

24 November 2020

Press release

Belgian offshore wind pioneers join forces to boost energy storage development in Belgium

While solutions often exist for energy storage on a small scale, rolling out this technology on a large scale without dedicated support schemes is still a major challenge. Belgian public-private consortium EStor-Lux brings to the table innovative and promising solutions for tackling those barriers, as it gets ready to take energy storage projects to a next level.



The development of large-scale electricity storage capacity is key for a successful energy transition. Electricity storage is vital to ensure both a secure, sustainable and carbon-neutral supply, particularly when there is no wind or sunshine, but also to stabilize the grid, especially when renewable energy is plentiful.

Unfortunately, although large storage capacity will be needed to achieve carbon neutrality by 2050, it is a struggle to develop these assets on a large scale without dedicated support schemes such as balancing long-term services contracts or capacity reservation mechanisms. EStor-Lux consortium could successfully develop an innovative and highly promising technical and economic model to overcome these development pitfalls. The consortium has recently achieved the financial close of its first large capacity lithium-ion battery system in Belgium.

More specifically?

EStor-Lux is proud to announce that construction of its first battery energy storage system (10 MW/20 MWh) will get underway at Bastogne in a few days' time. Its completion is scheduled to be achieved by mid-2021. *"This is an important step, demonstrating that battery energy storage projects provide a fully-fledged alternative to conventional flexible capacity, and are therefore completely viable even without government support,"* explains **Pierre Bayart**, one of EStor-Lux's two project managers.

Half of the cost of the investment will be covered by a non-recourse bank loan ("project finance") provided by Triodos, an international reference in sustainable banking. *"Securing this kind of financing is a significant step forward in developing future capacity,"* adds **Cédric Legros**, EStor-Lux's other project manager. *"It means that it's possible to persuade banks that a business model directly exposed to market fluctuations is perfectly viable with a smart market positioning. This is great news, because every solution for this initial project was developed with a mindset toward enabling replicability on a larger scale."*

A battery designed to act as a Swiss Army knife for the electrical grid

This first project and its underlying funding mechanisms are based on innovative technical and contractual solutions which are the result of long-term development efforts. Partnerships forged with Fluence Energy, one of the leading global energy storage technology and services companies, which will install and maintain the battery storage system, and with Centrica Business Solutions Belgium (formerly REstore), which will dispatch and trade the battery flexibility on the markets, also played a major role in successfully reaching this milestone.

“The business model is based on our will to provide a wide range of services with higher added value to the grid operator and market players, thanks both to a longer storage duration than most of the projects in Europe (the battery takes 2 hours to fully charge or discharge, compared to the 30 minute to 1 hour durations that are currently the standard for storage duration in Europe), and also to aggregation of the battery within a pool, combined with decentral production and consumption units,” adds Pierre Bayart.

This aggregated capacity, with the battery as cornerstone, is able to deliver upward and downward balancing capacity to the grid for up to potentially long periods of time. By doing so, **battery energy storage can offer a total alternative to thermal power plants**, not only as a production unit (by providing energy in periods with low renewable generation) but also as balancing service provider (by charging or discharging the energy to compensate for errors in forecasting consumption and renewable volumes), thereby contributing to the perfect, instantaneous and constant balance between offtake and injection that is required for keeping the lights on.

“The challenge of stabilizing the power system under the energy transition often is underestimated.” Cédric Legros explains. “In periods with large renewable generation, spot prices are generally at a level under the marginal costs of the thermal power plants. In such a situation, most of the thermal generators are “pushed out-of-the-market” and not available to balance the grid, which leads to the risk of blackouts, as happened in the UK in August 2019 during extremely windy weather.”

What does the future hold?

Last years, the battery technology sector saw highly dynamic and favourable evolution, combining lower prices with increased performance. The time is now ripe for development of this technology on a large scale, even in a fully merchant context. Belgium is faced with the major challenge of replacing its nuclear generation capacity (after the decision to phase out nuclear power plants by 2025), while keeping its CO₂ emissions under control and guaranteeing affordable supply. Energy storage, which is carbon neutral and lowers system costs, will inevitably play a key role in meeting Belgium’s needs, especially when aggregated in wider flexible capacity pools.

Drawing on its experience, the founders of EStor-Lux now intend to replicate the proven solutions of this initial project, but on a larger scale.

“Electricity prices are set to become increasingly volatile and harder to forecast due to the development of wind and solar capacity, while the electrification of our energy needs, in terms of heating and transport, will increase our dependence on this commodity,” Pierre Bayart explains. *“Every player on the electricity market, but also every industrial – and even domestic – electricity consumer will potentially soon benefit from integrating battery storage into their energy strategy.”* Cédric Legros concludes: *“In this context, our ambition is to deliver turnkey solutions, including design, finance, construction and operation, to provide for an answer to these challenges, both decentral at consumer level as with centralized capacities on the grid. How quickly we can achieve this ambition will, however, depend on the political and regulatory framework, and especially on the potential positive or negative impact of the capacity remuneration mechanism that Belgium intends to put in place.”*

Three-point summary:

- Battery energy storage technology has reached full technological and economic maturity and can compete with conventional capacity on an ever-growing share of the flexibility markets.
- Battery projects can be funded through non-recourse project finance even with full merchant exposure.
- EStor-Lux consortium partners are determined to further play a pioneering role in the development of large-scale battery storage, combining distributed behind-the-meter projects with centralized capacity.

About EStor-Lux

The EStor-Lux consortium brings together Belgian public and private stakeholders, including:

- **Rent-A-Port Green Energy**, a joint venture between the diversified investment company Ackermans & van Haaren, its subsidiary CFE active in the construction sector, and BEWATT, the investment company of Bruno Vanderschueren, co-founder of Lampiris;
- **SRIW-Environnement**, the vehicle of the Walloon region to support the development of activities in the environment and energy sector;
- **SOCOFE**, the vehicle of Walloon municipalities for investment in the energy transition; and
- **Sopaer SA**, the vehicle from the municipalities of the Belgian province of Luxemburg for investment in renewable energy.

Connoisseurs of the Belgian energy sector will recognise several of the pioneers involved 20 years ago in the origination of the Belgian offshore wind farms .

For further information, please contact:

Pierre Bayart, CEO of Rent-A-Port Green Energy: +32 488 60 48 62, pierre.bayart@rentaportgreen.be
and/or

Cédric Legros, Investment Manager at SRIW-Environnement: +32 496 94 97 75, clegros@sriw.be