

PRESS RELEASE | 29 January 2024

## Meshed high-voltage grid in Belgian North Sea prevents Rentel wind farm outage after cable incident

- An alternative transmission route via Elia's MOG (offshore power hub) is now being used to its maximum potential
- To avoid overloading the MOG's cables, offshore generation capacity is temporarily limited during periods when there are high winds
- The cause of the cable incident is still being investigated; Belgium's security of electricity supply is not in jeopardy

**Belgian North Sea | During periods of very high winds, the transmission capacity of four Belgian offshore wind farms will be temporarily limited due to the fact that the cable from the Rentel platform to the mainland was damaged after an incident. Despite the damage, the wind farm is able to continue to generate power, since Rentel – unlike Belgium's first wind farms – is integrated into a meshed high-voltage grid. Rentel has two export cables: one running to the coast (which is currently interrupted) and one running to Elia's offshore power hub (the MOG). Since three other wind farms are connected to the MOG, their electricity output is restricted slightly during periods of very high wind to prevent the export cables from being overloaded.**

### The Rentel wind farm as part of a three-way connection

Each offshore wind farm has a transformer platform that collects the electricity generated by its wind turbines and then steps up the voltage of this electricity so it can be efficiently transmitted. When it was commissioned in 2018, the Rentel platform (309 MW) only had one cable running to the mainland.

When Elia developed a meshed transmission grid for the next three wind farms (Mermaid, Northwester 2 and Seastar), Rentel was added to this project. A meshed grid saves on cables – which is more sustainable – and enhances the security of supply of the wind farms in the event of an incident, such as the one Rentel is currently experiencing.

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Elia took on the Rentel cable that leads to the mainland in 2019 and built a short connection cable between Rentel and Elia's platform, which, along with the two export cables from the offshore power hub to the mainland, formed a three-way connection. See the map below.



### Complex repair operation

On 9 January, the Rentel cable suddenly failed. All the safety provisions worked, meaning security of supply was not compromised. Working amidst challenging weather conditions, Elia quickly managed to locate the origin of the incident: the point where the cable was connected to the Rentel platform. Carrying out repairs on this section is very challenging and complex. In addition to the Rentel platform being located 34 km off the coast, winter is a far from ideal time for offshore operations, given the high winds and waves. All parties involved (Rentel, the cable manufacturer NKT and Elia) are working together on solving the issue quickly.

### Generation possible, but restricted

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Since the Rentel wind farm is connected to the mainland both directly (via what's known as a radial or point-to-point connection) and also via an offshore hub (the MOG), Rentel can still inject wind power into the transmission grid, just like the three other wind farms connected to the MOG.

It is only when there are high winds that the four wind farms connected to the MOG have to reduce their output in order to avoid overloading the remaining cables.

At this time, the four wind farms (Rentel, Mermaid, Northwester 2 and Seastar) can together generate a maximum of approximately 800 MW. Under normal circumstances, the MOG's transmission capacity to the Stevin high-voltage station on the mainland can reach approximately 1000 MW. Without the MOG, all 309 MW from the Rentel wind farm would be offline. Under the Belgian Electricity Act, the wind farms involved will be compensated for times when generation is restricted.

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## About Elia Group

### One of Europe's top 5 TSOs

Elia Group is a key player in electricity transmission. We ensure that generation and consumption are balanced 24/7, supplying 30 million end users with electricity. Through our subsidiaries in Belgium (Elia) and the north and east of Germany (50Hertz), we operate 19,349 km of high-voltage connections, meaning that we are one of Europe's top 5 transmission system operators. With a reliability level of 99.99%, we provide society with the robust power grid that is so important to socio-economic prosperity. We also aspire to be a catalyst for a successful energy transition, helping to establish a reliable, sustainable and affordable energy system.

### We are making the energy transition happen

By expanding international high-voltage connections and incorporating ever-increasing amounts of renewable energy into our grid, we are promoting both the integration of the European energy market and the decarbonisation of society. We also continuously optimise our operational systems and develop new market products so that new technologies and market parties can access our grid, thus further facilitating the energy transition.

### In the interest of society

As a key player in the energy system, Elia Group is committed to working in the interest of society. We are responding to the rapid increase in renewable energy by constantly adapting our transmission grid. We also ensure that investments are made on time and within budget, with a maximum focus on safety. In carrying out our projects, we engage in proactive stakeholder management by establishing two-way communication channels between all relevant parties very early on in the development process. We also offer our expertise to different players across the sector in order to build the energy system of the future.

### International focus

In addition to its activities as a transmission system operator, Elia Group provides consulting services to international customers through its subsidiary Elia Grid International. In recent years, the Group has launched new non-regulated activities such as re.alto - the first European marketplace for the exchange of energy data via standardised energy APIs - and WindGrid, a subsidiary which will continue to expand the Group's overseas activities, contributing to the development of offshore electricity grids in Europe and beyond.

The legal entity Elia Group is a listed company whose core shareholder is the municipal holding company Publi-T.

[eliagroup.eu](http://eliagroup.eu)

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