

INVITATION TO SUBMIT TENDERS – PILOT PROJECT TO TEST CONCEPT OF TRADE IN LOCAL FLEXIBILITY

Objective

Energinet must upgrade the transmission grid to match the rate of expansion of renewable energy generation and consumption. However, it is not always possible, nor necessarily socio-economically optimal, to expand the transmission grid at a rate that meets demand. This, in return, leads to local congestion problems in the transmission grid, which existing market mechanisms are not designed to handle. One way of handling congestion problems is to order regulation of local generation and consumption. Energinet aims to reduce the use of orders and will therefore test a concept of market-based trade with local flexibility. The objective is for future downward regulation of generation from renewable energy to be realised using a local market, where competition will determine which generation will be regulated downwards or which consumption can be increased.

Peter Markussen, head of Flexibility and Ancillary Services in Energinet's Electricity System Operator, adds:

"A local flexibility market represents an extra business opportunity for market participants, giving them a competitive platform where possibilities to provide local flexibility are clearly identifiable." This pilot will give Energinet experience of reporting demand in cooperation with the DSOs, and participants will gain experience of local bid reporting and subsequent settlement. The project has been set up in cooperation with Danish Energy, DSOs and market participants within the framework of the DSO/TSO cooperation between Energinet, Danish Energy and the Danish grid companies. The long-term objective is the possibility of similar flexibility trading at DSO level."

Signe Horn Rosted, Director of the Electricity Market division in Energinet's Electricity System Operator, adds:

"This project is a good example of the need for cooperation between Energinet, Danish Energy, and DSOs in order to solve the challenges of increasing renewable energy integration. At the same time, this pilot gives us good experience to build on when we start to look into meeting flexibility demands in the distribution grid as well."

Background

Energinet currently sees congestion problems in the transmission grid in Lolland and South Zealand during hours of high wind power generation and wants to use the existing market for local downward regulation of generation or upward regulation of demand. Adding a specific geographical location to bids in the existing regulating power market offers the option to regulate upwards or downwards locally. The specific geographical locations are the nearest substations in the transmission grid. In the electricity market, downward regulation is a reduction of energy in the grid, meaning either reduced generation or increased consumption.

Implementing a concept of trade in local flexibility is a complex task in terms of the security of supply of Energinet and utility companies, market liquidity and information/communication requirements. Consequently, this pilot project will only run when the transmission grid is in normal operation, the distribution grid is intact and the utility companies' control centres are fully staffed to ensure the least possible impact on the security of supply. Both during and after the pilot project, evaluations and adjustments will be made to the concept as experience is gained and a need for changes arises.

The pilot project exempts participants from current market requirements as the project framework requires a minimum bid size of 1 MW, reporting of geographical information for bids to be used for local regulation, ramp requirements for activations and bid selection based on geographical location within a price area. The pilot will run in Lolland in the most overloaded substations in the transmission grid, i.e. Vestlolland (VLO), Rødby (RBY) and Radsted (RAD) from spring 2020. Only dispatchable units that meet the regulation and information exchange requirements and are connected in the grid under these substations may participate.

Energinet invites interested parties to participate in the pilot project, the purpose of which is to test the concept of trade in local flexibility and eventually, based on a successful test, submit a method notification and implement the concept in the market. Description of the concept and details on the pilot project are available in the memo in the Danish version. Interested parties are asked to submit a description of the facility/facility portfolio that they want to put up for the pilot project. This description must include documentation on the facility/portfolio, physical units and location, aggregation tool, volume and bid sizes. Participation is subject to proof that the facility/portfolio complies with ramp requirements.

Pilot project framework

The supplier and Energinet will pay their own expenses in relation to the implementation of functions necessary for the test, e.g. communication, control equipment, etc.

Any proceeds earned by the participant must be gained in existing markets/from existing products with a small volume in a temporary test period.

The test period will run for six months with expected start on 1 April 2020. Within the test period, it must be possible to get sufficient operational experience to make a conclusive evaluation of the pilot project. By participating in the pilot project, the market participant has an obligation to submit a written evaluation of the pilot project, which will provide input for the final preparation and design of the market framework for the potential implementation of the concept of trade with local flexibility with any changes. After the test period, a summary report comprising all relevant projects will be publicised by Energinet to share knowledge acquired.

What's does the market participant have to gain from participating?

- First-mover experience of future market requirements.
- The opportunity to provide input to the design of future market requirements, based on personal challenges and experience.
- The opportunity to test ideas, possibly under relaxed market requirements, during the test period.

What are the risks for the market participant?

- Risk of requirements tested not becoming part of the future market rules as Energinet cannot guarantee a specific market design.
- The final market design may require adjustments to equipment or, at worst, completely exclude equipment from the market after the test period, if results fail to meet implemented requirements (e.g. if the supplier was granted exemption from requirements for the test period and fails to meet these in the following period).

Application

Interested market participants are asked to submit a 2 to 3-page application describing the project and concept. Please send the application to TRM@energinet.dk by 15 February 2020.

Energinet will generally aim to select projects that represent different concepts and technologies in order to gain experience of various segments of the energy sector. Energinet will aim to select pilot project participants that will allow tests of as many different types of technology as possible, tests of both small and large portfolios, as well as offering credible set-ups.

Energinet will provide feedback on whether the application of the individual market participant has been selected for participation in the pilot project by 1 March 2020. When selections have been made, Energinet and the relevant market participants will draw up joint project plans, preparing for pilot project start-up on 1 April 2020. In addition, facility control properties and communication between the parties involved will also be tested that month.