of the proposed project's life cycle, most notably construction. The final project design will minimise the risk of construction materials disturbing local water courses, streams and rivers in the proposed project's vicinity.

EMPower

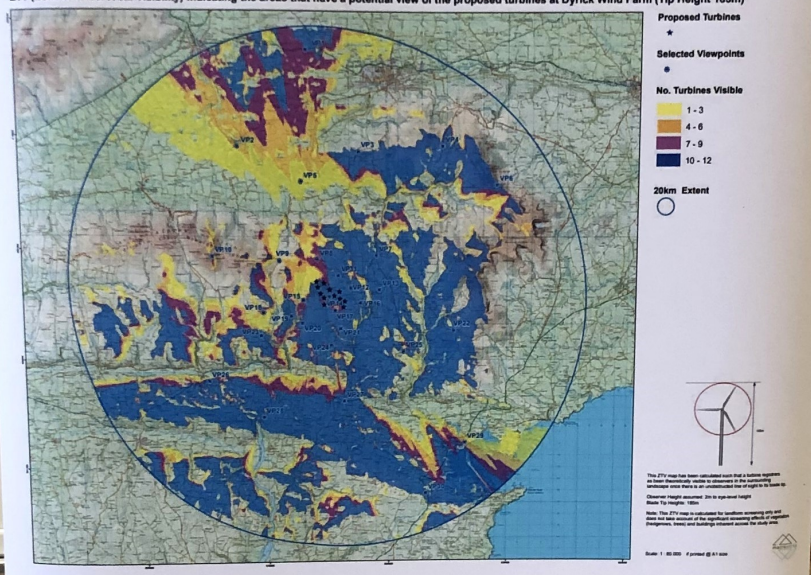
Environmental Impact Assessment

Landscape and Visual

A landscape and visual impact assessment will be carried out by industry experts to ascertain the visual impact of the proposed project on the surrounding landscape and community. This is initially a desk-based assessment with subsequent project area visits by a qualified landscape consultant who photographs the local landscape. A zone of theoretical visibility (ZTV) is then produced outlining which project elements will be visible from various areas of the local landscape. Photo-montages are also produced from key areas identified in the ZTV to show what the proposed project will look like once constructed. The ZTV map for the proposed Dyrick Hill project is illustrated below. EMPower design our projects to minimise the visual impact of the project on surrounding location as much as possible.



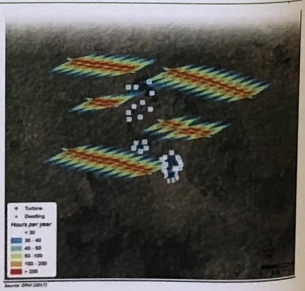
ZTV (Zone of Theoretical Visibility) indicating the areas that have a potential view of the proposed turbines at Dyrick Wind Farm (Tip Height 185m)



Shadow Flicker

Shadow flicker is the name given to a phenomenon caused when the rising or setting sun is behind a wind turbines rotating blades, casting a moving shadow over a small opening in a building such as a window. This creates a flickering effect within the building. Best practice states that properties located ten rotor diameters from a wind turbine are not affected so potential impact is restricted to the immediate vicinity of a project.

The current Irish planning regulations has a zero-limit tolerance for shadow flicker occurrence, to protect local residential properties. A shadow flicker assessment is carried out to demonstrate the potential for occurrence, and the project layout can be modified to design out the risk of occurrence. Additionally, where there is potential for occurrence, software can be installed which identifies when shadow flicker is occurring, and the wind turbine is shut down for a period of time, therefore mitigating the effect. Employing this mitigation measure ensures that no residents living near the wind farm experience shadow flicker.



Cultural and Archaeological

This study includes the identification of significant archaeological, architectural and cultural heritage constraints within the Study Area and surrounding wider area. A local archaeologist will conduct a desk based assessment followed by field inspections to identify and categorise all significant archaeological sites found within the Study Area. A report describing the findings of the archaeological survey and possible impact from the proposed wind farm project will be produced as part of this assessment and will be available for review by the public along with all project planning documents.

Civil Engineering

Civil engineering forms a major part of this proposed project as we move from planning to construction. On commencing the planning work on the project, the civil engineers must review and implement methods, processes and mitigation measures outlined in the project's Environmental Impact Assessment Report as part of their planning and construction work. The Environmental Protection Agency (EPA) will require that their recommendations and mitigation measures for the construction of the proposed project, as outlined, will be implemented and followed as part of the civil engineering work. The main areas of civil engineering for the proposed project are;

- Project design
- Geotechnical and Study Area investigations
- Turbine foundation and crane pad construction
- Cable installation
- Sediment and erosion control measures
- Traffic Impact Assessment for the construction phase of the proposed project
- Wind turbine equipment assembly and construction
- Commissioning of the wind turbines
- Project clean-up and restoration.

EMPower

Wind Energy in Ireland

Current Situation

Wind energy is currently the largest contributing resource of renewable energy in Ireland. It is both Ireland's largest and cheapest renewable electricity resource. At present the Republic of Ireland has over 300 operational onshore wind farms consisting of 2,500 turbines and a combined capacity of c.4,300MW. In Q1 2019, wind energy provided 35% of the state's electricity demand and had a total installed capacity of 3700 MW (IWEA 2019). This is enough to power 2.2 million Irish homes and accounts for the second largest source of electricity generation in Ireland after natural gas. Ireland is one of the leading countries in the deployment of wind energy and 3rd place worldwide in 2018, after Denmark and Uruguay.

3.7 GW
Enough power for 2.2 million Irish homes in 2019

National Goals

In June 2019, the government published the Climate Action Plan 2019, which sets out Ireland's proposed pathway to 2030. This Plan is also consistent with a net zero carbon emissions target by 2050. The Plan commits to increasing Ireland's renewable share in electricity from 32% in 2018 to 80% by 2030, which will involve the addition of 12 GW of renewable electricity generation. In the (SEAI) techno-economic analysis referred to in the Climate Action Plan, onshore wind is identified as the most cost-effective energy source, accounting for 8.2 GW, or two thirds of additional renewable generation being targeted by the government for 2030.

32% 2018 Renewable Electricity Share → **80%** 2030 Renewable Electricity Share

- 300 Operational Wind Farms in Ireland.
- 2,500 Wind Turbines.
- 4,300MW of Installed Capacity.
- Displaced 2.7 million tonnes of CO_2 emissions in 2017

RESS Auction

The new Renewable Electricity Support Scheme (RESS), announced in July 2018, will help deliver Ireland's contribution to our national and EU-wide binding renewable energy targets. The scheme is based on competitive, technology neutral auctions in which renewable energy projects compete with one and other for contracts. This ensures minimum cost to the consumer. One of RESS' key objectives is to increase community participation, as well as community benefits, some of which are highlighted below. The first RESS auction began in late 2019 with subsequent auctions scheduled over the coming years.

Community Benefit

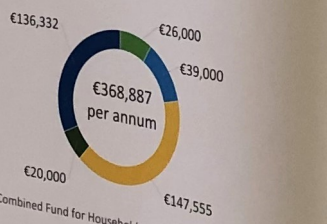
The proposed Dyrick Hill Wind Farm will require an approximate €105 million investment and will provide sustainable, low carbon energy generation infrastructure to meet Ireland's growing demands. Significant investment in local infrastructure such as roads and electrical systems, local job creation, and an estimated contribution of €23.8 million in county council rates over the project lifetime.

The proposed Dyrick Hill Wind Farm will also provide a community fund made available to the local community for the duration of the Renewable Electricity Support Scheme (15 years). The total fund is calculated as €2 per every Mega Watt Hour (MWh) of electricity which is produced by the project once commissioned. The average capacity factor of wind energy projects in Ireland is 28.3% (SEAI, 2019). Using this efficiency figure as an example and assuming a capacity of 74.4 MW, the community benefit fund would amount to approximately €368,887 per annum. The eventual fund may vary slightly depending on the final permitted project capacity and generation performance of the project each year.

A minimum of 40% of the fund, amounting to approximately €147,555 per year, will be allocated to not for profit community enterprises with an emphasis on low-carbon initiatives. An annual minimum payment of €1,000 will also be provided to each household within 1km of any constructed wind farm which forms part of the Dyrick Hill Wind Farm project. An annual minimum payment of €500 will be provided to each household located between 1km and 2km of a constructed Dyrick Hill wind turbine. The balance of the fund is proposed to be allocated to clubs, societies and other worthy local causes successful in the annual application process. We welcome any suggestions from the community on suitable local projects that could be supported under this initiative.

As well as these direct financial benefits, the proposed Dyrick Hill Wind Farm will provide local job creation, expected to total 126 direct jobs, as well as 30 operational and maintenance jobs which would endure throughout the project's lifetime.

Dyrick Hill Community Fund Allocation Example



€ 105 million Infrastructure Investment

€ 5.5 million[1] Community Fund

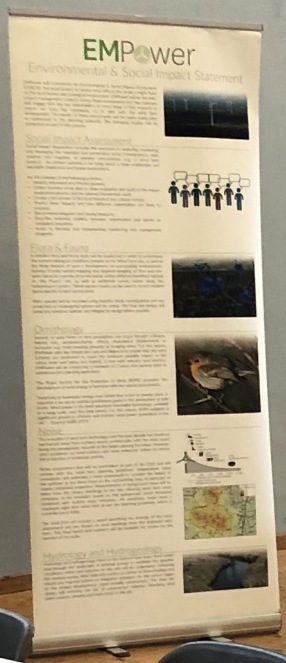
€ 23.8 million[2] County Council Rates Contribution

156 Direct jobs in construction and operational phases

126 Direct jobs in construction phase

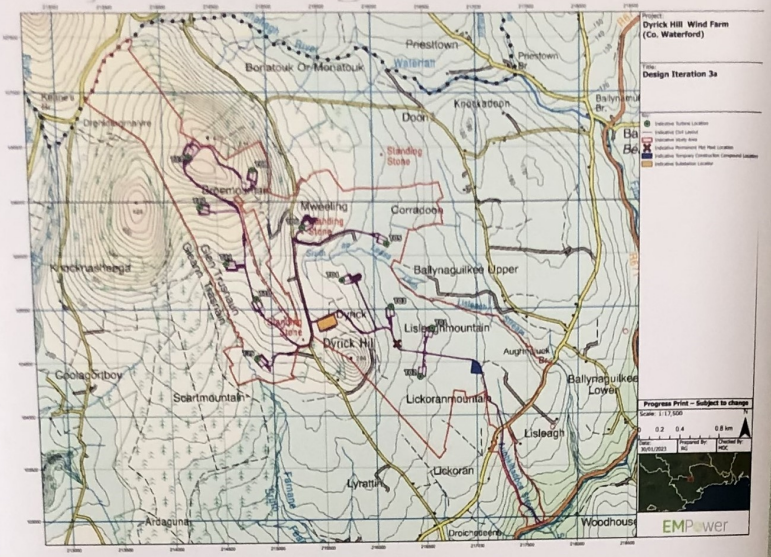
30 Highly skilled jobs over proposed 40 year operations

1 – Over 15 year RESS contract
2 – Estimated €8,000 per mega watt installed for 40 year project lifespan




EMPower
Environmental Impact Assessment
Population and Human Health
Biodiversity
Ornithology
Noise & Vibration
Water & Hydrology

Project Design Iteration 3a



Project Schedule

Proposed Dyrick Hill Schedule	2020				2021				2022				2023				2024				2025				2026				2027				2028			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Ornithology Studies																																				
Planning Consultant (EIAR)																																				
Stakeholder Consultation																																				
Wind Measurement (Met Mast)																																				
Planning Submission & Consideration																																				
Grid Connection Application																																				
Detailed Project Design																																				
Project Construction																																				
Project Operational																																				

Note: Q1, Q2, Q3 and Q4 in the above schedule represent yearly quarters. For example, Q1 represent the first quarter of that year

Who We Are

EMPower was established to serve the growing Irish and European electricity demand while creating the minimum environmental, ecological and social impact. Our vision is to provide low carbon, ecologically non-invasive, affordable energy to facilitate Ireland's expanding economy and sustainable energy targets.

EMPower is a private limited company owned by GGE Ireland Limited, Wind Power Invest A/S and EMP Holdings Limited. We are currently preparing planning documents including a comprehensive Environmental Impact Assessment Report for a planning submission to An Bord Pleanála, in Q1 2023. This planning pathway is a legal requirement for all proposed wind energy applications which are being designed to generate above 50MW of energy.

Our primary business is the development of appropriately positioned and scaled greenfield wind and solar energy power plants. EMPower will utilise the considerable international project development experience of our management team, coupled with the market leading technical expertise of our partners, to deliver clean energy assets in a cost effective and environmentally responsible manner.

EMPower is headquartered in Dublin with over 700 MW in development in Europe and Africa. EMPower's senior management team has a combined 95 years' experience delivering projects from conception to operation across five continents. The senior management team comprises five Irish professionals, highly experienced in the fields of renewable energy project management, corporate legal, finance and wind measurement.

EMPower commenced project development in Ireland in 2018 following the government announcement of the Renewable Energy Support Scheme (RESS) and Ireland's revised target of 80% renewables by 2030. This will require an additional 4,000 MW of new onshore wind to be installed by 2030.

95 Years

Combined Experience of EMPower Management Team across 5 continents

Why Dyrick Hill?

Identifying a project Study Area suitable for a wind farm considers many different inputs. The suitability of the Study Area for this project can be attributed, in part, to the following characteristics:

- The Study Area is not directly within a Special Area of Conservation (SAC), a Special Protection Area (SPA) nor a Natural Heritage Area (NHA).
- The Study Area is in an accessible location for connection to the National Electricity Grid via existing electrical substations and transmission lines in the local area.
- Good annual average wind speeds in the Study Area.
- Setback distances from houses can be achieved to align with the latest government guidance. The project design team has committed to a minimum setback of 740 meters between a dwelling and a proposed turbine location.

What We Do

EMPower follows Equator Principles and IFC Performance Standards throughout all stages of development in order to ensure the protection of our local ecology and communities. In selecting a suitable Study Area, we examine housing density, wind resource, land use, topography, ecology, archaeology, cultural heritage, and existing infrastructure (roads and electricity grid). Once a feasible Study Area is identified, development may progress with the establishment of land agreements and more thorough investigations such as wind measurement, an environmental and social impact assessment and a grid integration study. Upon completion of all required studies, and assuming all relevant permits are secured, a typical construction period for a project such as Dyrick Hill would typically last for 18-24 months.

Commercial wind farms today have an operating lifetime of 30 - 40 years, after which they can be decommissioned, restoring the landscape to its original condition.

- Land Agreements
- Environmental Analysis
- Wind Analysis
- PPA (RESS Auction)
- Grid Connection (ECP)
- Construction
- Operation
- Decommission

EMPower

Wind Energy in Ireland

Current Situation

Wind energy is currently the largest contributing resource of renewable energy in Ireland. It is both Ireland's largest and cheapest renewable electricity resource. At present the Republic of Ireland has over 300 operational onshore wind farms consisting of 2,500 turbines and a combined capacity of c.4,300MW. In Q1 2019, wind energy provided 37% of the state's electricity demand and had a total installed capacity of 3,700 MW (IWEA 2019). This is enough to power 2.2 million Irish homes and accounts for the second largest source of electricity generation in Ireland after natural gas. Ireland is one of the leading countries in the deployment of wind energy and 3rd place worldwide in 2018, after Denmark and Uruguay.

3.7 GW

Enough power for 2.2 million Irish homes in 2019

National Goals

In June 2019, the government published the Climate Action Plan 2019, which sets out Ireland's proposed pathway to 2030. This Plan is also consistent with a net zero carbon emissions target by 2050. The Plan commits to increasing Ireland's renewable share in electricity from 32% in 2018 to 80% by 2030, which will involve the addition of 12 GW of renewable electricity generation. In the (SEAI) techno-economic analysis referred to in the Climate Action Plan, onshore wind is identified as the most cost-effective energy source, accounting for 8.2 GW, or two thirds of additional renewable generation being targeted by the government for 2030.

32% 2018 Renewable Electricity Share → **80%** 2030 Renewable Electricity Share

- 300 Operational Wind Farms in Ireland.
- 2,500 Wind Turbines.
- 4,300MW of Installed Capacity.
- Displaced 2.7 million tonnes of CO_2 emissions in 2017

RESS Auction

The new Renewable Electricity Support Scheme (RESS), announced in July 2018, will help deliver Ireland's contribution to our national and EU-wide binding renewable energy targets. The scheme is based on competitive, technology neutral auctions in which renewable energy projects compete with one and other for contracts. This ensures minimum cost to the consumer. One of RESS' key objectives is to increase community participation, as well as community benefits, some of which are highlighted below. The first RESS auction began in late 2019 with subsequent auctions scheduled over the coming years.

Community Benefit

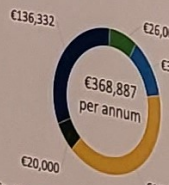
The proposed Dyrick Hill Wind Farm will require an approximate €105 million investment and will provide sustainable, low carbon energy generation infrastructure to meet Ireland's growing demands. The benefits to the local community would include significant investment in local infrastructure such as roads and electrical systems, local job creation, and an estimated contribution of €23.8 million in county council rates over the project lifetime.

The proposed Dyrick Hill Wind Farm will also provide a community fund made available to the local community for the duration of the Renewable Energy Support Scheme (15 years). The total fund is calculated as €2 per every Mega Watt Hour (MWh) of electricity which is produced by the project once commissioned. The average capacity factor of wind energy projects in Ireland is 28.3% (SEAI, 2019). Using this efficiency figure as an example and assuming a capacity of 74.4 MW, the community benefit fund would amount to approximately €368,887 per annum. The eventual fund may vary slightly depending on the final permitted project capacity and generation performance of the project each year.

A minimum of 40% of the fund, amounting to approximately €147,555 per year, will be allocated to not-for-profit community enterprises with an emphasis on low-carbon initiatives. An annual contribution payment of €1,000 will also be provided to each household within 1km of any constructed wind turbine, which forms part of the Dyrick Hill Wind Farm project. An annual minimum payment of €500 will be provided to each household located between 1km and 2km of a constructed Dyrick Hill wind turbine. The balance of the fund is proposed to be allocated to clubs, societies and other worthy local causes successful in the annual application process. We welcome any suggestions from the community of suitable local projects that could be supported under this initiative.

As well as these direct financial benefits, the proposed Dyrick Hill Wind Farm will provide local job creation, expected to total 126 direct jobs, as well as 30 operational and maintenance jobs which would endure throughout the project's lifetime.

Dyrick Hill Community Fund Allocation Example



- Combined Fund for Households <1km distance
- Combined Fund for Households >1km, <2km distance
- Not-for-profit community enterprises
- Fund administration
- Local initiatives, clubs and societies

€ 105 million Infrastructure Investment

€ 5.5 million[1] Community Fund

€ 23.8 million[2] County Council Rates Contribution

156 Direct jobs in construction and operational phases

126 Direct jobs in construction phase

30 Highly skilled jobs over proposed 40 year operations

1 – Over 15 year RESS contract
2 – Estimated €3,000 per mega watt installed for 40 year project lifespan

EMPower
Environmental & Social Impact Statement

Social Impact Assessment

Flora & Fauna

Ornithology

Noise

Hydrology and Hydrogeology