

CURRENT AND IMPROVED BUSINESS MODELS OF AGGREGATORS IN EUROPEAN TARGET COUNTRIES

Daniel SCHWABENEDER¹, Andreas FLEISCHHACKER¹, Georg LETTNER¹

Motivation and Central Question

The main objective of the BestRES project [1] is to investigate current barriers for Energy Aggregators and to and to improve their role in future electricity market designs. In the first stage, the project is focusing on existing European aggregator business models (BM) taking into account technical, economic, environmental and social benefits. In the second stage, improved business models are developed considering different market designs in various European countries with a focus on competitiveness. These improved business models are then implemented or virtually implemented with real data and monitored in the following target countries: *United Kingdom, Belgium, Germany, France, Austria, Italy, Cyprus, Spain and Portugal.*

Methodology

The business models of the Aggregators in the BestRES consortium are analyzed comprehensively using the Business Model Canvas [2] methodology. Subsequently they are improved in a qualitative way by modifying the business one or more of the Business Model Canvas blocks illustrated in Figure 1.

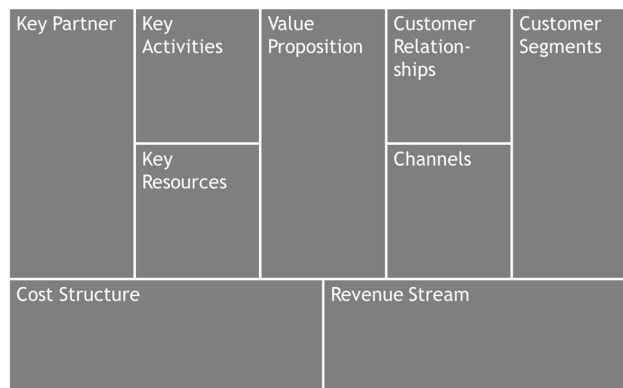


Figure 1: Graphical representation of Business Modelling via Canvas adapted from [2]

In total 13 improved business models for six different aggregators in nine European target countries were developed. The improved business models are allocated into three groups based on preliminary quantitative economic analyses and an assessment of technical and regulatory barriers:

- Group 1: Economical business models without substantial barriers
- Group 2: Economically viable business models that face barriers that prevent direct implementation only in the short or medium term
- Group 3: Business models that are not economically viable and/or face substantial barriers

Seven business models were allocated in Group 1 and are currently being implemented in real life by BestRES project partners. Two business models were assigned to Group 2 and four business models to Group 3, respectively.

All of the improved business models are comprehensively analyzed using various techno-economic models. The scope of the improved business models ranges from retail markets, like e.g. home automation and control for residential customers, to wholesale markets and reserve markets. Furthermore, a variety of technology and flexibility options including renewable generation, batteries and flexible loads are considered for different business models.

¹ Vienna University of Technology, Institute of Energy Systems and Electrical Drives / Energy Economics Group, Gußhausstraße 25-29 / E370-3, 1040 Vienna, Tel.: +43 1 58801-370375, {schwabeneder|fleischhacker|lettner}@eeg.tuwien.ac.at, www.eeg.tuwien.ac.at

To cover all the use cases of the diverse improved business models a flexible and extensive modelling framework is developed comprising unit commitment, load management and hybrid energy models as well as simulation models that account for the stochastic activations of units on reserve markets.

Results and Conclusions

The improved business models are currently being implemented. Hence, no final results are available at this stage of the project. Preliminary results of the quantitative analysis for selected improved business models will be presented.

Literature

- [1] Best practices and implementation of innovative business models for Renewable Energy Aggregators, <http://bestres.eu>.
- [2] Osterwalder, A. and Pigneur, Y. „Business Model Generation“, Hoboken, New Jersey: John Wiley & Sons, 2010. ISBN 978-0470-87641-1