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Feasibility study common grid connection wind farm Zeebrugge

In the inner port of Zeebrugge a large scale wind turbine park is planned. POM West Flanders and MBZ started a study for the common connection of wind turbines on different terminals to the trans-mission network. Ingenium has been appointed to execute this study in collaboration with Energy Solutions and Miplan.

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The wind resource assessment ordered by a MBZ study for the port of Zeebrugge indicated that a total of 27 wind turbines can be realised on the various terminals in the inner port. A number of port enterprises decided therefore to put up one or more turbines on their terminal. In order to avoid several individual connections to the high voltage station, POM and MBZ intend to realise a common connection of the wind turbines to the high voltage station.
The advantages for the terminal enterprises are:

- Time and means for study are deployed optimally, taking into account the whole zone (instead of each enterprise separately) with attention for the flexibility of a phased realisation of the wind turbines on the various terminals
- There is a guarantee that each terminal enterprise will be able to connect wind turbines
- The installation cost of the cable link is minimised
- Providing a ring network enables a phased installation of the wind turbines
- The high voltage cable can also be used for onshore power supply installations
- By this project a number of high voltage cables was identified and integrated in the new layout.

Determination of cable characteristics and safety measures is based on the features of the production units (wind turbines) and the possibilities for connection to the transmission network. Once the technical barriers such as rail- and waterways were resolved and engineered, a cost-estimation was made to realise the high-voltage network.

The result of the study contains a description and cost-estimate of the necessary electrical infrastructure and the optimal trajectory for the high voltage cables

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Developer

POM West-Vlaanderen & Havenbestuur Zeebrugge

Designer / Architect

Zeebrugge

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Services

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