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Session 3: Flexible Generation

BestRES

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The project in short

Name: Best Practices and implementation of innovative business models for Renewable Energy aggregators (BestRES)

Budget: €1.994.152,50

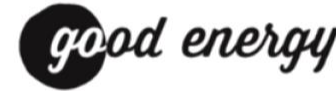
Main objectives of the BestRES project:

- The project responds to the strong need for innovative business models for Renewable Energy Source (RES)
- Support schemes are fading out pushing renewables on the market at no marginal costs.
- Aim: The BestRES project was to identify best practices business models for renewable electricity generation in Europe and to improve these further taking into account new opportunities and synergies coming along with changing market designs in line with the EU target model.
- Business models for aggregation of various RES, storage and flexible demand.
- Implemented during the project in real-life environments.



Stiftung

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Key exploitable results addressing energy system integration

(1) Automation and control	(5) Providing decentralized units access to balancing markets	(9) Demand Side flexibilization of small customers
(2) “Peer-to-peer” (local) energy matching	(6) Market renewables on multiple market places	(10) Invest and market distributed generation of customers in apartment houses
(3) Dispatch flexible generation under changing market design on multiple markets	(7) Trading PV and Wind power	(11+12) Activation and marketing of end user’s flexibility.
(4) Suppling „mid-scale“ customers with time variable tariffs including grid charges optimization	(8) Using flexibility of customers as third party	(13) Pooling flexibility for local balancing market and energy service provision.

In total, 13 improved business models have been developed in the BestRES project.

- DSM residential
- DSM commercial and industrial
- RES generation flexible
- RES generation volatile
- Energy community



Key exploitable results addressing energy system integration

- The improved business models ready for the market have been implemented / monitored under real-life conditions.
- The replicability of business models has been verified through European practitioners inside & outside the BestRES Consortium.
- Recommendations and enabling conditions were developed for the replication of the business models and for overcoming the barriers hindering the implementation of the business models in Group 2 and 3.
- Final beneficiary of the results is society at large since RES can freely enter the market

- Lack of data provision/access
- Shorter life cycle of storage technologies
- Lack of forecast quality
- Need of standardization
- Missing smart grid infrastructure

Technical
barriers

- Lack of standard contracts and lack of standards and processes for interactions between market actors
- Rules regarding allocation, metering, billing, reconciliation and data communication
- Lack of clear objectives and unproductive role of the national regulator
- Data and privacy protection

Legal and
regulatory
barriers

- Wholesale and network tariffs
- Complex of bids
- Prequalification for market participation

- No appropriate network codes (especially CACM), cooperation mechanisms and measurement technology for flexibility between Member states
- No legal choice between building new capacity and contracting flexibility for grid operators



Deployment prospects of the most promising solutions through the Clean Energy package for all Europeans

A robust legal framework that ensures fair market access for aggregators is crucial

Aggregators shall be among the parties that are able to access the data of final customers

Aggregators are important market players when it comes to the market participation of consumers and energy communities and to facilitate the flexibility of the market!

Local energy communities have to be entitled to share electricity from generation assets within the community based on market principles using ICT services

Access to balancing market should be guaranteed to all market participants

Non-discriminatory market access for final customers through aggregators is a need

Provisions that concern the payment of compensations or financial responsibilities for aggregators have to be well balanced

Member States should encourage the participation of aggregators in all markets
Final customers must not be subject to undue payments, penalties or restrictions

Impact of BestRES: Replicability and Scalability

Successful implementation of business models and full market integration of renewable energy sources beyond support schemes that can increase profitability

Market design for ancillary services across the 9 partner countries, and in particular for implementation of RES aggregators business models

Increase of the hosting capacity of the transmission grid and ancillary services provided to the TSOs through direct implementation of the improved renewable energy business models

Support to policy makers for creating new policy strategies that support the renewable energy aggregator business models and the integration of renewable energy overall

Market design including the legal and regulatory framework for creating power systems with flexible demand and improved DSM



Emerging best practice approach applicable to a wider European context



A Business Model should be adapted to the size of the customer and to the relevant national and or regional context. For BMs that target residential consumers, a personalised approach with a strong focus on customer interaction is key to convince the customers of the benefits of aggregation.



Offering a combined set of services to create a one-stop-shop for customers is a successful way of integrating the role of aggregators in electricity markets. For residential consumers, combining an economic rationale with green values (decarbonisation) is a stronger value proposition than the monetary benefit only.



A clear definition of the legal and regulatory framework is crucial for the implementation of aggregation BMs. Unclear regulation, and the resulting ambiguous market roles and responsibilities, can lead to direct barriers for implementation.



Aggregation BMs require a clear revenue sharing model in which the monetary benefits are shared between the aggregator and the customer.



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Thank you !

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