

2000 home batteries help keep the Belgian electricity system in balance

Riemst, 12 September 2022 – More than 2000 families in Flanders help to maintain the balance in the Belgian electricity grid, via their home battery. The charging pattern of their home battery is used to maximise the solar energy generated and to offer it on Elia's balancing market. That is good not only for a stable electricity grid, but also for consumers who are rewarded for their flexibility, without having to sacrifice any comfort. The technology from Smart E-Grid/Opteco has already brought together about 2000 home batteries in one single project. They form what is currently one of the largest battery-powered virtual power plants.

Renewable energy is less predictable than traditional energy generation. To cope with fluctuations in the supply of electricity, Elia has launched a new market model in which consumers get a central role in matching their consumption with production. In this way, they can reap the full benefits of their investments in renewable energy. Thanks to the Smart E-Grid/Opteco technology, this is being put into practice by giving home batteries a dual function.

"We cannot control the sun. It either shines or it does not. But if we combine and manage all existing solar panel installations and battery systems, we can create a powerful, flexible solar power plant that helps in the balancing of the grid. This is a first step towards a smart energy community, 'Smart-E-Grid', within which consumers can call on energy services thanks to smart devices within the energy system," says Ben Kunnen, CEO of Opteco. The aim is to have more than 3000 smart home batteries in the Smart-E-Grid community by the end of the year. It is the first time in Belgium that such a thing has happened.

For Elia it is important that everybody can contribute to the system. *"Flexibility markets have been popular with large energy consumers (such as industry or large refrigeration installations) for nearly a decade. But if we want to integrate more renewable energy into the system, we will also have to integrate more flexibility into it and quickly increase the storage level. This means using battery storage in the home, in the car and at work to ensure that precious green electrons are used most effectively,"* says David Zenner, head of consumer centricity of Elia.

In order to participate, consumers must have a home battery and a smart meter. Through a recognised market player, an intermediary who, for example, brings all batteries together into one portfolio, they can help to keep the grid in balance. Opteco, for instance, has installed about 2000 batteries. Thanks to this project, it is expected that 6 MW will be available by the end of the year to help maintain balance in the grid. Every day, Elia needs to have 26 MW of this type of fast flexibility available locally. Thus, these batteries represent more than 15% of Belgium's need.

Consumers notice virtually nothing of this participation. Their comfort remains the same and they receive a remuneration that depends on the market prices in the balancing market. On an annual basis and depending on market prices, this can generate hundreds of euros for the end customer.