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Last offshore wind farm successfully connected to North Sea power hub

The connection of the Seastar wind farm marks the completion of the Modular Offshore Grid (MOG), Elia's offshore power hub. Located 40 km off the Belgian coast, the switching platform bundles together the export cables from four offshore wind farms and transports the generated energy to the mainland via a shared transmission system. This is more efficient and increases availability in the event of cable incidents.

The MOG has been operational since September 2019, when it was connected to the Rentel wind farm. It has since been connected to three more wind farms (Northwester 2, Mermaid and Seastar), and these are now starting up one by one.

Offshore wind power is crucial to achieving Belgium's climate targets. Once all the wind farms are operational (scheduled for late 2020), they will generate an estimated 8 TWh per year on average, equal to approximately 10% of Belgium's total electricity demand. In the meantime, the federal government has begun developing a second generation area for offshore wind power, which will boost the installed capacity in the Belgian part of the North Sea 4 GW by 2030.

> *The connection of the last wind farm is a major milestone both for the Belgian offshore wind sector and for Elia. However, our work in the North Sea is far from over. We have started designing a new offshore power hub that will serve as a key link in the second generation area currently being developed. We also need to modify the onshore high-voltage grid to ensure that we can transport increasing volumes of electricity generated offshore to consumers, which is why Elia is working hard on the Ventilus and Hainaut Loop projects in the provinces of West Flanders and Hainaut respectively.*
>
> ***Chris Peeters, CEO of Elia Group***

> *SeaMade is pleased to be joining the ranks of offshore wind farms connected to the MOG, further cementing Belgium's role as a trailblazer in the development of offshore wind as a technology of the future. Appropriate grid development is also vital to shaping an increasingly green future with additional energy generated offshore in the years to come.*
>
> ***Mathias Verkest, CEO of SeaMade***

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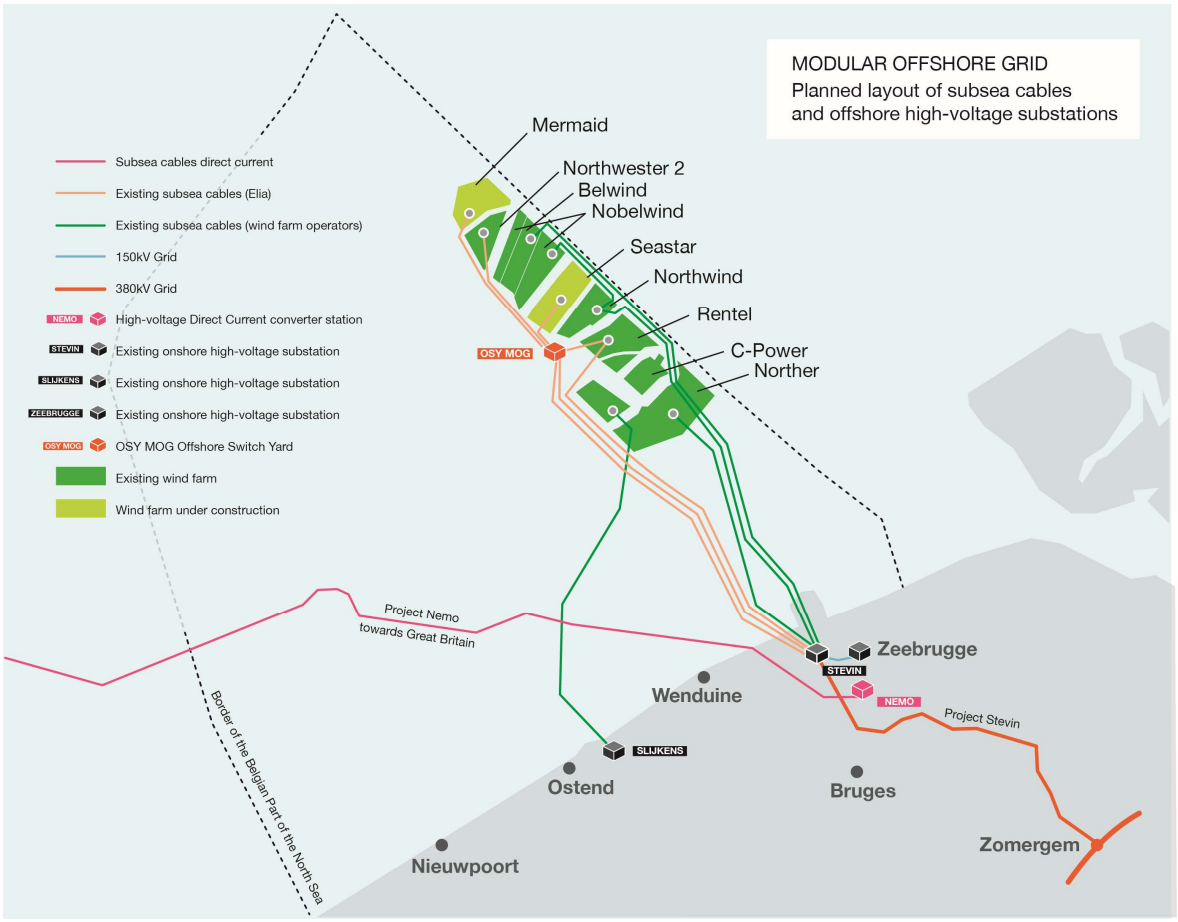
The second MOG project will be more than just a switching platform. It will also uprate the current of the connected wind farms to 220 kV. Each wind farm now has its own transformer platform. The exact location of the MOG2 project has yet to be determined, with seabed surveys scheduled to begin soon.

Belgium's first zone for offshore wind power



The MOG: facts and figures

- The MOG is connected to four wind farms: Rentel, Seastar, Mermaid and Northwester 2.
- The platform is **unmanned** and is monitored and controlled remotely.
- The topside rises **41 m above the surface of the water** and weighs **2,000 tonnes.**
- It is anchored to the seabed by **four piles** at a depth of up to **60 m**.
- **220-kV** subsea cables connect the platform to the Stevin high-voltage substation in Zeebrugge.
- At **28 cm in diameter**, the cables that connect the platform to Elia's onshore grid are the thickest ever installed in the North Sea.
- To protect them from fishing boat trawls and anchors, all of the subsea cables are buried at a **depth of 1 to 3 metres**.
- Total investment in the platform amounts to approximately **€350 million**.

Photo of the MOG

About Elia Group

One of Europe's top five players

The Elia Group is active in electricity transmission. We ensure that generation and consumption are balanced around the clock, supplying 30 million end users with electricity. With subsidiaries in Belgium (Elia) and north-east Germany (50Hertz), we operate 19,271 km of high-voltage connections. As such, our group is one of Europe's top 5. With a reliability level of 99.999%, we give society a robust power grid, which is important for socio-economic prosperity. We also aspire to be a catalyst for a successful energy transition towards a reliable, sustainable and affordable energy system.

We make the energy transition happen

By expanding international high-voltage connections and integrating ever-increasing amounts of renewable energy generation, the Elia Group promotes both the integration of the European energy market and the decarbonisation of our society. At the same time, the Elia Group is innovating its operational systems and developing market products so that new technologies and market parties can access our grid, thus making the energy transition happen.

In the interest of society

As a key player in the energy system, the Elia Group is committed to working in the interest of society. We respond to the rapidly changing energy mix, i.e. the increase in renewable energy, and constantly adapt our transmission grid. We also ensure that investments are made on time and within budget, with a maximum focus on safety. When we carry out our projects, we manage stakeholders proactively by establishing two-way communication with all affected parties very early on in the development process. We also offer our expertise to our sector and relevant authorities to build the energy system of the future.

International focus

In addition to its activities as a transmission system operator, the Elia Group provides various consulting services to international customers through its subsidiary Elia Grid International (EGI). Elia is also part of the Nemo Link consortium which operates the first subsea electrical interconnector between Belgium and the UK.

The Group operates under the legal entity Elia System Operator, a listed company whose core shareholder is the municipal holding company Publi-T.

More information: eliagroup.eu

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