



PROVIDING FLEXIBILITY FOR THE BELGIAN GRID WITH ENERGY STORAGE TECHNOLOGY

Maintaining energy frequency and reliability for the Ruien Energy Storage NV project

Belgium has a long-term energy and climate strategy in place to meet EU's carbon-neutrality target by 2050. Energy storage projects in Belgium and the surrounding Benelux region have taken off due to storage-friendly market rules and energy transition drivers—leading to an increased need for grid flexibility and good interconnection across other markets. Balancing the Belgian grid and integrating increased renewable assets becomes even more important when the country phases out of most of their nuclear power by 2025.

Flexibility for renewables integration

The Ruien Energy Storage NV project is owned by Nippon Koei Energy Europe B.V. through a joint venture with Aquila Capital. Nippon Koei Energy Europe supports the reduction of greenhouse gas emissions and the transition to renewables by developing energy storage projects to stabilise the regional grid—pushing needs for the energy transition across generation, and new flexibility/electrification options across the existing infrastructure.

This project is Wärtsilä's first in Belgium and one of the largest systems in the country to-date. The 25 MW / 100 MWh energy storage system has been delivered under an extended equipment delivery (EEQ) and a long-term service agreement. The system will help the customer to regulate fluctuations and supply peak power with stored renewable energy in the grid. With improved reliability, the system will also improve revenues.

THE CHALLENGE	WÄRTSILÄ'S SOLUTION	BENEFIT
<ul style="list-style-type: none"> Facilitate the federal government's goal to phase out most nuclear generation by 2025 Maintain energy frequency and reliability Regulate grid fluctuations for good interconnection and demand 	<ul style="list-style-type: none"> Wärtsilä's GEMS Digital Energy Platform ensures optimal performance for a range of specified use cases to maintain reliability of the electricity supply Wärtsilä's GridSolv Quantum energy storage system provides modular flexibility and enhanced safety features Wärtsilä's Service+ GAP solution provides system maintenance with performance guarantees 	<ul style="list-style-type: none"> Reliable reserve power and improved grid reliability Improved revenues Optimised renewable energy generation

Reliable and optimised electricity supply

The Ruien Energy Storage NV battery includes hardware and software technology, driving smart asset management. [Wärtsilä's GridSolv Quantum](#), a fully-integrated energy storage system, and [Wärtsilä's GEMS Digital Energy Platform](#) will optimise the entire site operations. GEMS will ensure optimal performance for the energy supply across a range of specified use-cases, including reserve power, frequency control response, capacity dispatch, and voltage support.

The system also has comprehensive system maintenance with performance guarantees across 15 years with [Wärtsilä's Service+ GAP](#) solution.

Supporting a balanced and decarbonised grid

Energy storage projects will play an increasingly important role in forming a balanced grid, harnessing the intermittency of renewables, and supporting Belgium to meet its decarbonisation goals. As global ambitions trend towards reduced fuel and nuclear dependency, there continues to be a growing opportunity for Wärtsilä and its partners to pave the way towards a 100% renewable future, with flexibility solutions and power system optimisation technology at the forefront.

SITE SIZE:

25 MW / 100 MWh

SITE LOCATION:

Ruien, Belgium

APPLICATION:

Renewables+

SCOPE OF SERVICES:

Engineering Equipment Delivery (EEQ) and Service+ GAP

DELIVERY:

Q4 / 2022



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