



**AQUIND Limited**

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# **AQUIND INTERCONNECTOR**

## **Consultation Report – Appendix 1.1B Non-Statutory Consultation – Information Leaflet**

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(q)

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## PROPOSALS FOR AQUIND INTERCONNECTOR

### Get in touch

To find out more about AQUIND Interconnector, please visit our consultation website at <https://aquindconsultation.co.uk>

If you have any questions, you can contact the project team via:

Infoline: **01962 893 869**

Email: [aquindconsultation@becg.com](mailto:aquindconsultation@becg.com)

Freepost: **'AQUIND CONSULTATION'**

The Manual of Procedures for TEN-E Projects is available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/311184/uk\\_manual\\_procedures\\_ten\\_e\\_regulation.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/311184/uk_manual_procedures_ten_e_regulation.pdf)

The EU Transparency Platform website is available at: <http://ec.europa.eu/energy/en/topics/infrastructure/projects-common-interest>

# Introduction

AQUIND Limited is the developer of AQUIND Interconnector, a new underground and subsea electric power transmission link that will connect the UK and French electric power grids.

If approved, AQUIND Interconnector will increase competition across energy markets, which could mean lower energy prices for consumers and businesses. It will improve security of supply, help foster greater renewable energy integration and supply ancillary services, which will provide greater flexibility in managing the electricity grid.

AQUIND Interconnector will have the capacity of 2,000 MW and transmit up to 16,000,000 MWh\* of electricity each year between the two connected countries, which is 5% and 3% of the total consumption of Great Britain and France respectively, enough to keep the lights on in millions of households.

AQUIND Interconnector will use well-tested and reliable technology. Without overhead lines, the project strives to achieve as low visual impact as possible

At present, it is estimated that AQUIND Interconnector will become operational in 2022.

This information leaflet contains further information on the proposed interconnector, together with details of our upcoming consultation events and how you can get in touch with the project team.

\* The actual utilisation rate of the interconnector depends on market conditions, limitations by national transmission system operators and other factors.

# Why are Interconnectors Needed?

The UK Government and The European Commission have identified that interconnectors are vital for achieving an integrated energy market in which families and firms get the best value for their money.

There are four existing interconnectors to other countries. There are also a number of interconnectors proposed,

connecting the UK to countries such as Ireland, Belgium, Norway, Denmark and France.

These links will help achieve the Government's ambition of widening access to international markets thus increasing competition and security of supply.

## A Project of Common Interest

Given AQUIND Interconnector's potential cross-border benefits, AQUIND has been granted permission to apply for the Project of Common Interest (PCI) status.

To be eligible for the PCI status, a project must have a significant impact on energy markets and market integration in at least two eligible countries, boost competition, enhance energy security by diversifying sources and contribute to the climate and energy goals by integrating renewables.

PCIs are required to adhere to certain regulations with regard to consultation and preparation of applications, known as the TEN-E Regulations.

## Who is AQUIND?

AQUIND Limited is a UK-registered company and its sole business is the development of AQUIND Interconnector.

AQUIND Limited is not associated with any UK or European utilities and AQUIND Interconnector project is currently being developed without government subsidies.



For further information about AQUIND, please visit: [www.aquind.co.uk](http://www.aquind.co.uk)

AQUIND Limited, a company registered in accordance with the laws of England and Wales with company number 06681477 and the registered address at OGN House, Hadrian Way, Wallsend, NE28 6HL



# How will AQUIND Interconnector Work?

The main components of the project will include subsea and underground cables together with new converter stations in both the UK and France.

## The Route

The subsea cable route will run from Eastney in the UK to Normandie in France.

The onshore element of the underground cable route will connect the subsea cable from its landing points on either side of the Channel to new converter stations at Lovedean in the UK and Barnabos in France.

Underground cables will also connect the new converter stations to nearby existing substations.

## The Converter Stations

Converter stations are required in both the UK and France to convert electricity from Direct Current (DC) to Alternating Current (AC).

AC is used in the UK's and France's electricity grids, while DC is used for sending electricity along the high-voltage subsea and underground cables because it is more efficient to transmit electricity as DC over large distances.

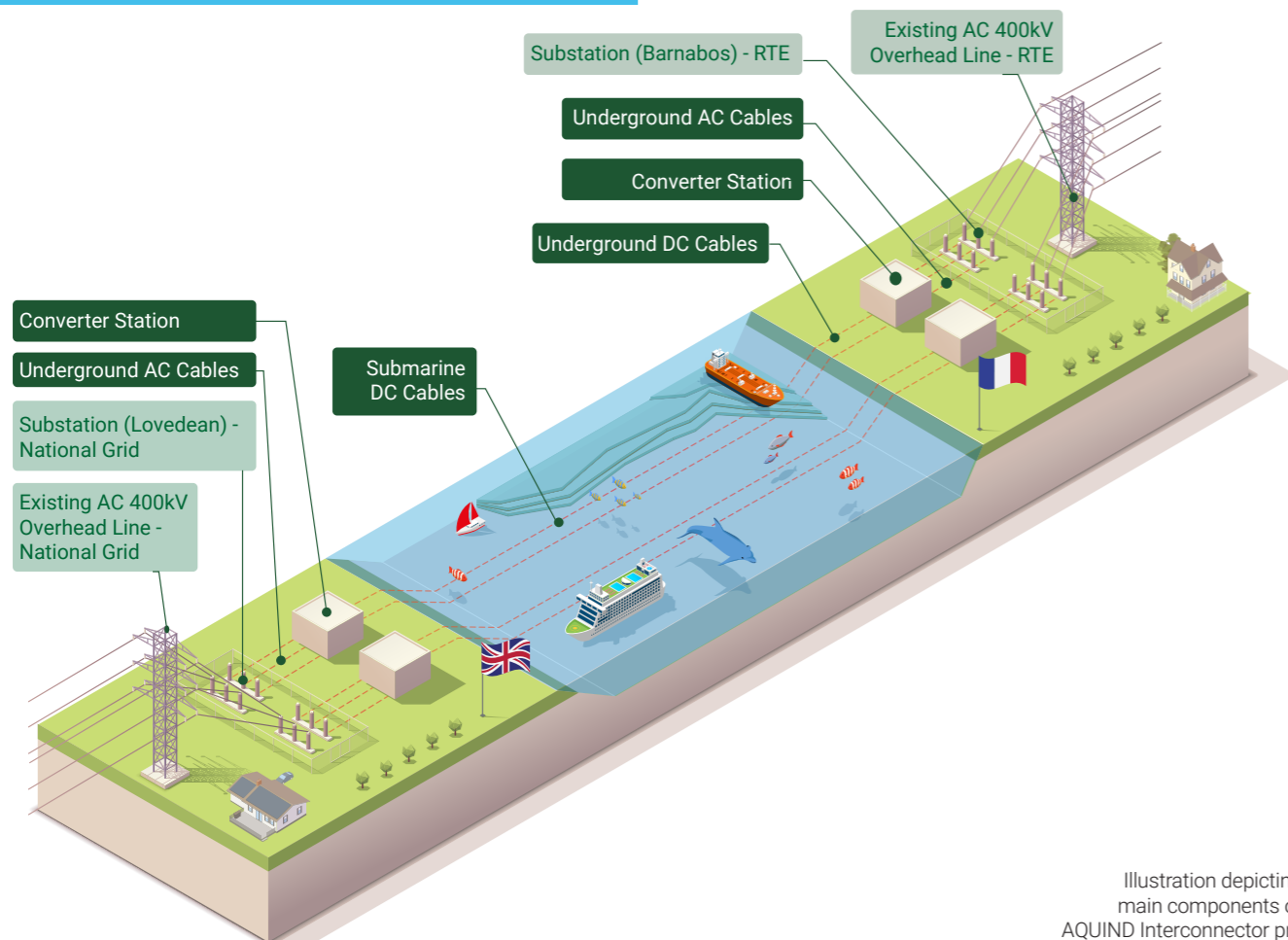


Illustration depicting the main components of the AQUIND Interconnector project

# Offshore Elements of AQUIND Interconnector

The offshore element of AQUIND Interconnector will comprise four high-voltage subsea cables spanning the English Channel between Portsmouth in the UK and Normandie in France.

## The Subsea Cable Route

The four high-voltage direct current subsea cables that comprise the offshore element of AQUIND Interconnector will cover the distance of approximately 190km between Eastney, near Portsmouth, and Normandie in France. The electric cables will be laid together with fiber-optic data transmission cables of a much smaller diameter.

Where possible, the offshore subsea cables will be buried in trenches under the sea floor or, where trenches cannot be excavated, the subsea cables will be protected using alternative protection systems.

## The Landing Point

The landing point is the point at which the subsea cables reach land, with subsequent connection to the respective converter stations being made via underground cables.

In the UK, the proposed landing point is at Eastney, near Portsmouth. On the French side, the interconnector's landing point will be at Normandie.

The chosen landfall locations on both sides of the Channel have been shortlisted through an extensive optioneering process. This included detailed consideration of engineering and environmental issues, with particular consideration being given to environmental characteristics of the area including Special Protection Areas (SPA) and Special Areas of Conservation (SAC).

Eastney was chosen as the preferred option, partly due to its relative proximity to the existing substation at Lovedean. Minimising the length of the underground cable route will significantly reduce the environmental impact and the disruption associated with its installation.



Courtesy and copyright of Prysmian

# Onshore Elements of AQUIND Interconnector in the UK

AQUIND Interconnector will include four high-voltage direct current underground cables on either side of the Channel, connecting the landing points to new converter stations in Lovedean (England) and Barnabos (France).

## The Underground Cable Route

Four high-voltage direct current underground cables will connect the subsea cables from the landing point at Eastney to a new converter station at Lovedean in Hampshire – a distance of less than 20km.

An underground data cable will also be required to maintain the interconnector and facilitate communications between the UK and France. The underground data cable will be installed alongside the underground electric cables.

The proposed underground cable route was arrived at via a detailed optioneering process reviewing all types of constraints, including:

- Environmental – such as proximity to protected areas or habitats of protected species
- Cultural / heritage features

- Engineering factors – such as existing utilities / infrastructure buried under motorways
- Land ownership constraints

The underground cables will be buried under existing verges or highways, where possible. The exact methods to be used for underground cable installation will depend on the final underground cable route. A typical underground cable installation will involve trench excavation, installing ducts and reinstating the road. The underground cable can then be pulled through the ducts at a later date, to reduce the extent of traffic management. Appropriate traffic mitigation measures will be put in place before the start of any construction work.

The converter station will be connected via underground high-voltage AC cables to the UK electricity grid at the existing Lovedean substation, which is owned and operated by National Grid.



# Converter Station

Converter stations are required in both the UK and France to convert electricity from Direct Current (DC) to Alternating Current (AC). AC is used for transmitting electricity in the UK's and France's electricity grids, while DC is used for sending electricity along the subsea and underground cables because it is more efficient over large distances.

Lovedean in Hampshire was identified as the optimal location for the UK converter station, taking into account a number of factors, including the capacity of the existing network.

The converter station site will comprise a mix of buildings and outdoor electrical equipment, with the outdoor equipment being similar in nature to the equipment at the neighbouring Lovedean substation. The building roof line will vary in height, but will be approximately 22m at its peak. The design and layout of the converter station will be finalised in due course.

It is anticipated that approximately 6-9 hectares of land will be procured for the converter stations in each country – this includes the areas designated for the converter station buildings, outdoor electrical equipment and any screening required.

Work is being carried out to understand any environmental constraints including ecological, landscape and heritage features, and develop appropriate mitigation.

There are significant benefits in situating a converter station as close as possible to a substation. The AC cables used to connect HVDC converter stations to AC substations require more footprint and cause more disruption during the installation. AC cables also have higher transmission losses and pose other technical challenges and a longer AC would partly offset the benefits of the interconnector.



Courtesy of ABB

# Impacts and Mitigation

## Background Research

Extensive studies and detailed optioneering have been undertaken to inform the development of the offshore and onshore cable routes, as well as the landing point and converter station sites.

AQUIND will undertake an Environmental Impact Assessment (EIA) and submit an Environmental Statement (ES) in respect of each of the onshore and offshore elements to support its applications for planning permission and a marine licence. The purpose of the EIA is to identify the potential for significant environmental impacts to arise from the project, and identify and incorporate necessary measures required to mitigate those potential impacts. Potential cumulative impacts including cross-boundary impacts will be described and assessed.

In preparation for the EIA, formal Scoping Reports will be submitted to the relevant Local Planning Authorities and the Marine Management Organisation to agree the data required to inform, and the scope of, the assessments.

## Onshore Investigations and Potential Impacts

### Ongoing Surveys

As part of the planning process, AQUIND will be undertaking further due diligence and investigative surveys along the proposed interconnector route and at the converter station location in order to understand any further engineering and environmental constraints.

Initial environmental survey work along the terrestrial cable route requires surveys for protected species including great crested newts, dormice and bats. Noise and tree surveys have been undertaken around the proposed converter station location and surveys of the subsea cable route are ongoing. Terrestrial ground investigation work includes boreholes and trial pits. These will be completed prior to the construction of the interconnector. AQUIND will provide advanced notice of these works.

### Managing Construction

The construction phase for the onshore elements has the potential to give rise to adverse environmental impacts for a temporary period. AQUIND will work closely with the relevant Local Authorities in the UK to establish a Construction Management Plan which will help manage the impact of construction.

The Construction Management Plan will mitigate the impact of construction traffic on congestion, specifically during peak hours, and set out best practice in terms of acceptable operating hours to minimise any disruption to local residents.

Construction work affecting local roads will be staged with every effort taken to ensure that local road closures will be limited to one lane at any one time, as opposed to a total closure. It is also proposed that, during the construction process, only short sections of road will be affected in order to minimise congestion and disruption to local roads and infrastructure.

The Construction Management Plan will also manage the construction work associated with the new converter station at Lovedean to ensure any impact on the surrounding environment and neighbouring residents are minimised.

## Offshore Investigations and Potential Impacts

### Ongoing Surveys

AQUIND is currently undertaking a geophysical campaign to establish the likely ground conditions of the offshore cable corridor from the UK to French shoreline. The data from these surveys will inform the detailed routing and installation methods to be adopted for the project, but will also inform the EIA. The geophysical survey data will be utilised in the Benthic and Archaeological Impact Assessments, and will also be used to inform a geotechnical campaign for Spring / Summer 2018. Benthic samples have been taken from strategic points along the corridor, and drop-down underwater cameras used to establish the presence of benthic communities at rocky locations. Local fishermen have also been consulted with respect to fishing activities in the vicinity of the cable corridor.

### Managing Construction

As with the onshore elements of the project, the construction phase of the offshore element is the most likely to give rise to adverse environmental impacts for a temporary period. AQUIND will work closely with the local and national level stakeholders who have the potential be impacted by the installation activities in order to inform them of when activities would take place and help manage any impact.

# Benefits

## A reliable electricity supply for the UK and France

AQUIND Interconnector will allow transmission of electricity in both directions enabling the UK's and France's electricity grids to manage fluctuations in consumption and production more effectively. This will improve the reliability of electricity supply in both countries. AQUIND Interconnector will have the capacity of 2,000 MW and transmit up to 16,000,000 MWh of electricity each year between the two connected countries, which is 5% and 3% of the total consumption of Great Britain and France respectively, i.e. consumption by millions of households\*.

## Promoting energy market competition

By diversifying the sources of electricity, AQUIND Interconnector will promote greater competition across domestic energy markets. This could, in turn, help lower energy prices for consumers and businesses.

## Tapping into cleaner sources of energy

Production of electricity by low carbon methods, such as wind or solar, is often reliant on local weather conditions. On non-windy days, this means more of our electricity is supplied from fossil fuels.

The construction of AQUIND Interconnector will enable the UK and France to trade surplus electricity generated from low-carbon sources, like wind farms. By tapping into this clean energy, our reliance on fossil fuel-generated energy is reduced.

## No overhead lines

AQUIND interconnector will use well-tested and reliable cable technology. Burying the cable along the whole route avoids the need for the construction of overhead lines and their associated visual impact.

## Investment in Energy Infrastructure

AQUIND Interconnector represents a significant investment in the UK's energy infrastructure and is being developed without government subsidies.

\* The actual utilisation rate of the interconnector depends on market conditions, limitations by national transmission system operators and other factors

# The UK Planning Process

Due to the nature of the project, the onshore and offshore elements of AQUIND Interconnector will be consented by separate bodies, including the Marine Management Organisation (MMO) and relevant Local Planning Authorities in the UK.

Similar applications will also be submitted to the relevant French planning authorities for the onshore and offshore elements located in France.

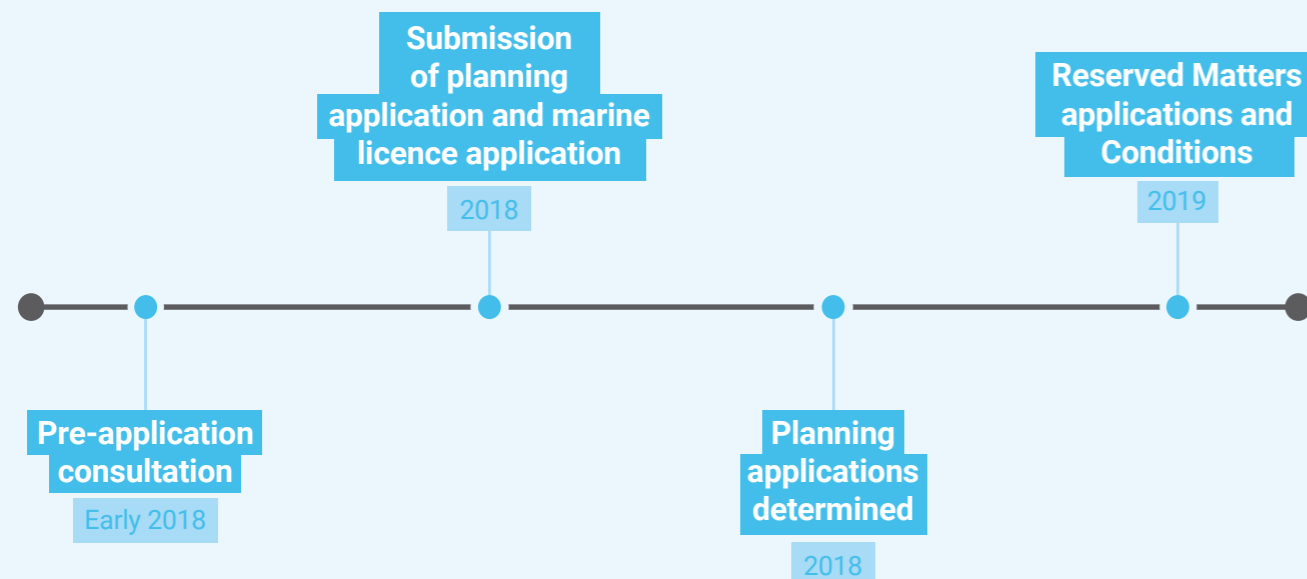
## The Offshore Planning Process

The offshore works required to lay the subsea cables can start once the Marine Management Organisation (MMO) issues a Marine Licence in accordance with the Marine & Coastal Access Act 2009.

## The Onshore Planning Process

The onshore works in the UK, which include laying the underground cables and constructing a new converter station at Lovedean, require a planning permission in accordance with the Town & Country Planning Act 1990. The relevant local planning authorities are Portsmouth City Council, Havant Borough Council, East Hampshire District Council and Winchester City Council.

### Indicative Project Timeline



# Public Consultation

AQUIND is committed to engaging with stakeholders regarding its proposals. Before submitting planning applications to the relevant authorities, AQUIND will undertake a programme of community consultation.

This will enable local residents, businesses, stakeholders and elected representatives to view the proposals, speak with members of the project team and share their feedback.

AQUIND will consult with all landowners that could be affected by the proposals.

## Feedback and Reporting

AQUIND will invite feedback from stakeholders via a number of channels. Contact details, including the project website, are listed on the back of this information leaflet.

AQUIND will review the feedback received and, where possible, consider amendments to the design of the interconnector and the proposed mitigation strategies.

Following the public consultation, AQUIND will produce a Consultation Report detailing all consultation undertaken, how AQUIND has sought to respond to the feedback received and how this has informed the final design and mitigation measures.



## Attend a Public Exhibition

Public exhibitions to display proposals for AQUIND Interconnector, will be held in January 2018 at the following locations:

- 24th** Wednesday  
24 January 2018  
2 – 8 pm  
Waterlooville Community Centre
- 26th** Friday  
26 January 2018  
2 – 8 pm  
Milton Village Community Hall
- 27th** Saturday  
27 January 2018  
2 – 8 pm  
Lovedean Village Hall

Members of the project team will be on hand to answer any questions you may have.



