Partners in UK offshore wind

Mona offshore wind farm

Non-statutory consultation – Summer 2022

Consultation brochure

Contents

Should you require this consultation brochure, or any of our other materials, in a more accessible format, please contact our team by email on info@morganandmona.com or phone 0800 860 6263

Morgan and Mona wind farms

EnBW Energie Baden-Württemberg AG and bp are proud to be leading the development of the Morgan and Mona projects. These two offshore wind farms in the Irish Sea will help the UK to achieve its ambition of generating 50GW of power from offshore wind by 2030.

The wind farms will be located approximately 20km - 30km from the coast and be operational by 2029. Together, they will form one of the largest wind farms in the world, with a combined potential generating capacity of 3 gigawatts (GW).

This is enough to power the equivalent of approximately 3.4 million UK households with clean electricity.

The importance of renewable energy

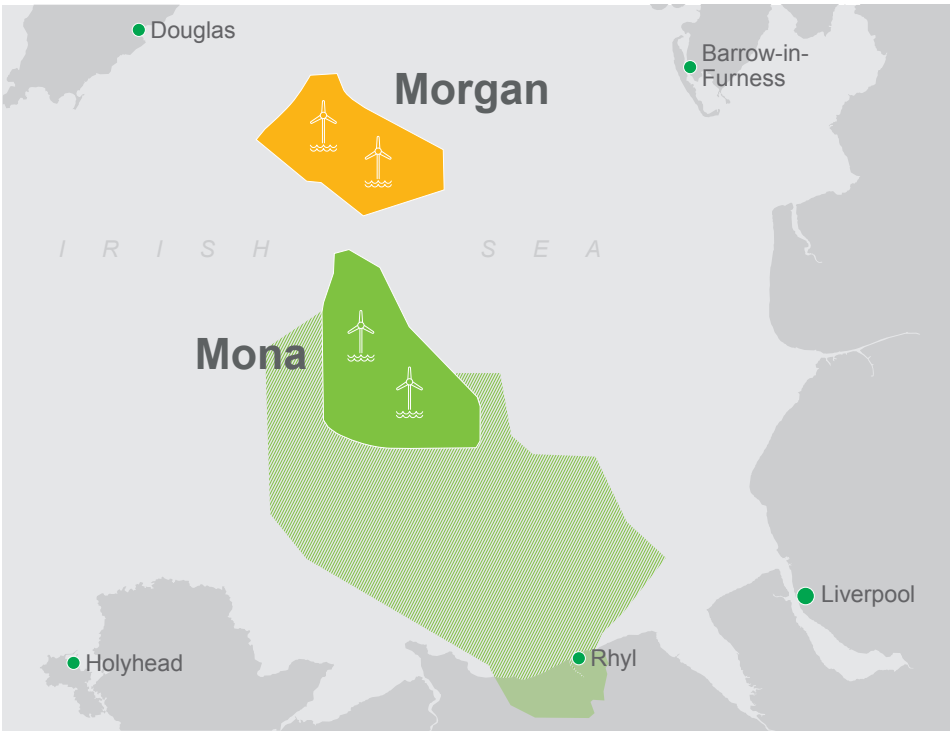
The UK's ambition is to lead the world in combatting climate change, reducing our reliance on fossil fuels and embracing a future where renewable energy powers our homes and businesses.

At the centre of this drive is a commitment to reducing UK greenhouse gas emissions and reaching net zero by 2050.

The UK government has an ambition to generate 50GW of clean, renewable energy from offshore wind by 2030.

Figures released by the Department for Business, Energy and Industrial Strategy (BEIS) in the third quarter of 2021 show that the UK currently has just over 10GW of installed offshore wind capacity in the UK. There is some way to go to meet the target.

This means our Morgan and Mona projects have a critical role to play – both in helping the UK to achieve its net zero ambitions and, specifically, in reaching our offshore wind generation goals.



Your chance to take part

Our first round of consultation on the Mona offshore wind farm is running for eight weeks, from **7 June** to **3 August 2022**. The aim of the consultation is to introduce our project, share our early plans and give you the opportunity to have your say.

The proposals are in the very early stages and many details are still to be finalised, such as the size and number of turbines, the offshore and onshore infrastructure, and the cable landfall location. We'll consider all comments we receive, alongside further technical and environmental surveying work. Your feedback will help influence the detailed design of the project and help us develop the best possible proposals.

Key:

- *Mona offshore wind farm*
- *Morgan offshore wind farm*
- *Mona offshore transmission infrastructure scoping search area*
- *Mona onshore transmission infrastructure scoping search area*

We're currently progressing our plans for the Morgan offshore wind farm and will be holding a consultation later in 2022.

Project Director
Richard Haydock

"These projects mark bp's entry into one of the world's busiest offshore wind markets and I'm absolutely committed to making sure we deliver it in a way that works for people that live and work in the areas where these projects are located.

Securing sources of low carbon, home grown energy is vitally important, of course, but this project is also about us investing in the people, businesses, and communities across North Wales and the north west of England.

That's why we've launched a dedicated supplier portal where local companies can pair their skills with the projects' needs.

Our proposals for Morgan and Mona are still at a relatively early stage, so this is the first chance people will have to find out about what we're planning and tell us what they think.

Your feedback will help us develop the best possible plans and I look forward to working with the community and our partners EnBW to develop Morgan and Mona."

EnBW Project Director
Céline Combé

"EnBW and bp jointly succeeded in a highly competitive field of bidders.

Since the construction of the first German offshore wind farm in 2010 by EnBW, we have become a major player in offshore technology.

We are very pleased to contribute our experience of developing and operating technically demanding offshore wind projects to our partnership with bp.

The projects in the Irish Sea are amongst the largest developments in offshore wind for our company, and we are proud to contribute significantly to a sustainable energy future with our activities in the UK.

For EnBW this investment will be a cornerstone in our strategy to become CO_2 neutral by 2035. The international and European targets to reduce the CO_2 footprint can only be met by implementing large scale renewable generation capacity. Offshore wind in England and Wales provides a perfect setting for achieving this goal.

We are encouraging the local communities to get to know us and look forward to working together in making the projects become a reality."

Who are EnBW and bp?

About EnBW

EnBW Energie Baden-Württemberg AG is one of the largest energy supply companies in Germany and supplies electricity, gas, water, energy solutions and energy industry services to around 5.5 million customers.

We have a workforce of more than 23,000 employees. Half of the EnBW generation portfolio will be comprised of renewable energies by 2025.

Further expanding renewables in Germany and selected European markets is a central element of EnBW's growth strategy. Since the beginning of its corporate transformation in 2013, EnBW has successfully invested nearly €5 billion in its renewable energies segment. Around another €4 billion is to be invested by 2025, primarily in further expanding wind and solar energy, meaning that a good 50 per cent of EnBW's generation portfolio will consist of renewables.

EnBW was among the pioneers in offshore wind power with its Baltic 1 offshore wind farm in the Baltic Sea. In January 2020, the company took into operation Germany's largest offshore wind power project, EnBW Hohe See and Albatros, with a combined capacity of 609 megawatts (MW).

The He Dreiht offshore wind farm with a capacity of around 900MW will be connected to the grid in 2025. He Dreiht will operate without any state subsidies.

About bp

bp's purpose is to reimagine energy for people and our planet.

bp has set out an ambition to be a net zero company by 2050, or sooner, and help the world get to net zero. We recently announced our strategy for delivering on that ambition. This strategy will see bp transform from an international oil company producing resources – to an integrated energy company providing solutions to customers.

bp already has a significant onshore wind business in the US with a gross generating capacity of 1.7GW, operating nine wind assets across the country.

The Crown Estate leasing process

In 2021, The Crown Estate announced that it had selected six proposed new offshore wind projects in the waters around England and Wales, through a process known as Offshore Wind Leasing Round 4.

Combined, these Round 4 sites represent just under 8GW of potential new offshore wind capacity, offering the opportunity to deliver clean electricity for more than seven million homes and create employment opportunities across the country.

EnBW and bp were selected together as the preferred bidder for two major leases in the Irish Sea – these are the sites that will become the Morgan and Mona offshore wind farms.

The leases are in an area that boasts strong wind resources and shallow water depths. These factors – and their proximity to shore, at around 20km-30km from the coast – will allow for efficient and cost-effective development.

The leases cover an area of around 800km² and will have a lifespan of 60 years. Our wind farms will enter operations in 2028 - 2029.

You can find out more about the offshore leasing process on the Crown Estate website www.thecrownestate.co.uk

Why we need offshore wind and how it works

The fight against climate change

Climate change is one of the biggest challenges the world faces. It is affecting every country and we must all play a role in helping to combat it.

In 2015, representatives from the international community met in Paris to agree a global response to the changing climate. In total, 197 countries signed the Paris Agreement to keep temperature rises "well below" 1.5^{0}C to avoid the worst impacts of climate change. The delegates met again in Glasgow in 2021, where they agreed that more action was needed to achieve the 1.5^{0}C aim and pledged to make the 2020s a decade of climate action and support.

In the UK, the government has committed to ambitious plans that will put the country at the forefront of the fight for a greener future.

As part of these plans, we will need to reduce greenhouse gas emissions to net zero by 2050. To achieve this, we'll need to change how we heat our homes, power our vehicles and, importantly, how we generate our electricity.

What is net zero?

Greenhouse gases such as carbon dioxide (CO_2) and methane are created when we burn fossil fuels, such as oil, gas or coal. These gases are trapped in the atmosphere and cause global warming.

Achieving net zero means not increasing the amount of greenhouse gases in the atmosphere. The best way to do this is to move towards technologies such as renewable energy, which do not create harmful emissions.

UK Government policies and offshore wind

The commitments the UK has made to achieving net zero are enshrined in law.

To reach our climate goals, the UK government has adopted a number of strategies for achieving net zero – most notably the *10-point Plan for a Green Industrial Revolution* and the *Net Zero Strategy: Build Back Greener.*

In Wales, the aim is for renewables to generate electricity equal to 70 per cent of Wales' consumption by 2030. This is set out by the Welsh Government in its *Net Zero Wales* plan.

All of these plans recognise the importance of offshore wind in achieving net zero goals in the UK. In fact, 'advancing offshore wind' is point one in the UK government's 10-point plan. The UK is already a world leader in offshore wind and the seas around Britain are ideal for harnessing wind power.

The UK already generates around 10GW of its power from offshore wind, which is more than any other country in the world. It plays an increasingly important role in our energy mix – for a period on 21 May 2021, offshore wind was providing 62 per cent of our total energy output. But we need to go a lot further.

To achieve our climate goals, we need to quadruple our offshore wind generation – that means having 50GW of generating capacity installed and operating by 2030.

This is why projects such as Morgan and Mona are so important.

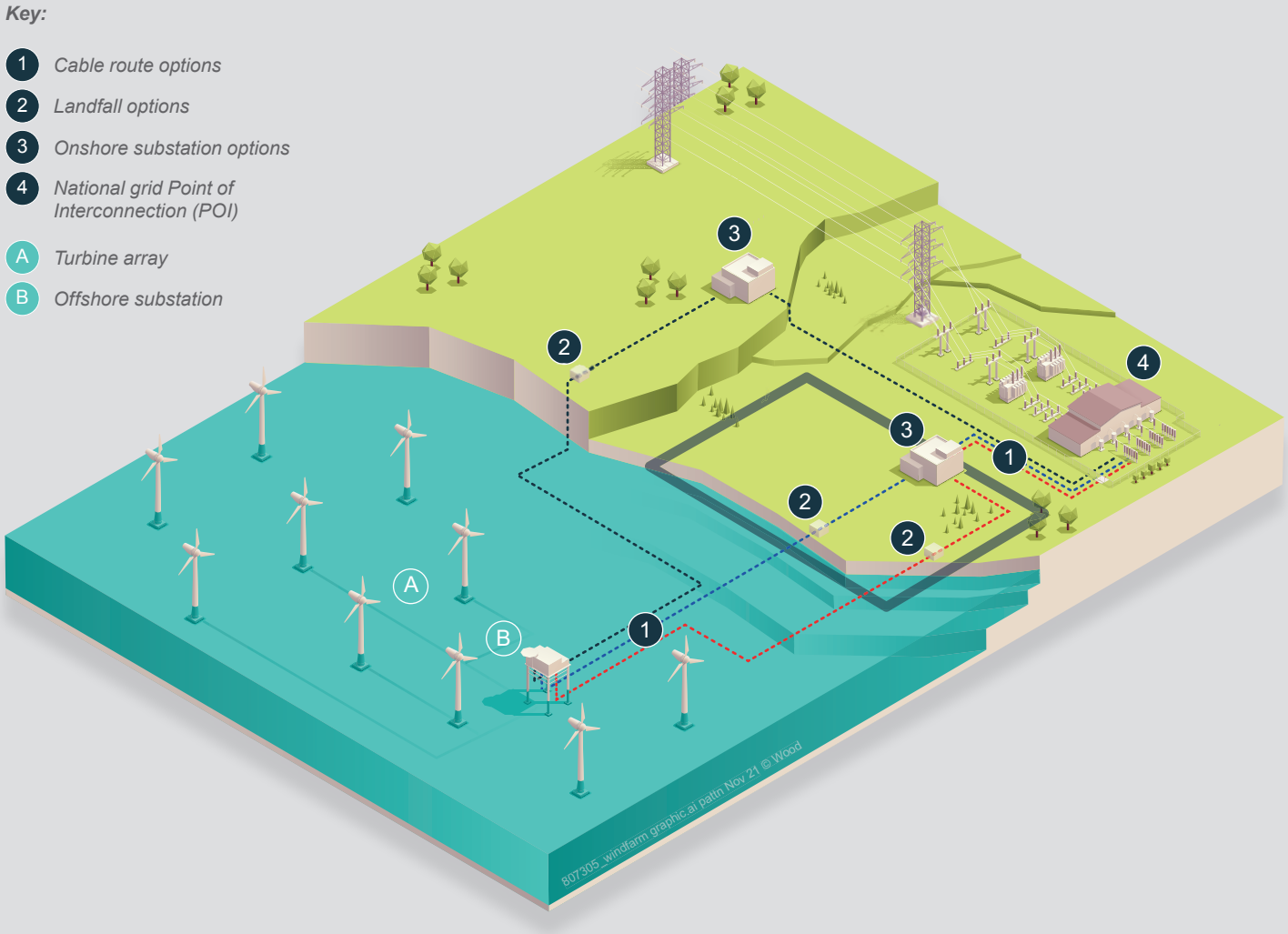
What we're doing

***bp** – In February 2020 bp set out our ambition to be a net zero company by 2050 or sooner and to help the world get to net zero. This ambition is supported by 10 aims: five to help us become a net zero company, and five to help the world meet net zero.*

You can find out more by searching 'bp getting to net zero' in your internet browser.

***EnBW** – At EnBW, our long-term business success is based on the achievement of economic, environmental and social targets. Under our EnBW 2025 Strategy, we are transforming into a sustainable and innovative infrastructure provider. We have the ambitious aim of reducing the company's CO_2 emissions to net zero by 2035.*

You can find out more by searching 'Sustainability at EnBW' in your internet browser.



How does the electricity get from the wind farm to homes and businesses?

Electricity generated from the offshore wind farm is transported to the existing national electrical transmission network – which is usually called the 'national grid' – using cables.

When they're offshore, these cables typically run along the seabed and once they reach the shore they are usually buried underground.

The point where offshore cables and onshore cables meet is called the 'landfall point'.

Next, there needs to be a connection to the 'national grid'. Depending on the location and method of this connection, some above ground infrastructure – such as a converter or substation – can be required.

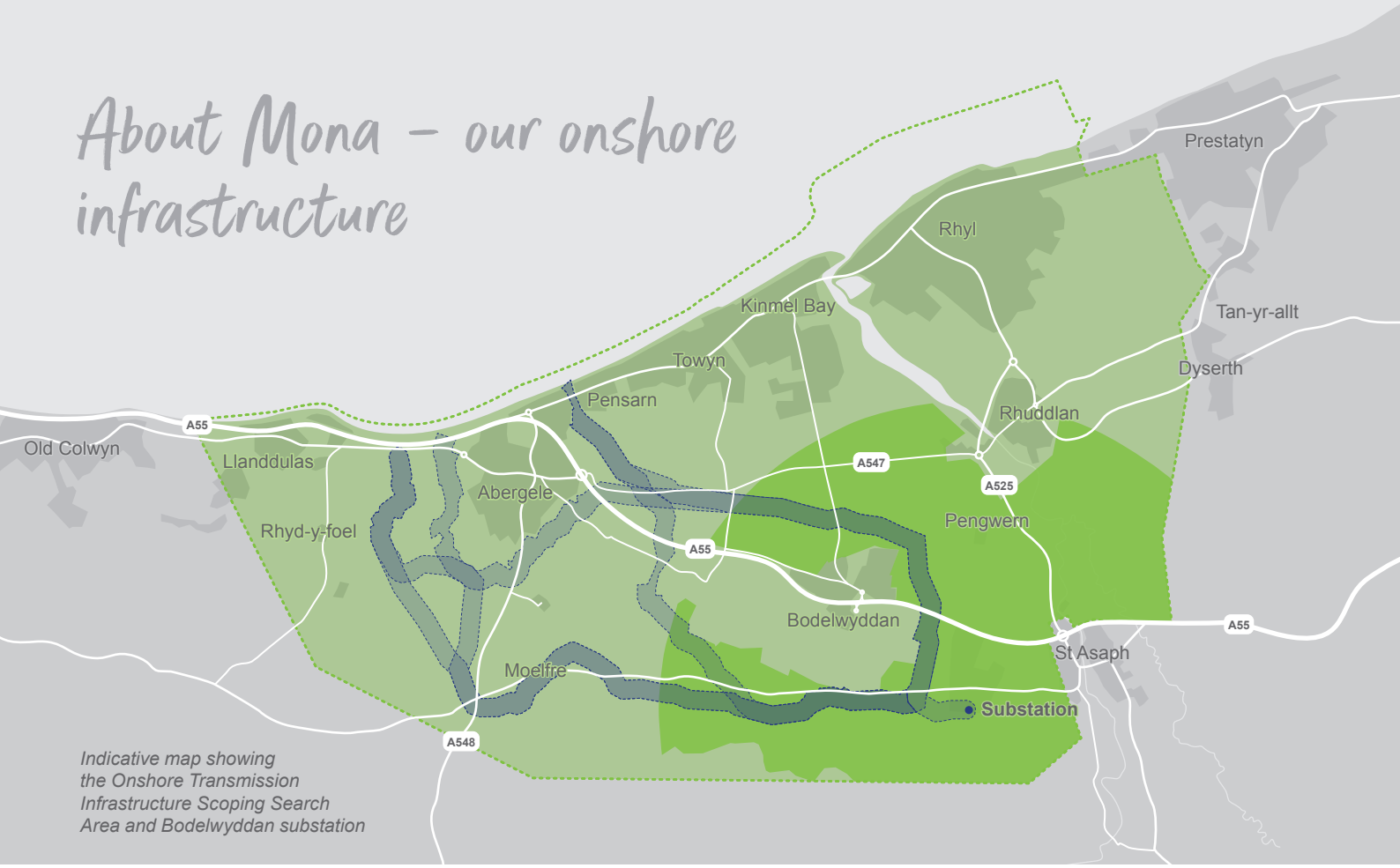
The power that Morgan and Mona will generate will go directly into the national grid; the large 'pot' of energy that is then distributed to our homes and businesses across the UK.

ⓘ Find out more

You can read about the offshore and onshore infrastructure we are proposing on pages 8-10.

You can find out more about how the 'national grid' operates at www.nationalgrideso.com/who-we-are

About Mona – our onshore infrastructure



Indicative map showing the Onshore Transmission Infrastructure Scoping Search Area and Bodelwyddan substation

To construct, operate and maintain Mona, we'll need a combination of offshore and onshore infrastructure.

Our onshore infrastructure will take electricity from a landfall point (where the offshore cables reach the shore) to the 'national grid'. To do this, we'll need to construct infrastructure including underground cables and a new onshore substation.

The point of interconnection

The Mona offshore wind farm is expected to connect to the national grid at a substation near Bodelwyddan in Denbighshire.

This is known as the point of interconnection (POI) and was identified through a rigorous site selection process undertaken by National Grid, which manages the electricity transmission network.

The onshore substation

To connect to the electricity transmission network we will need to construct a new onshore substation, situated close to the existing Bodelwyddan substation.

We're not yet at a point where we have a detailed design for the substation, but typically the area we will need is approximately 125,000 m^2, which is equivalent to around 12 football pitches. It would include electrical equipment and be surrounded by a fence. Screening for substations can typically be achieved through landscaping or planting.

As part of our early work, we have identified a search area for the new onshore substation. At this stage of our project, this is a broad area within which the new substation will be located (see map above). We will try to locate the substation as sensitively as possible. For example, we will consider the proximity of homes when assessing possible sites for our substation.

More details of the proposed substation will be available at future consultations.

As part of this consultation, we'd like you to tell us anything that could help us choose a preferred location for the substation, as well as a detailed design for it.

You can find out more about our offshore infrastructure, and how we typically construct an offshore wind farm, on page 10.

Key:

- *Scoping search area – that informed our early development work to identify cable routes and potential substation locations*
- *Onshore substation search area – within which we could locate a new substation.*
- *300m wide cable corridor search areas – within which our underground cables could be routed.*
- *Bodelwyddan Substation (National Grid)*

You can find an interactive map of our proposals on our website

How do we choose a cable route?

Choosing a cable route for our onshore underground cable is a complex task and we need to take into account a lot of different factors to make sure our proposals represent the best possible route for the project and local communities.

For example, first we need to identify and evaluate what are known as 'constraints'. These are areas we need to avoid, perhaps because it wouldn't be technically feasible to install a cable at that location or because there's already something there that we would need to avoid.

An example of an onshore constraint could be a large urban area or a feature of environmental interest. Our experts are taking all this into consideration to help narrow down the best routes and avoid unsuitable areas.

For our project, we're also using guidance issued by important specialist organisations that provide us with further advice on what needs to be considered when planning a cable route. These include The Crown Estate Cable Route Protocol, as well as similar resources from bodies such as Natural Resources Wales.

As responsible developers, we are committed to designing cable routes with the best interests of our host communities in mind. This means that we don't propose cable routes that would cause undue inconvenience to local people. For example, as far as possible, our teams have looked for routes that don't cross roads, railways or footpaths and that avoid urban areas.

Through our early work, we've identified a number of cable corridors between potential landfall points and the POI. We would welcome your feedback on what factors you think we should take into consideration when we're refining our cable routes.

Have your say

To help us develop our proposals further we're asking for your feedback on our early plans.

We're carrying out lots of our own technical and environmental assessments but people living near to the proposals have local knowledge we would really value.

These could include thoughts on:

- Potential environmental or community constraints to onshore or offshore cable routes
- Potential environmental or community constraints that could inform our substation location
- Community benefits
- Information that could help us plan for construction
- How we can help support jobs (see page 13 for more information)

You can find out how to take part in our consultation, or how to ask us any questions, on page 14.

How will we use your feedback?

Following the conclusion of this first stage of consultation, we will analyse the feedback we've received, along with conducting further technical impact assessments and design work to develop our proposals ahead of further public consultation.

Comments we receive from future consultations will also be used to develop our final proposals.

All the comments we receive during these consultations will be reviewed so the subjects raised – and our responses – can be included in our Consultation Report.

This report will form part of our planning application, known as a Development Consent Order (DCO).

About Mona – our offshore infrastructure

Our offshore infrastructure will include the turbines, offshore substations and cables. We also need to identify the cable landfall location (the point at which cables carrying the electricity being generated reach the shore).

The area that we're currently evaluating for where our offshore cable route could be located is known as the offshore transmission infrastructure scoping search area, shown on the map below.

We would welcome comments on this scoping search area that may help us as we determine factors to be considered when deciding where our offshore infrastructure should be located. These could be comments on anything from marine ecology to shipping routes or seascape visual impact.

Turbines

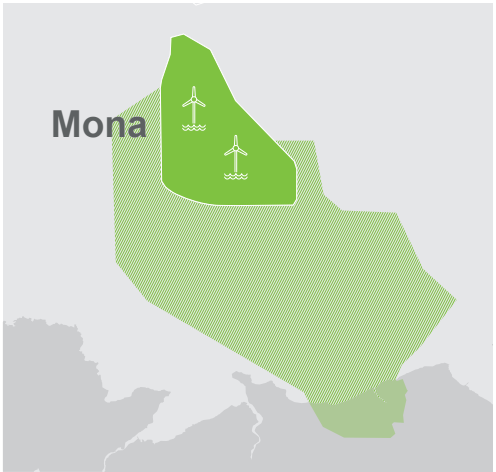
At this current stage it is too early in the process to know the size and number of turbines required but we are working to develop that information for our next stage of consultation.

How we construct an offshore wind farm

It's too early for us to know exactly how we'll construct the wind farm. An important part of our ongoing technical work will be to develop these plans. Your feedback will help us develop construction plans that have as little impact on the surrounding area as possible.

Typically, to build the wind farm we will need to carry out a range of construction activities:

- Prior to installation, some seabed preparation activities may be required such as removing sand and boulders to clear a route for the offshore cable and the turbine foundations.
- The wind turbine and offshore substation foundations are then installed, before the wind turbine tower, nacelle and blades, and the substation structure are installed on top of the foundations.
- Cables will be installed into the seabed between each wind turbine, between the wind turbines and the offshore substations; and between the offshore substations and the shore. This will involve a number of different types of vessels including those with cranes installed, support vessels and cable vessels.
- At the landfall point, the cable will be brought on to the shore using a method suitable for the particular location that's been chosen. For example, this could include horizontal directional drilling underneath coastal cliffs or installing a temporary trench through the beach.
- The onshore substation will be constructed using traditional construction techniques, including piling.



Key:

Mona offshore wind farm

Offshore transmission infrastructure scoping search area

Onshore transmission infrastructure scoping search area

Environmental and technical assessments

The long-term environmental benefits of low carbon energy generation are clear, so we need to ensure any short-term impacts associated with our project are identified, avoided, managed and minimised.

EIA Scoping Report

This document is submitted to the Planning Inspectorate for consideration. It sets out the information that we intend to consider and assess as part of our Environmental Impact Assessment. It ensures the Planning Inspectorate and other important stakeholders understand and agree with the areas we'll be assessing. More information about EIA Scoping Reports can be found here: www.gov.uk/guidance/environmental-impact-assessment

We'll identify these impacts by carrying out detailed environmental and technical assessments at every stage of our planning, design and construction. We'll look at all aspects of the environment identified in the Scoping Reports, including visual impacts, ecology, traffic, noise and effects on people and the marine environment.

From the very beginning of our project planning, we've been working with Natural Resources Wales (NRW) and the Marine Management Organisation (MMO) to assess and understand the unique make-up of the areas we'll be working in.

This work will continue as the project develops and we'll be engaging a large number of environmental stakeholders so our project can benefit from their insight and expertise too.

We've recently published our Environmental Impact Assessment (EIA) Scoping Report. The report identifies potential impacts based on our preliminary assessments of the environmental conditions that we're likely to encounter within the Mona Offshore Wind Project study area.

Following receipt of the Scoping Opinion, we will produce a Preliminary Environmental Information Report (PEIR). This document will form part of a later consultation and we'll be welcoming feedback on the report from the community.

The PEIR will provide initial insight to our assessment for the project, including descriptions of the likely environmental effects and how we could monitor and mitigate these impacts. The feedback we receive on our PEIR will enable us to refine our plans before we submit our request for a Development Consent Order (DCO) to the Planning Inspectorate.

For more information on the DCO planning process, please visit www.gov.uk/guidance/guidance-on-procedural-requirements-for-major-infrastructure-projects

Supporting the local, regional and national economy

Our proposals for Morgan and Mona will unlock significant economic benefits, both in terms of the jobs we will create and the supply chain opportunities that will be on offer for businesses across the UK.

Jobs

As we develop our plans in more detail, the scale of this economic boost will become clearer – but we already know that we will create and support approximately 3,420 jobs in total during the different phases of our project. This breaks down to:

710 jobs

during planning and design, generating wages worth around £19.7m each year

2,120 jobs

during construction, generating wages worth around £74.8m each year

590 jobs

during operations, generating wages worth around £27.6m each year

Supply chain

We know that offshore wind projects bring significant benefits to their local communities and we think it's incredibly important the local supply chain contributes to this project too.

We have launched a dedicated supplier portal where local companies can pair their skills with the projects' needs. The portal provides access for companies of all sizes to register their interest for future work.

The project is encouraging UK-based suppliers to register their interest at www.enbw-bp.com/suppliers particularly those with connections across North Wales and the north west of England.

Ports and harbours

We are engaging with ports and harbours around the Irish Sea that could support construction activities and then eventually operations and maintenance for the wind farms.

Source: Oxford Economics

How to take part

You can share feedback by:

Using our project website:
www.enbw-bp.com/morgan-and-mona

Submit feedback on our website using our online feedback form and interactive map. The mapping tool allows you to leave comments at specific locations.

Sending an email to:
info@morganandmona.com

We welcome all feedback and any questions you might have about the project.

Sending written feedback to our freepost address:
Freepost MORGAN AND MONA

You can write us a letter or send hard copy feedback forms, which will be available at events or by request. You don't need a stamp.

You can download the consultation materials here:

www.enbw-bp.com/morgan-and-mona/

Meet the team

As part of the consultation we're holding a series of public events. These are a great way to meet our team, find out about the project and ask any questions you might have.

Consultation events

Date	Time	Venue
Weds 29 June	3pm-8pm	**Venue Cymru, Llandudno** LL30 1BB
Thurs 7 July	2pm-7pm	**St Asaph, Glyndwr University** Clwyd LL17 0JD
Fri 8 July	2pm-6:30pm	**Llanddulas Village Hall** Abergele LL22 8FH

Pop-up events

Alongside our public exhibitions, members of our team will also be out and about in the communities, to provide information on the project and answer any questions you may have.

Pop-up events

Date	Time	Venue
Weds 29 June	10am-2pm	**Amlwch Co-op,** Lon Goch, Amlwch LL68 9AL
Sat 9 July	11am-2pm	**Rhyl Tourist Information Centre,** The Village, West Parade, Rhyl LL18 1HZ
Fri 15 July	11am-2pm	**Blackpool Sandcastle Waterpark car park,** Promenade, Blackpool FY4 1BB

Online event

We're holding a webinar where information on the project will be presented and attendees will be able to have questions answered by the project team. Visit the project website to register to attend.

Tues 12 July	6:30pm-8pm

Indicative timeline
(as of publication June 2022)

2022

Summer 2022
First stage of consultation on Mona offshore wind farm

Autumn 2022
Ongoing technical and environmental work

First stage of consultation on Morgan offshore wind farm

Winter 2022 / 2023
Second stage of consultation

2023 & 2024

Winter 2023 / 2024
Applications submitted for Development Consent Order (DCO) and other licences

2025

Expected decision on the DCO by the Secretary of State

2026

Expected Final Investment Decision (FID)

2027

First grid connection for power export commissioning of offshore substations

2028

Expected start – Commercial Operation Date (COD)

Further consultation

There will be another opportunity for you to have your say on more detailed plans for the project, when we carry out a further stage of consultation at the end of 2022 and the beginning of 2023.

What's next

After our first stage of consultation closes, we will consider all the feedback we have received and, together with our ongoing technical studies, use that feedback to help us shape our proposals.

The application process

Due to the amount of electricity that will be generated by Morgan and Mona, they are both classed as Nationally Significant Infrastructure Projects.

As such, both projects will have separate applications for development consent.

This means we will apply to the Planning Inspectorate for development consent, which is known in this case as a Development Consent Order (DCO).

The UK Government's Secretary of State for Business, Energy and Industrial Strategy will ultimately make the decision on granting the DCO.

As part of the DCO process, we will be carrying out consultation and engagement with stakeholders, local communities and local authorities. This will be undertaken throughout the pre-application phase during our rounds of public consultation.

You can find out more about the DCO process here: infrastructure.planninginspectorate.gov.uk/application-process

EnBW | bp

Partners in UK offshore wind

Find out more on our website
www.enbw-bp.com or use this QR code.

info@morganandmona.com

Freepost MORGAN AND MONA

0800 860 6263