



Towards a cleaner energy future

BestRES business models
for Renewable Energy Aggregators

Adapting to a changing landscape

A new energy market

The rising share of distributed generation is having a profound impact on European electricity markets. Increased variability and price volatility require a more robust system that allows flexible consumption and production.

Aggregation can significantly accelerate the integration of variable electricity sources by enhancing flexibility and decreasing the reliance of renewable energy on support schemes. This can only be achieved by steering huge numbers and types of power consumers and producers.

The role of Renewable Energy Aggregators

Renewable Energy Aggregators are defined as legal entities that aggregate the load or generation of various assets; their aim is to optimise energy production and consumption either technically or economically. The aggregated pool can include generators and consumers and can operate in one or multiple electricity markets. As facilitators between the supply and demand sides of the market, Renewable Energy Aggregators play an important role in market optimisation.

Innovative business models for Renewable Energy Aggregators

The EU-funded BestRES project has developed pioneering business models to boost the integration of renewable energy into the market through the active participation of Renewable Energy Aggregators. These business models combine different technologies into commercially viable products implemented in six European countries.

Methodology

Drawing on the Business Models Canvas Tool, the BestRES Project has analysed and improved the existing energy aggregation business models found across Europe.

Following an economic analysis and an investigation of the technical, legal and regulatory barriers, the improved business models have been divided into three groups according to their readiness for implementation.

Group 1: economically viable business models with no substantial legal, social and technical barriers → Real-life implementation

Group 2: economically viable business models with feasibility issues → Virtual implementation with actual customer data

Group 3: business models that are not economically viable → Not implemented

BestRES improved business models

Group 1 - BMs ready for implementation

- **Automation and control**
Uses innovative smart home technology to offer domestic customers insights and benefits of their energy usage through real time pricing.
Aggregator: Good Energy (UK)
- **Trading PV and Wind power**
Trade energy from renewables on short term markets while enjoying portfolio effects.
Aggregator: Next Kraftwerke Belgium (Belgium)
- **Supplying “mid-scale” customers with time variable tariffs including grid charge optimisation**
Helps consumers to benefit from market signals through time variable tariffs but also taking into account grid charges.
Aggregator: Next Kraftwerke Germany (Germany)
- **Using flexibility of customers as third party**
Flexibility can be exploited by an aggregator without changing the supplier.
Aggregator: Next Kraftwerke (Belgium)
- **Demand Side flexibilisation of small customers**
Activates demand side potential.
Aggregator: Oekostrom AG (Austria)
- **Market renewables on multiple marketplaces**
Uses live data and portfolio effects to increase forecasting quality. Valorise pooled generation at dispatch and balancing markets.
Aggregator: Next Kraftwerke Germany (Italy)
- **Activation and marketing of end user flexibility**
Activates and draws on customer flexibility on energy markets.
Aggregator: EDP (Portugal)

Group 2 - BMs with feasibility issues

- **Dispatching flexible generation under changing market design on multiple markets**
Increases value for generators by trading on multiple marketplaces under changing market design.
Aggregator: Next Kraftwerke Germany (Germany)
- **Investing in and marketing distributed generation by customers in apartments**
Market integration of solar generation from customers in apartments.
Aggregator: Oekostrom AG (Austria)

Group 3 - BMs not viable or facing impeding barriers

- **“Peer-to-peer” (local) energy matching**
Unites customers and generators locally and creates value for both.
Aggregator: Good Energy (UK)
- **Activation and marketing of end user flexibility**
Activates and exploits flexibility of customers on energy markets.
Aggregator: EDP (Spain)
- **Providing decentralised units access to balancing markets**
Distributed generators benefit from portfolio effects.
Aggregator: Next Kraftwerke Germany (France)
- **Pooling flexibility for local balancing market and energy service provision**
Uses aggregation to provide DSO services (Cypriot markets are not open yet).
Aggregator: FOSS (Cyprus)

CLEAN ENERGY FOR ALL EUROPEANS: an opportunity for Renewable Energy Aggregators?

The EU is currently discussing a new package of measures aimed at providing a stable legislative framework to facilitate the transition towards clean energy. This is a unique opportunity to address the barriers to Renewable Energy Aggregators participating in the electricity market and to speed up renewable energy integration.

Based on the experience gained in the last few years, the BestRES project has developed the following recommendations to support policy makers in elaborating strategies for a clean energy transition.



Recommendations

- 1** Aggregators are important market players. They facilitate the integration of consumers and energy communities into the market and enhance its flexibility. A robust legal framework should ensure fair market participation for aggregators.
- 2** Aggregators' participation in the market should be encouraged by all Member States.
- 3** Unnecessary or hampering financial charges must be avoided to allow aggregators to access and participate in the electricity market on a level playing field. At the same time, financial responsibilities should be well defined.
- 4** Aggregators should be recognised as equal market players, especially when accessing markets such as balancing markets.
- 5** Customers must be able to act through aggregators to generate, store, consume and sell energy in a non-discriminatory manner.
- 6** Customers who rely on aggregators must not be disadvantaged in any way (i.e. be subject to undue payments, penalties or restrictions).
- 7** Local energy communities should be entitled to share electricity from generation assets within the community according to market principles, using existing and future ICT services.
- 8** It is important to grant easy access to and exchange of data, but at the same time customers' data must be properly protected.
- 9** Aggregators should have access to customers' data to be able to provide their services.
- 10** Aggregation is important not only in respect of demand response, but also in respect of generation.

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Learn more about BestRES business models
for Renewable Energy Aggregators at bestres.eu



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 691689. The sole responsibility for the content of this material lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither INEA nor the European Commission are responsible for any use that may be made of the information contained therein.