



# Eneco Offshore Wind

Your partner in Offshore Wind





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**Offshore Wind pioneer  
& market leader**






# Eneco Group




## Powering the sustainable energy transition

Eneco is a renewable energy company providing innovative solutions and affordable products and services that make it easy and effortless for customers to join the sustainable energy transition. We build and invest in wind farms, biomass plants, heating and solar parks in order to increase the supply of renewable energy and provide consumers with sustainable energy choices.

## Our focus

- 
**Developing and managing renewable energy sources**  
 We build sustainable energy assets and infrastructure that allow our customers to manage their energy consumption and production.
- 
**Customer-focused solutions**  
 Our affordable energy products and services allow our customers to lead the way toward energy sustainability.
- 
**Technology-driven Innovation**  
 We provide decentralised and centralised energy management solutions that allow our customers to align their energy demand, supply and back-up requirements, as well as manage their Smart Home and Smart Mobility needs.

## Our strategy

- 
**Driving the sustainable energy transition**  
 Our investments with our customers and partners are helping drive the sustainable energy transition and are contributing to the Paris Climate Agreement objectives.
- 
**Accelerating the transition of heating to sustainability**  
 Our innovative energy solutions are accelerating the conversion of residential and commercial heating systems to renewable fuel sources.
- 
**Empowering our customers**  
 Our smart services allow our customers to monitor and manage their energy consumption, permitting them to participate in a decentralised energy system in which consumers can consume, store and share energy according to their needs.



## Solar & Wind

### Solar & Wind

Eneco Group's Solar & Wind division invests in, develops, constructs and operates utility-scale sustainable energy projects in the Netherlands, Belgium, Germany, France and the United Kingdom. Eneco Solar & Wind currently operates

projects with a generation capacity of over 1100 MW, and is developing a further 2000 MW of wind generation capacity and 300 MW of solar generation capacity. Eneco generates 15% of Belgium's solar energy.

## Eneco Offshore Wind

### One of the pioneers in Offshore Wind industry

We delivered our first Offshore Wind park in 2008, the first in the Netherlands. We were pioneers then, and we have grown to be an industry leader in the development of these large-scale sustainable assets, ranking in the world's top 10 in terms of Offshore Wind energy generation.

Our experience of operating and maintaining profitable projects has made us valued members of the communities in which we operate; wherever possible we contract with local suppliers and help them not only to develop their service offerings but also to boost local employment. In addition, we collaborate with local colleges and universities to provide training and employment opportunities in the renewable energy industry.

An important part of sustainability is financial stability, and Eneco has built a reputation for delivering our projects on time and on budget. This makes us a reliable partner for the governments in which countries we operate.

Our operational efficiency makes us the partner of choice for large industrial energy consumers, creating long-term Corporate PPA's that have strongly contributed to the decarbonization of a number of industries.

### Our experience

Our long term experience in Offshore Wind and our learning process over the years is demonstrated in the following selection of projects.

### Princess Amalia wind farm

The Princess Amalia wind farm is located 23 kilometers off the coast of IJmuiden (NL). This wind farm has been supplying electricity to 125,000 households since 2008, and was the first Dutch wind farm constructed in deep water and far offshore (i.e. "outside the 12-mile zone").

The wind farm's location was chosen so that on most days the turbines will not be visible from the coast, and because generation yields benefit from higher and more constant Offshore Wind speeds. In addition, the location is as far as possible from bird migration routes.

### Luchterduinen

Our Luchterduinen wind farm, developed with Mitsubishi Corporation 23 kilometers off the coast of Noordwijk and Zandvoort, allowed us to implement new foundation and installation technologies, and to significantly reduce the cost of Offshore Wind energy.

### Norther

Norther is a 370 MW Offshore Wind farm in the North Sea, approximately 23 kilometers from Zeebrugge. The 44-turbine Norther wind farm produces electricity for more than 400,000 households.

### Commitment to the environment and to sustainability in the North Sea

The North Sea is one of the world's most heavily used waterways. While for centuries it has been crucial to the well-being of the fisheries and commercial shipping industries, much more recently it has emerged as an important source of the renewable energy that is vital to the development of environmental sustainability. Eneco works with commercial and environmental stakeholders in the region to ensure that our Offshore Wind farms are safe and sustainable.



## Eneco as a partner throughout the asset life

Eneco is active in all phases of the Offshore Wind asset life cycle. We are keen developers, investors, construction managers and operational experts. Some of the ways Eneco adds value include:

- Value-based asset management: Through value-based asset management we gain control over risk profiles, life cycle costs and asset competences. This allows us to design our Offshore Wind parks as cost-effectively as possible, and to improve the reliability and performance of their operation.

- Partnership through cooperation: We know how to prepare a winning bid through cooperation with suppliers, contractors and investors. We excel in building bridges among partners in a consortium.
- “Hands on”-mentality: Every member of our asset management team is offshore-qualified. They are present on site and have the ability to directly support operations when needed.

### Bid management

Eneco has the experience and track record in competitive tenders for Offshore Wind concessions and support mechanisms. Eneco knows how to:

- Develop competitive bids based on realistic business cases; even in zero-subsidy environments
- Leverage our track record during commercial negotiations for supply and service agreements
- Optimise the O&M scope and warranties to balance the cost of energy and operational risks

### Development

Eneco has comprehensive in-house project development capabilities, from initial concept through to construction. Management teams provide expertise in origination, development, site acquisition, grid assessment, permitting, system design and investment feasibility. Eneco utilises the most advanced technologies throughout our project development and management processes to ensure the highest energy generation yields and most cost-efficient O&M services.

### Construction management

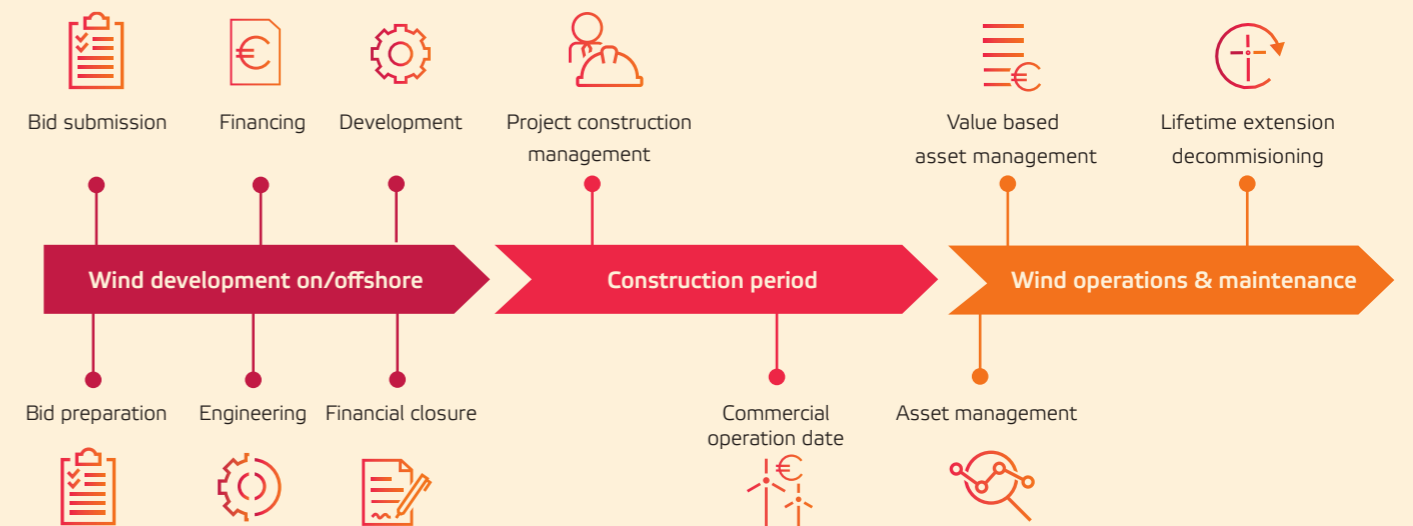
Eneco’s track record delivering Offshore Wind projects safely, on time and within budget allows us to respond quickly and expertly to a wide range of project challenges.

Our experienced and solutions-focused development, construction and operations professionals provide comprehensive design, procurement and construction services. And our contracting strategy utilises our industry knowledge and economies of scale to optimally allocate risks and responsibilities and to optimise procurement and construction costs.

### Operations

Eneco Asset Management Renewables (AMR) manages all the renewable assets of the Eneco Group. This includes onshore wind, Offshore Wind, biomass and solar assets in the Netherlands, Belgium and the United Kingdom. Examples include the Prinses Amalia Offshore Wind farm (120 MW) off the coast of IJmuiden, biomass fermentation plants in Belgium and the Tullo wind farm in Scotland. Within Eneco, the project development department plan, design and build the assets.

Our asset management system is accredited to the ISO 55000 standard, which assures we maintain full control of the risk profile, life cycle costs, asset information and competences.





## Additional services

### Corporate Power Purchase Agreements

Corporate Power Purchase Agreements (PPAs) allow companies to take direct control of their energy needs and to manage them in the most efficient, cost-effective way.

The benefits of entering into Corporate PPAs with Eneco include:

- Long-term price certainty
- Ability to hedge future electricity price increases (e.g. resulting from emissions scheme/carbon imposts)
- Access to Large Generation Certificates (LGCs) and other green credits/products
- Ability to achieve sustainability objectives and reduce greenhouse emissions (improved brand equity)

As a Corporate PPA provider, Eneco has strong competitive advantages:

- Demonstrated experience as a developer, builder and operator of utility-scale renewable energy projects in Europe
- Strong buying and supplier contracting power, resulting in highly competitive product pricing
- Strong credit and financial backing
- A multi-functional team of experienced development, construction and operational professionals
- A successful track record creating Corporate PPAs for leading companies pursuing sustainability objectives, including Royal DSM, Microsoft, Royal Schiphol Group and Stedin

### Sustainable harbours

Eneco is committed to applying green power concepts to the harbours in which we operate.

#### Shore power

In Rotterdam, Eneco provides Europe's largest port with sustainable energy through our 20 MW hub, which is directly connected to our wind farms and can power several vessels at the same time. Eneco's renewable energy has allowed our customers to replace the fossil-fueled engines that previously generated electricity for ships entering the harbor, resulting in greatly improved local air quality and significant CO<sub>2</sub> and noise emission reductions. Eneco develops, finances, builds and operates its onshore power hubs in close cooperation with port authorities and ship owners.

#### Eneco Wind2Heat

The main challenge of the energy transition is providing sustainable heat for industrial processes. Eneco Wind2Heat adds electric boilers to the Industrial client's heat production assets, replacing fossil-fueled ones. The electric boiler provides "green" steam in case wind power is available. By building these electric boilers on industrial sites in harbors close to the landing position of wind offshore-cables, Eneco and its clients consume green electricity where it is produced, helping to minimize grid congestion.

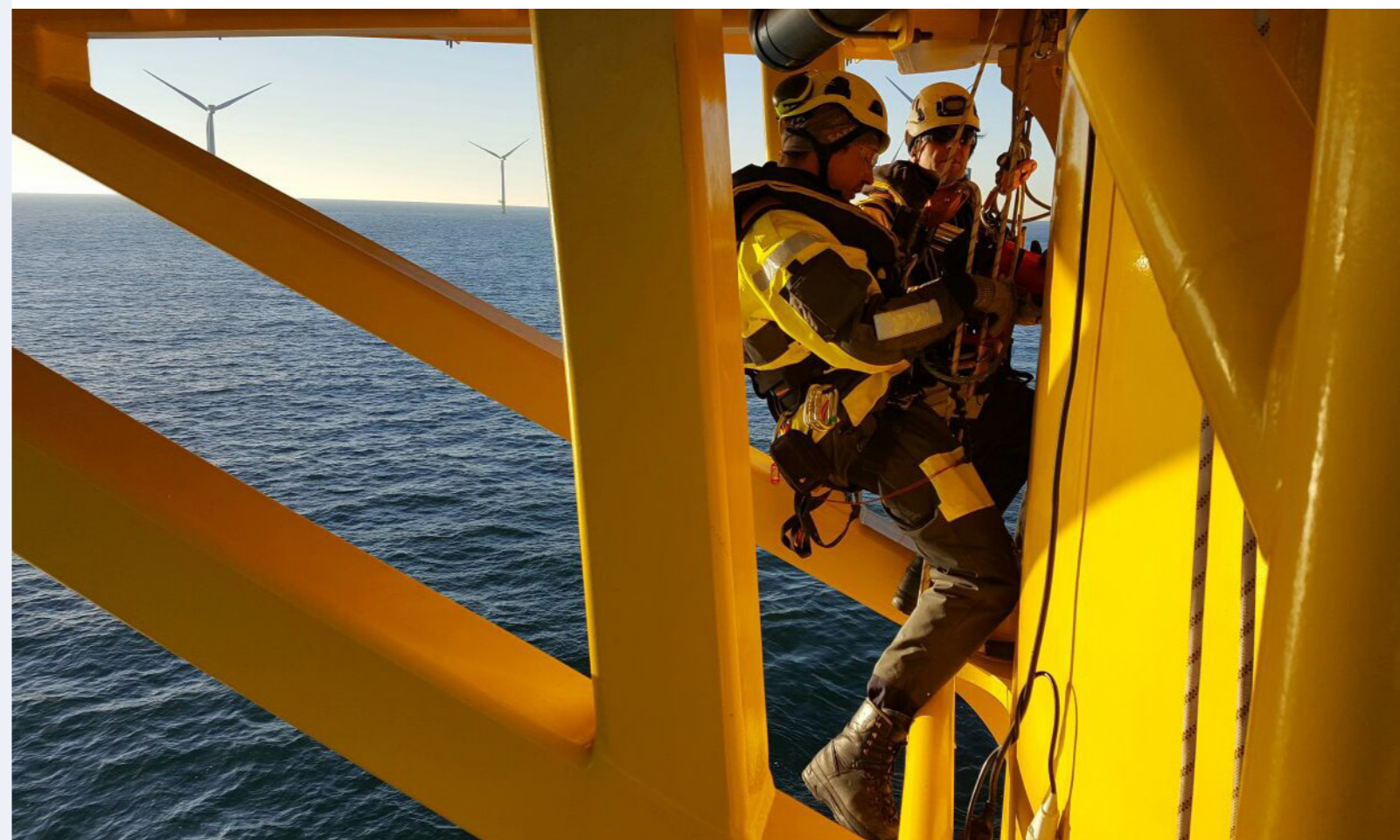
### Financial engineering

Offshore wind projects typically are characterised by large capital outlays with modest rates of return. Eneco is able to enhance value for shareholders while limiting the capital outlay and risk by raising non-recourse project finance.

Eneco has ample experience with raising project finance from commercial banks, policy-driven institutions (such as EIB, EKF, JBIC) and institutional investors. With a deep understanding of the credit approach of each of these lenders, Eneco has worked to develop financing packages that have pushed the market, while demonstrating deliverability.

Shareholder value for project development partners can be further improved through a sell-down strategy, in which a portion of the equity is sold around Financial Close – when development risks have been eliminated from the project – to investors with return expectations commensurate with the lower risk profile. The premium received from such investors helps to lift the shareholder value for developing partners.

Eneco has raised around € 4bn in project finance debt for Offshore Wind projects over the past 5 years, and several of our financing innovations have received international acclaim from leading project finance journals.



# Protecting the environment, prioritising sustainability

Wind energy is one of the cleanest, most environmentally friendly energy sources. It emits no greenhouse gases or air pollutants, and offers a secure and reliable low-emission energy supply for the future.

Eneco prioritises integration of our wind farms into local environments, and we rigorously comply with local and national environmental regulations. Our energy generation projects have an impeccable environmental record and we incorporate community feedback into all of our project development processes.

In addition, our projects make positive economic contributions to local, regional and national economies. We are committed to maximising local employment opportunities, and we support a local procurement policy, promoting participation from local and regional suppliers wherever possible.

Specific to Offshore Wind development, at our Luchterduinen Offshore Wind farm we are working in close collaboration with the Dutch authorities, monitoring birds and bats populations to minimise impact on their environments. Also at Luchterduinen, we have established a pilot programme to assess the feasibility of re-introducing flat oysters to the environment. And we are proud participants in an international scientific programme (DEPONS) assessing the effects of Offshore Wind farm piling on harbour porpoise populations.

In all the communities in which we operate, Eneco is recognised as a good neighbour. Our sponsorship programs are designed to improve the health and well-being of host communities.



# Reference projects



## Prinses Amalia

### Asset description

- › 120 MW (60 x 2 MW)
- › Offshore wind farm
- › Location close to IJmuiden (Netherlands)
- › fully owned by Eneco
- › Construction started in 2006 / COD 2008
- › Equity stake: 100%
- › PPA offtake: 100%

### Eneco responsibilities

- › Construction management
- › Asset management & operational management
- › Off-taker

**Unique selling point** One of the first projects to operate in full merchant market environment, i.e. without a subsidy/support mechanism in place (since the 10th anniversary of start of operations)



## Luchterduinen

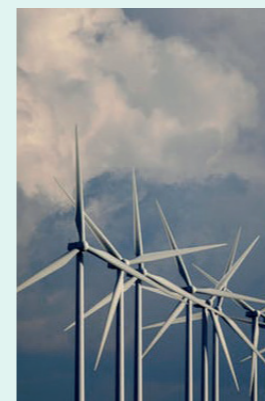
### Asset description

- › 129 MW (43 x 3 MW) Offshore Wind farm
- › Location close to IJmuiden (Netherlands)
- › Joint venture between Eneco (50%) and Mitsubishi Corporation (50%)
- › Construction started in 2013 / COD 2015 / Refinancing in 2016
- › Equity stake: 50 %
- › PPA offtake: 100 %

### Eneco responsibilities

- › Wind farm design
- › Permitting
- › Financing
- › Construction management
- › Asset management & operational management
- › Off-taker

**Unique selling point** Sound project execution and record installation times



## Blauwwind (Borssele 3&4)

### Asset description

- › 731.5 MW (77 x 9.5 MW)
- › Offshore Wind farm
- › Location close to Zeeland (the Netherlands)
- › Subsidy and permit awarded in 2016.
- › Financial close achieved in 2018 / Construction started in 2019 / COD in 2021
- › Equity stake: 10 %
- › PPA offtake: 50 %

### Eneco responsibilities

- › Bid preparation (including key optimisations)
- › Development partner
- › Technical design
- › Planning / Contracting / Financing
- › Construction management
- › Asset management & operational management
- › Off-taker

**Unique selling point** Successful financial close with competitive tariff price (54.5 EUR/MWh). Dual contract strategy with low construction risks (fixed lump sum contracts)

# Reference projects



## Norther

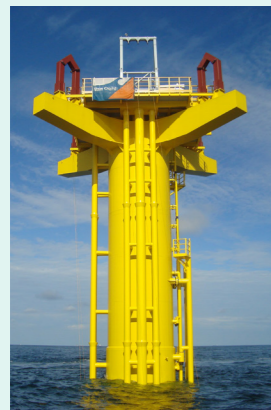
### Asset description

- › 370 MW (44 x 8.4 MW) Offshore Wind farm
- › Location close to Zeebrugge (Belgium)
- › Financial close achieved in 2016 / Construction started in 2017 / COD in 2020
- › Equity stake: 25 %
- › PPA offtake: 50 %

### Eneco responsibilities

- › Development partner
- › Technical design
- › Planning / Contracting / Financing
- › Member of the board
- › Project finance arrangement (incl. EIB/EKF)
- › Off-taker

**Unique selling point** Financial close achieved in challenging project environment: New subsidy regime / Grid connection delayed / Changing political landscape



## SeaMade

### Asset description

- › 487 MW (58 x 8.4 MW)
- › Location close to Zeebrugge (Belgium)
- › Finance close dec 2018 / COD 2020
- › Equity stake 12,5 %
- › PPA offtake: 100 %

### Eneco responsibilities

- › Project management
- › Off-taker

**Unique selling point** Very short timeline between achieving Financial Close and project completion: New subsidy regime / Grid connection delayed / Changing political landscape

# Eneco, your partner in Offshore Wind



Over 10 years of experience in Offshore Wind



Bid management leadership



LEAN development - Low DEVEX



On-budget, on-time and safe construction!



Local suppliers and workers



High availability of wind farms



Value-based asset management and ISO 55000-certified



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