

Fferm Wynt Alltraeth

# AWEL Y MÔR

Offshore Wind Farm

# Public Consultation



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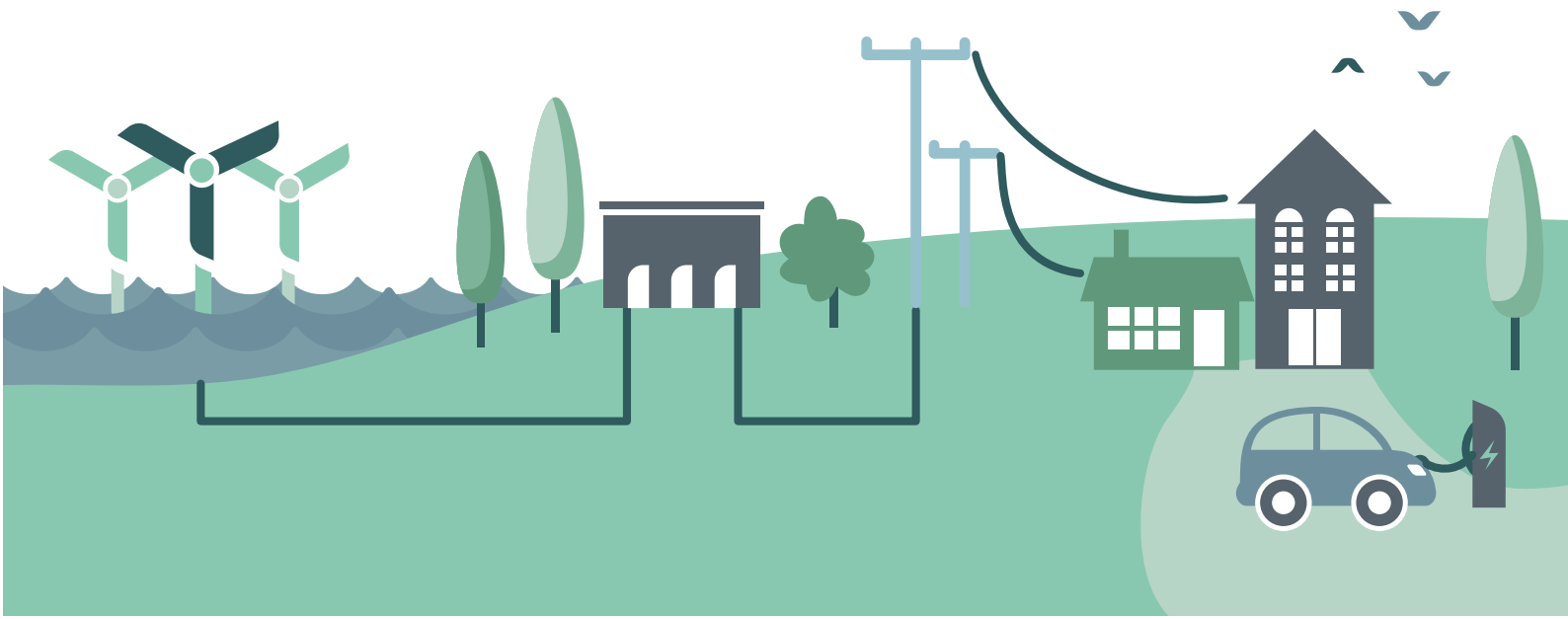
# Who are we?



Awel y Môr is a proposed offshore wind farm off the coast of North Wales. RWE Renewables is proud to be leading this development on behalf of project investors and partners: Stadtwerke München, Siemens Financial Services and RWE.

We have refined our proposals in response to the first consultation in November/December 2020, and present them here. We welcome your **feedback**.

As one of the cleanest and cheapest forms of energy generation, offshore wind projects like Awel y Môr have a central role to play in reducing carbon emissions; creating job opportunities and helping Wales meet its renewable energy targets.



# The purpose of this exhibition is to:



- **Update you on our project plans**

Including how our consultation in late 2020 has shaped our plans to date.

- **Invite your feedback on our updated project plans, including:**

- **Offshore cable route & infrastructure:**

- Offshore Array
- Offshore Export Cable Corridor
- Predicted offshore environmental impacts and mitigation measures

- **Onshore cable route & infrastructure**

- Landfall working area
- Onshore Export Cable Corridor
- Temporary Construction Compounds (TCCs)
- Substation zone and accesses
- Predicted onshore environmental impacts and mitigation measures

- **The project overall**

Thank you for providing feedback during our last public consultation in late 2020. We invite you to complete our new questionnaire, so you can further share your views on our proposals during the project's development phase. Your comments could help shape what we do and help to secure the best outcome for the area.

We hope that you enjoy this exhibition, and look forward to updating you on our plans as the project progresses. Please click **HERE** to sign up to receive regular updates from the team.

**The Awel y Môr Project Team**



# About Awel y Môr

## offshore wind farm

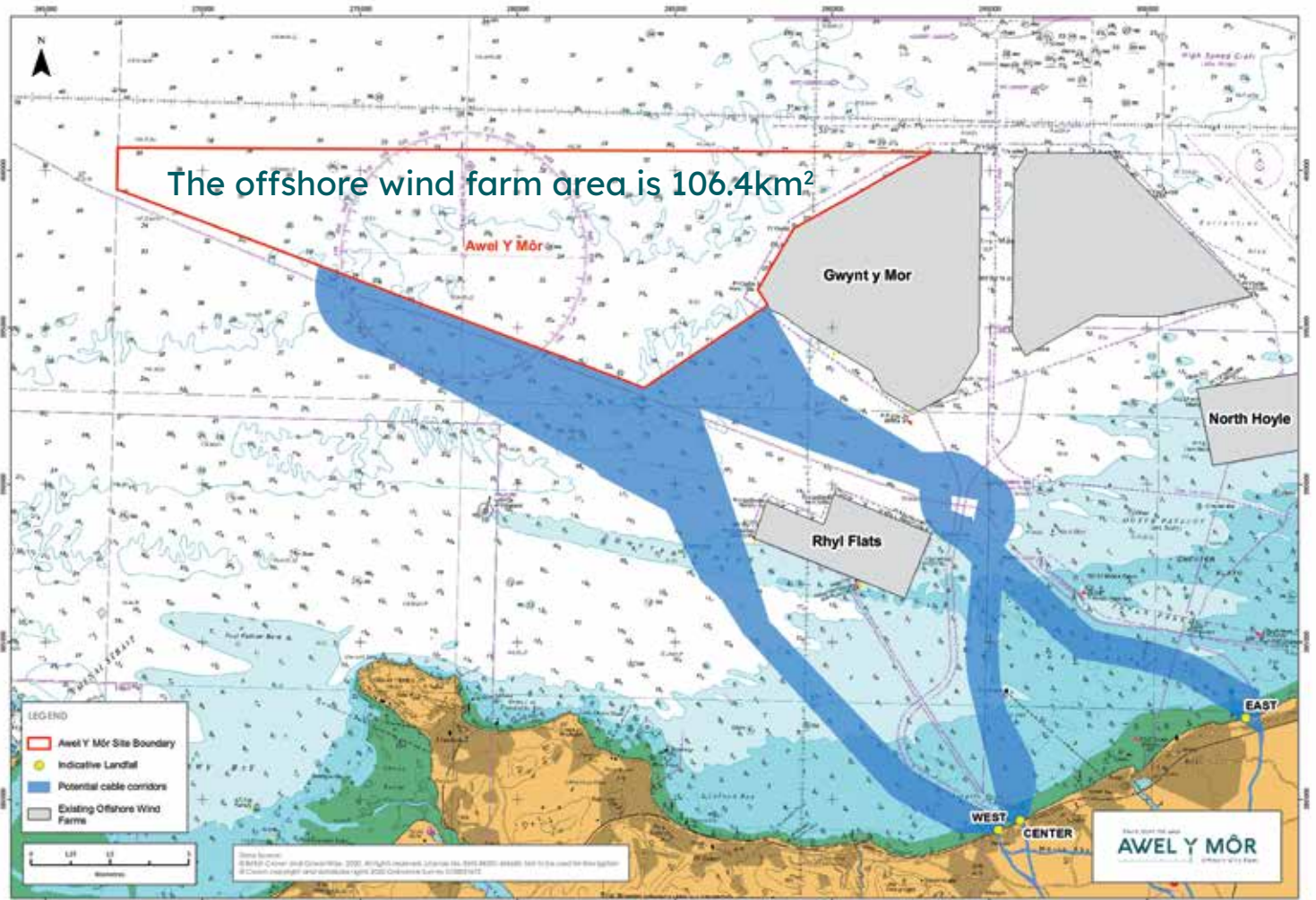


Awel y Môr Offshore Wind Farm is adjacent to the operational Gwynt y Môr Offshore Wind Farm, located off the coast of North Wales in the Irish Sea. The project is still in the development stage and design works are ongoing. We have refined our plans following numerous surveys, studies, and in line with feedback from our 2020 consultation and technical experts. The proposals can be viewed in our Preliminary Environmental Information Report (PEIR) [here](#).

The proposed Awel y Môr Offshore Wind Farm project is a once-in-a-decade opportunity for Wales, as the only commercial-scale offshore wind project that will be delivered in the 2020s. This project is currently scheduled to be the largest single renewable energy investment in Wales in the next decade and is critical to Wales playing a role in the UK's offshore wind growth story, as well as in achieving its own renewable energy and decarbonisation targets.

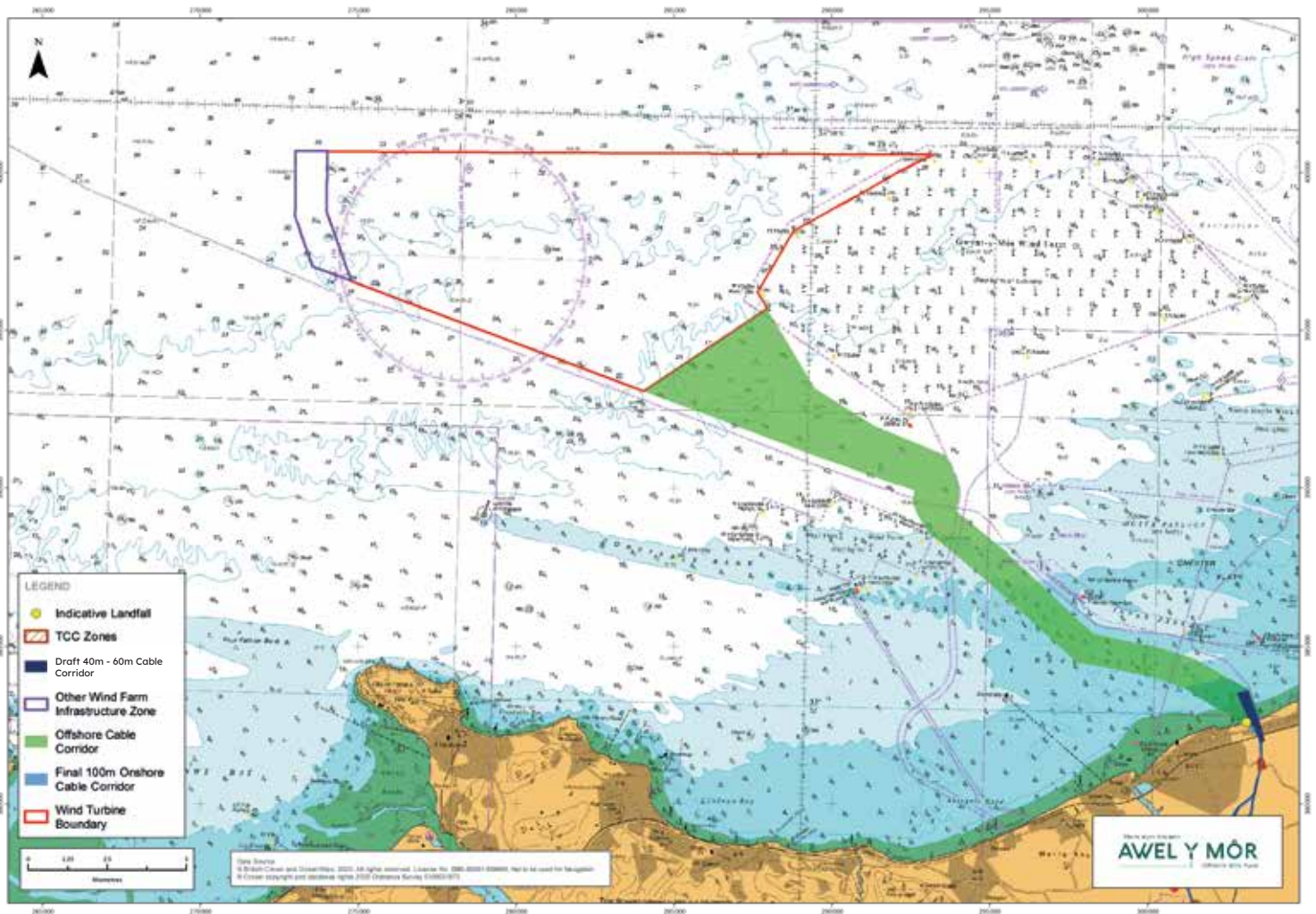


# Former offshore array area





# Reduced offshore array area (88km<sup>2</sup>), in line with survey work & feedback.





# Summary of proposed site

<b>Location:</b>	10.6km off the Welsh coast in the Irish Sea - West of existing Gwynt y Môr Wind Farm
<b>Max. extension area:</b>	88km <sup>2</sup>
<b>Max. number of turbines:</b>	Up to 91 (This depends on the size of the turbines. The taller the turbines are, the fewer would be required.)
<b>Max. installed capacity:</b>	Up to 1,100MW of clean renewable energy
<b>Equivalent homes powered:</b>	Up to approximately 900,000 average UK homes
<b>Max. turbine height:</b>	332m tip height
<b>Grid connection point:</b>	Bodelwyddan, St Asaph



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# How feedback has informed the project

Feedback from our first public consultation in November/December 2020, and from regulators including the local planning authorities and Natural Resources Wales, has helped shape this project to date.

## The key changes include:

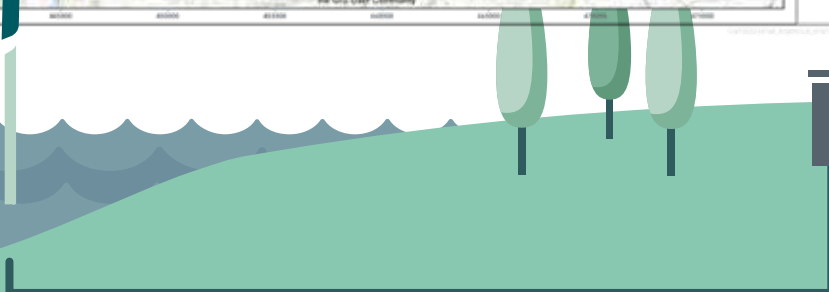
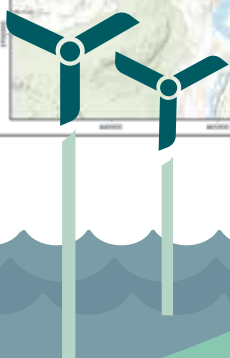
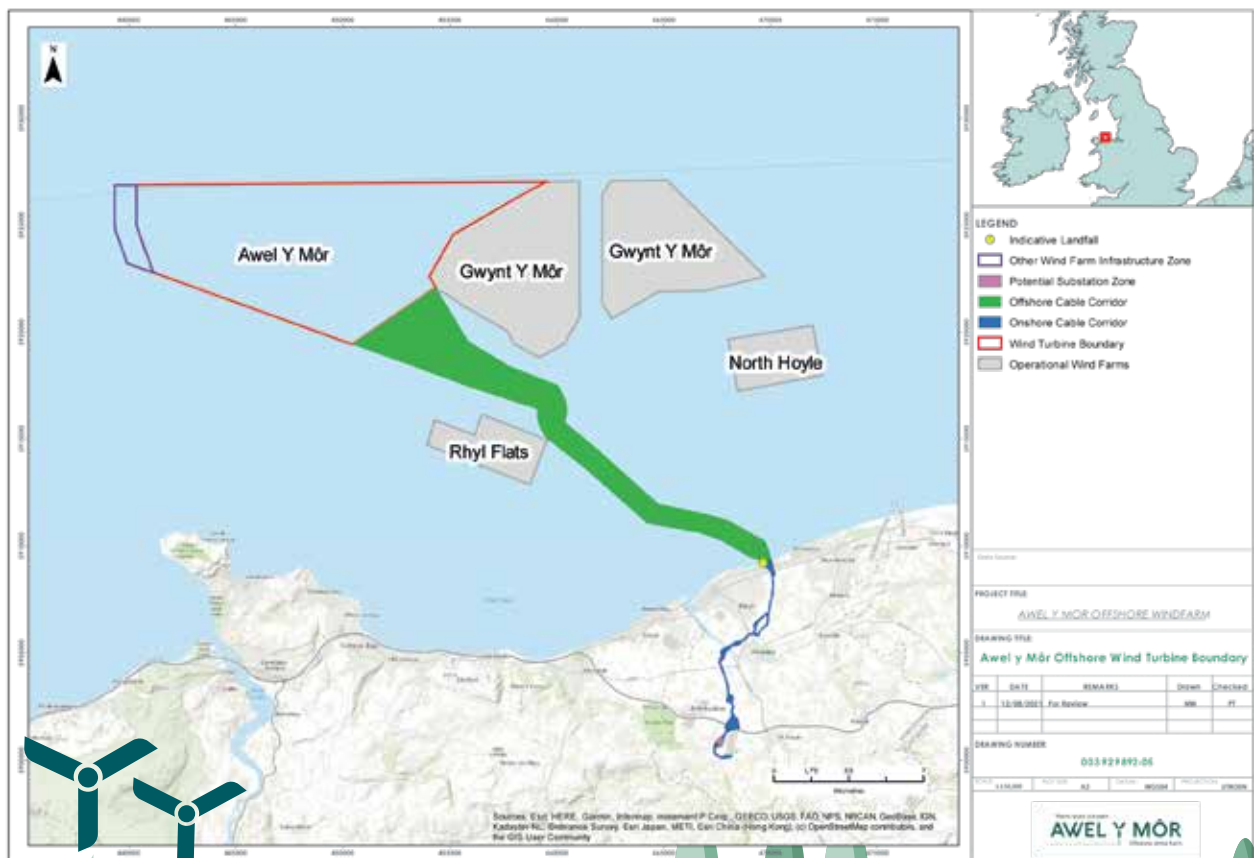
- The offshore array area has been reduced in size (from 107 to 88 km<sup>2</sup>) to manage the project's impacts on visual amenity, shipping and navigation and marine mammals.
- The maximum number of turbines that we would install has reduced accordingly from 107 to 91.
- The offshore cable route was selected to avoid Constable Bank, an ecologically important sandbank west of Rhyl Flats wind farm.
- The landfall has been selected from three options presented in our previous consultation in late 2020. The preferred landfall ensures the offshore cable route can avoid Constable Bank and allows for a shorter onshore cable route.
- The onshore cable route has been selected from the three options previously consulted upon. A 40–60m preferred corridor has been identified within the 100m corridor using feedback gained through consultation.
- The onshore substation zone has been selected from three options consulted upon previously. The zone has a good level of natural screening and is well located for the onward connection into Bodelwyddan.

With your input to the **Consultation Questionnaire**, we will be in a position to review the project plans further still.



# The offshore cable route

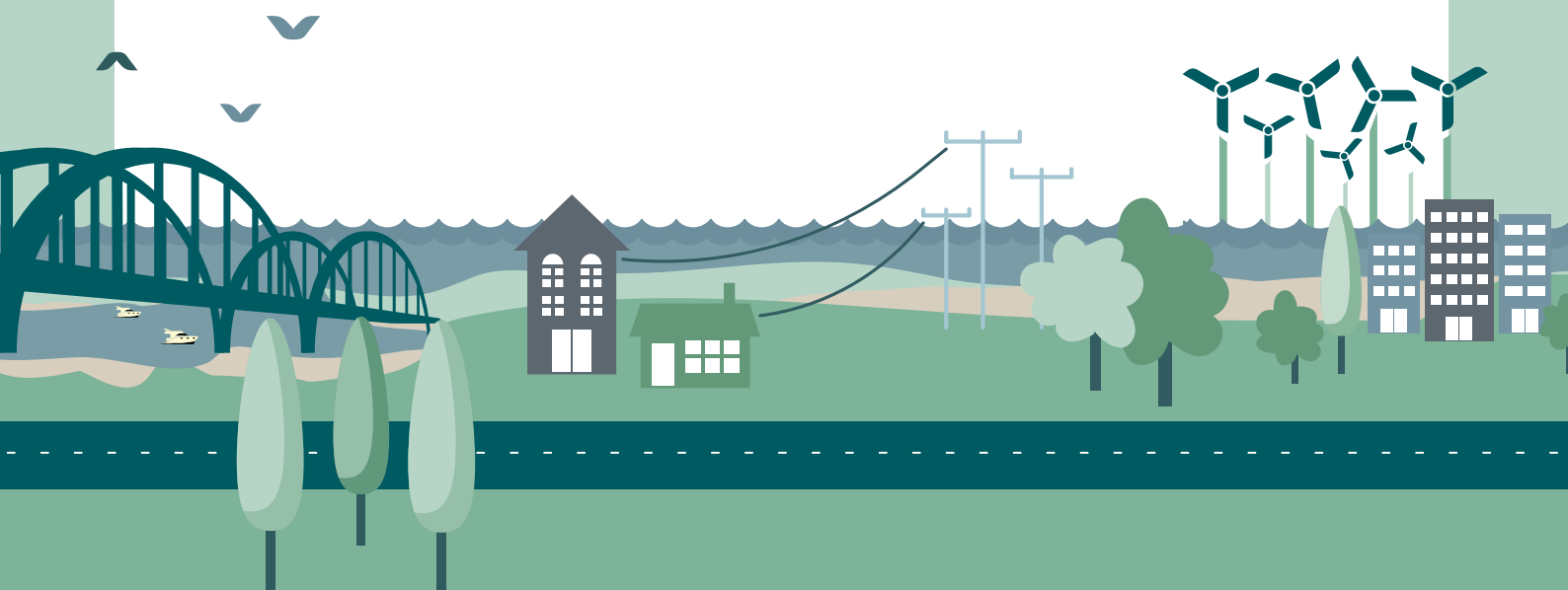
The offshore array will be connected to shore by a cable laid on and under the seabed. At our consultation in 2020, we presented three options for the route of this cable. With feedback received from stakeholders and regulators, we have refined this to one preferred offshore cable route as shown in green (see map below). The route avoids Constable Bank, an ecologically important sandbank west of Rhyll Flats Wind Farm. We have also introduced a zone for 'other infrastructure' (shown in purple below) in which we may place a meteorological mast (to monitor wind conditions) but no turbines.



# Landfall

At our consultation in 2020, we presented three locations for the landfall, now refined to one. The project requires the construction of electricity cable connection pits which will receive the offshore cabling from Awel y Môr Offshore Wind Farm. All of the new structures will be below ground.

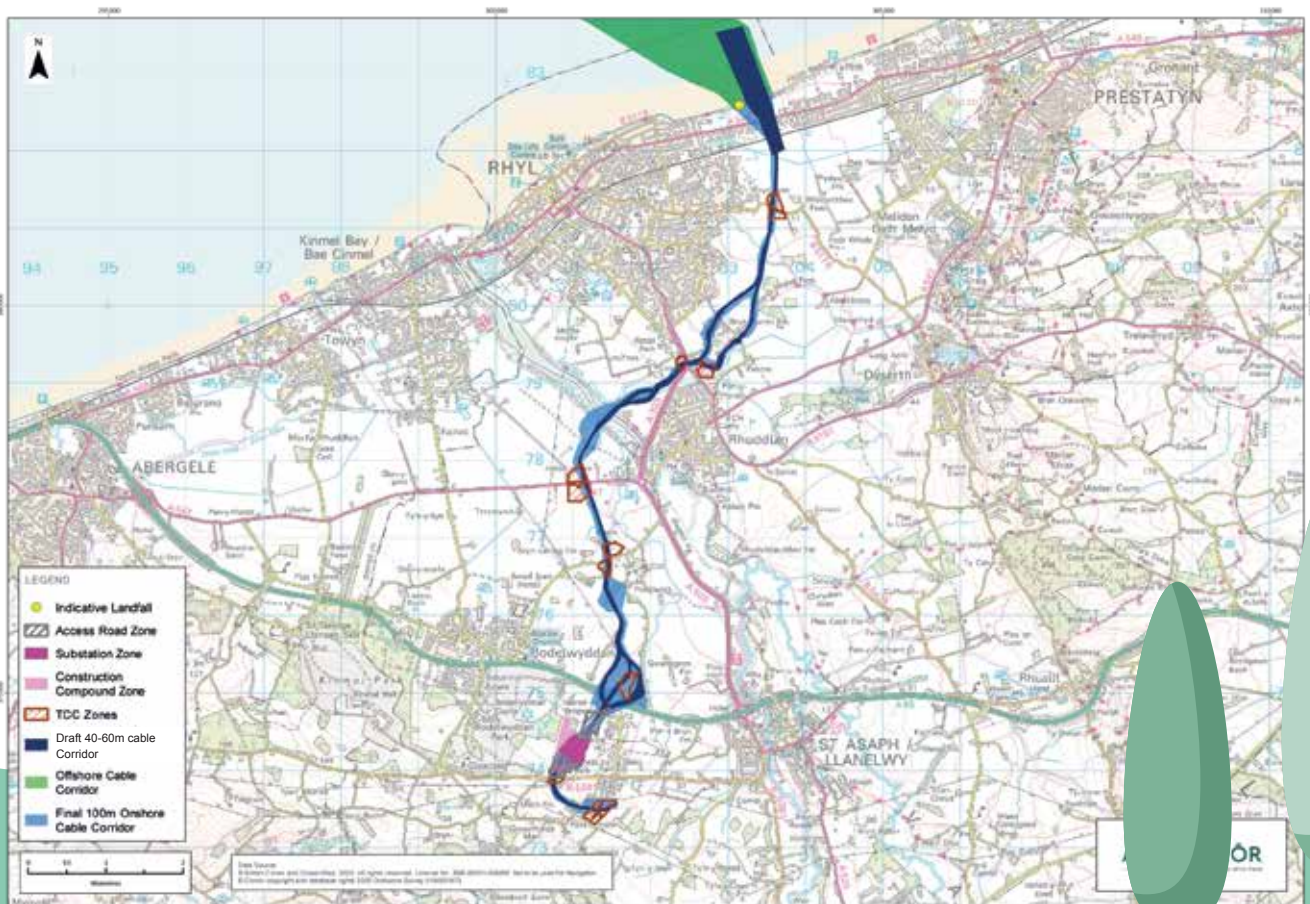
We are looking for your feedback on the key issues for us to take into account when refining our landfall design. Please share your thoughts [here](#).



# The onshore cable route

The Onshore Export Cable Corridor (Onshore ECC) runs from the landfall at Ffrith Beach, east of Rhyl, to the project substation and onwards to the National Grid substation at Bodelwyddan (**see map below**). It is approximately 100 metres wide, with a narrower 'preferred cable route' identified within it. With your input, we intend to refine the Onshore ECC to a width of 40 to 60 metres.

Do you have any comments that could help our decision-making process for the onshore cable corridor or landfall design? Please share your thoughts [here](#).



# The onshore substation

Near St Asaph Business Park, we will require the construction of a new substation, permanent access road and related works to receive the electricity cabling. National Grid would also need to carry out associated building works. The map below shows the zone within which we will locate our substation. We are also considering how best to access the substation and where to locate temporary construction compounds which will be used to facilitate the construction.

Do you have any comments that could help shape our decision-making process for the onshore substation location, or its associated infrastructure? Please share your thoughts [here](#).



# Preliminary Environmental Information Report >

## (PEIR)

Our detailed maps and  
project plans - our main  
consultation documents





# Non-Technical Summary (NTS) of the Preliminary Environmental Information Report (PEIR)

Developing, consenting and building an offshore wind farm is a complex process with many factors to be considered and stakeholders to be consulted. We appreciate that a lot of reading material is generated by this process.

We have provided a Non-Technical Summary (NTS) of the Preliminary Environmental Information Report (PEIR) that summarises all of our work, including all of the offshore and onshore topics listed on the EIA panel. The NTS can be accessed [here](#).

The NTS can be read on its own, or used as a route to more detailed information contained in the PEIR itself. We hope you will find it helpful.





# The environmental impact assessment



Awel y Môr is a Nationally Significant Infrastructure Project (NSIP). An Environmental Impact Assessment (EIA) is being undertaken as part of the Development Consent Order (DCO) application under the Planning Act 2008, and also as part of the Marine Licence (ML) application under the Marine and Coastal Access Act 2009.

In June/July 2020, we conducted an EIA scoping exercise with the Planning Inspectorate (PINS), Natural Resources Wales (NRW) and other consultees specified in law (and including our 'Expert Topic Groups'). As part of this process, PINS published a 'Scoping Opinion' which set out what we needed to do to ensure a robust EIA is conducted that meets the expectations of relevant regulators, and informs the development of Awel y Môr Offshore Wind Farm.

**The Preliminary Environmental Information Report (PEIR)** published as part of this consultation is a draft of the Environmental Statement that will report on that EIA process and be submitted with our planning applications.

The PEIR (and the Environmental Statement to follow) examines the current circumstances (or 'baseline') and models likely impacts of the project across the following topics. It also sets out how we will avoid, minimise or mitigate those impacts wherever possible.

## Offshore

- Physical & biological environment
- Physical processes (including: water levels; currents; waves and winds; sediments and geology (including seabed sediment distribution and sediment transport); seabed geomorphology; and coastal geomorphology)
- Marine water and sediment quality
- Benthic subtidal and intertidal ecology
- Fish and shellfish ecology
- Marine mammals
- Offshore ornithology
- Human environment
- Commercial fisheries
- Shipping and navigation
- Military and civil aviation
- Seascape, landscape and visual impact assessment
- Marine archaeology
- Other marine users & activities (including: offshore renewables; oil and gas; carbon capture and storage; power stations (nuclear); subsea cables and pipelines; aggregate dredging; licensed disposal sites; MoD activities; and angling, including chartered anglers)

## Onshore

- Terrestrial ecology and nature conservation
  - Archaeology and cultural heritage
  - Airborne noise and vibration
  - Traffic and transport
  - Air quality
  - Hydrology, hydrogeology and flood risk
  - Geology and ground conditions
  - Onshore landscape and visual impact assessment
  - Socio-economic and tourism
- 

## Summer 2019

Passed the Crown Estate's Plan Level Habitats Regulations Assessment (HRA) allowing the project to progress to securing an Agreement for Lease.

## Summer 2020

Agreement for Lease signed with the Crown Estate allowing RWE to start developing and seeking consent for the project.

## Autumn 2020

Ongoing stakeholder engagement, including non-statutory consultation. Surveys commence.

## 2021

Ongoing onshore/offshore surveys and project design. Engagement with the local planning authorities on the Statement of Community Consultation. Ongoing stakeholder engagement, including statutory consultation (31 Aug - 11 Oct).

## 2022

Submit applications for a Development Consent Order to the Planning Inspectorate (UK Government) and for a Marine Licence to Natural Resources Wales (Welsh Government).

## 2023-24

Decisions made for both applications: Development Consent Order and Marine Licence.

## 2030

Subject to the project securing both licences, it is expected that the wind farm could be operational by 2030.

# The wind farm

The consultation in 2020 presented a maximum of 107 wind turbines. This has decreased to a maximum of 91 wind turbines due to a reduction in size of the array area in response to stakeholder feedback.

Cables will connect the turbines to offshore substation platforms (OSPs) and then export the renewable energy to shore.

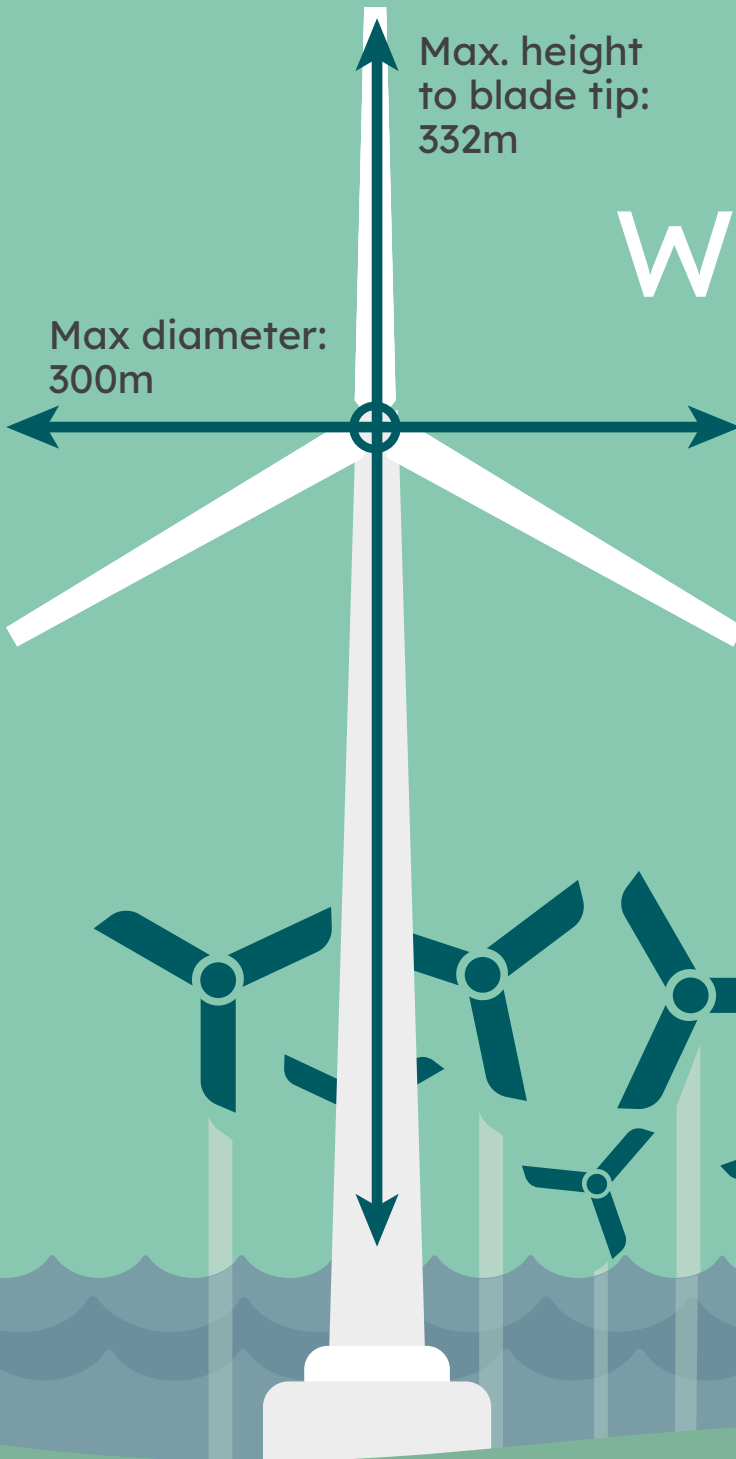
All offshore wind farms require a degree of flexibility in their design. For example, wind turbines are continuously improving, so the exact model will only be selected after the necessary development consents are granted. Accordingly, we have assessed a range of variables, creating a 'project envelope' within which the Project must be built.

What makes up the offshore infrastructure:

Infrastructure	Component	Description
Array The offshore wind farm	Wind Turbine Generators (WTGs)	Wind Turbines convert wind energy to electricity. Key components include rotor blades, gearboxes (in some cases), transformers, power electronics and control equipment. Max blade tip height: 332m . Max rotor diameter: 300m . Number of wind turbines: 48-91. The taller they are, the fewer we need.
Array	Offshore Substation Platform (OSP)	Offshore substations are the systems that collect and export the power generated by wind turbines through the inter-array cables.
Array	Foundations	The wind turbines, OSPs and met mast will be permanently attached to the seabed with foundation structures
Array	Inter-array cables	Cables will be buried in the seabed to connect the turbines to the offshore substations, typically in branched strings.
Array / Export Cable Route	Scour and cable protection	In order to protect the seabed around foundation structures and cables from scour, some rocks and other materials may be placed on the seabed to protect from current and wave action.
Offshore Export Cable Route	Export cables	Export cables will be buried in the seabed to connect the offshore substations to the landfall. Cables will be routed to avoid major seabed obstacles and minimise electrical losses.

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Max. height  
to blade tip:  
332m

Max diameter:  
300m

# Wind turbine generator

# Sustainable jobs

## creating opportunities

Awel y Môr Offshore Wind Farm would be a nationally significant infrastructure project. In addition to generating clean energy, Awel y Môr will create jobs both during construction and operation, both directly and indirectly throughout the supply chain.

Its sister project, Gwynt y Môr (operational since 2015), created over 700 jobs during construction with over £90 million spent within Wales. Since becoming operational, 100 long term, skilled jobs have been created with the wind farm typically investing around £8 million into the Welsh economy each year.



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# Community package

## supporting the local area

RWE has a long history of supporting the communities in which it operates. As the Awel y Môr project progresses, we will work with communities to develop our approach to supporting the local area.

At this stage, the details of any community benefit package associated with Awel y Môr have not been finalised. We plan to hold a public consultation on this matter in early 2022 through which we will invite local people and groups to help shape how the project can best support the community.





# Supply chain

## a brand new supply chain cluster for north wales

As part of delivering on Offshore Wind Sector Deal commitments, RWE Renewables has become a champion for the development of a brand new supply chain cluster called The Offshore Energy Alliance (OEA). The cluster flies the flag for local businesses across the North Wales and North West of England, raising awareness of upcoming opportunities within the region, across the UK and beyond. The cluster also drives activity in innovation, training and skills.

As a brand new supply chain cluster, the OEA is working hard to ensure it is regionally embedded to add maximum local benefit. Watch this space for the new OEA website coming soon.

In the meantime, for more information and to sign up for the latest updates please follow the Offshore Energy Alliance LinkedIn page by clicking here: [www.linkedin.com/company/the-offshore-energy-alliance](http://www.linkedin.com/company/the-offshore-energy-alliance)

### Project Supply Chain Plans (SCPs)

As part of the project's development process, in the coming years Awel y Mor will need to apply for a Contract for Difference (CfD) scheme. This is the UK Government's main mechanism for supporting new, low carbon electricity generation projects. As part of a CfD application the project is required to produce a Supply Chain Plan (SCP) containing a range of commitments that it will deliver to further support: the supply chain and local businesses, innovation activities, skills initiatives and infrastructure development.

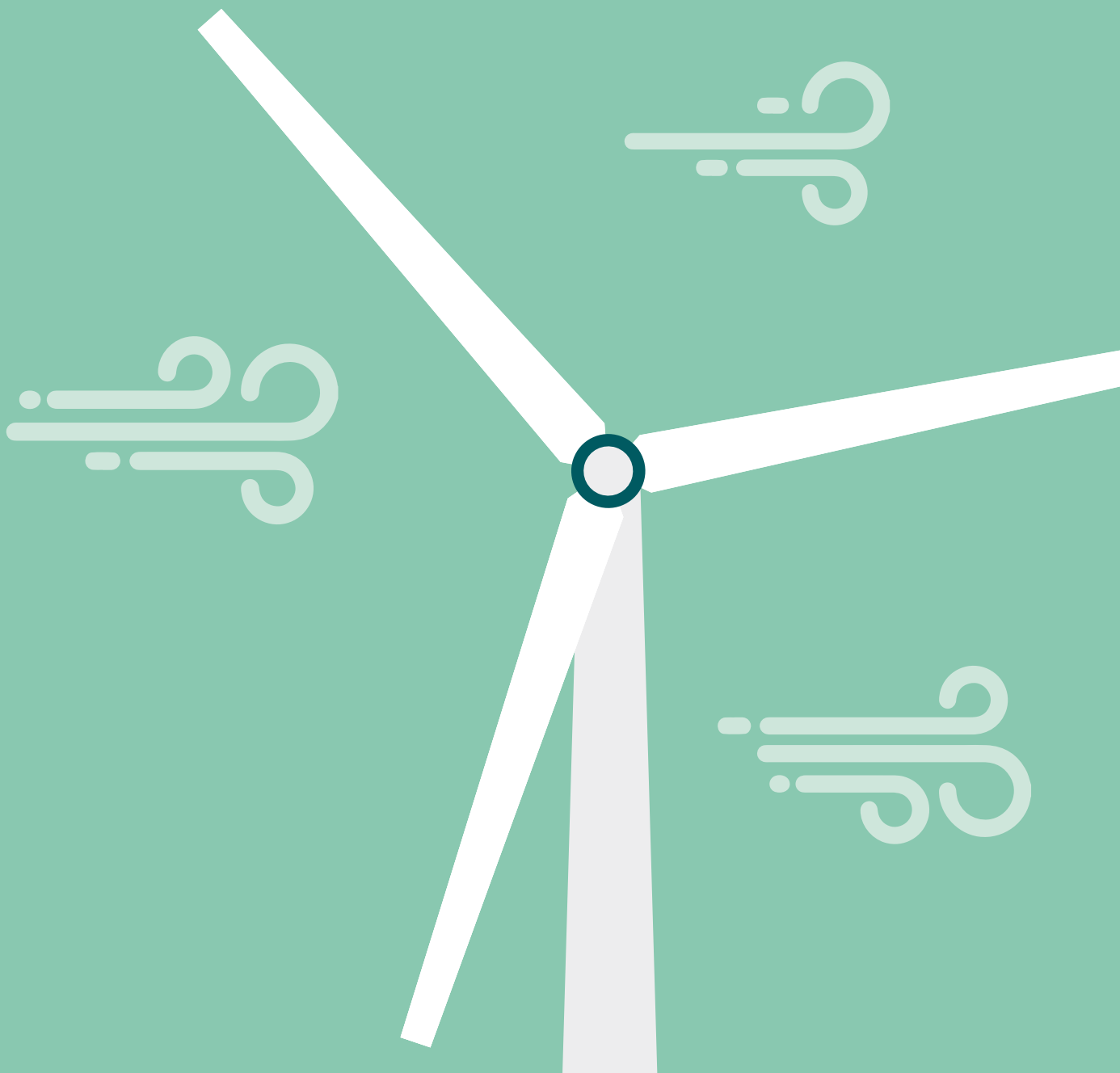


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# Wind energy and how wind turbines work

## Quiz Questions



# Renewable Energy Education Materials

Teachers' notes and activities for:  
Key Stage 3/Curriculum for  
Excellence Level 3 (age 11-14)





# Next steps...

We will have regard to all feedback submitted by the consultation deadline on 11th October, and we will do our best to review any late submissions. We will report on all of this (including the 2020 event) in a Consultation Report to be submitted with our applications for the necessary development consents. The Consultation Report will set out how your feedback has shaped the project, and will explain where we have not been able to comply with any feedback.

We intend to submit our applications for the necessary development consents in early 2022. We do not expect to consult again before submission, but that does not mean the end of opportunities for your involvement. If our DCO application is accepted for consideration by the Planning Inspectorate, you will be able to register as an 'interested party' and participate in the public examination of our application. This will be advertised at the appropriate time. You will also be able to participate in a consultation on our Marine Licence application, to be run by Natural Resources Wales, which will also be advertised.

To be kept informed of these events and more, please register for our newsletter [here](#).



For further information on the DCO process, please visit the Planning Inspectorate's website [here](#).



For further information on the Marine Licencing process, please visit Natural Resources Wales' website [here](#).



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# Taller turbines

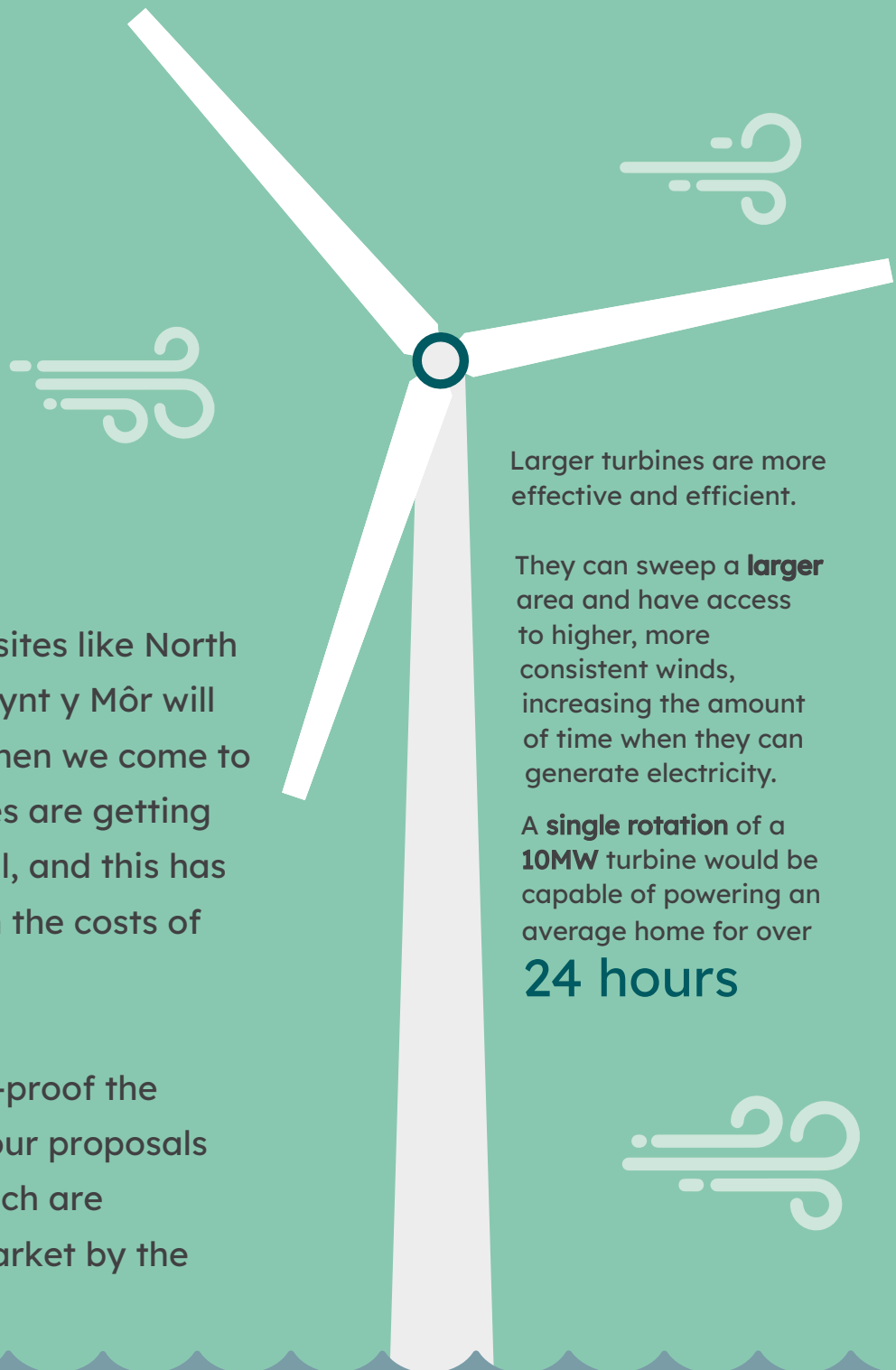


Offshore wind turbines have evolved.



The turbines installed at sites like North Hoyle, Rhyl Flats and Gwynt y Môr will no longer be available when we come to build Awel y Môr. Turbines are getting larger and more powerful, and this has significantly driven down the costs of offshore wind.

There is a need to future-proof the project and ensure that our proposals consider the turbines which are expected to be on the market by the time we come to build.



Larger turbines are more effective and efficient.

They can sweep a **larger** area and have access to higher, more consistent winds, increasing the amount of time when they can generate electricity.

A **single rotation** of a **10MW** turbine would be capable of powering an average home for over

**24 hours**



**Awel y Môr Offshore Wind Farm Ltd.**  
**[www.awelymor.cymru](http://www.awelymor.cymru)**

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