IDEAS WITH ENERGY

Unlocking aggregation in the Energy Community: opportunities and challenges

Energy Community Secretariat, Am Hof 4, Level 6, 1010 Vienna

Thursday 29th September 2022

Aggregation business models: best practices vs main barriers

Developing aggregation in the Western Balkans

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LEGAL

- **DIRECTIVE (EU) 2019/944 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 June 2019**

  on common rules for the internal market for electricity and amending Directive 2012/27/EU

  > **(18) ‘aggregation’ means a function performed by a natural or legal person who combines multiple customer loads or generated electricity for sale, purchase or auction in any electricity market;**
  >
  > **(19) ‘independent aggregator’ means a market participant engaged in aggregation who is not affiliated to the customer's supplier;**

- **REGULATION (EU) 2019/943 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 June 2019**

  on the internal market for electricity

- **COMMISSION REGULATION (EU) 2017/2195 of 23 November 2017**

  establishing a guideline on electricity balancing

GOALS

- Fostering investments in renewables by giving good examples to existing ones. *Use the existing momentum*.
- Optimal use of existing (both grid and generation) infrastructure for securing safe system operation. *Third Party Access!*

MEANS

- From simple gathering of off-take agreements under one entity (trader)
- Through "simple" but regulated aggregation
- Towards AGGREGATOR (*including controlable consumption*).

Note: **Virtual Power Plant (VPP) [TSO] vs Aggregator [DSO]: very similar in concept but different to some extent.**

FACTS

- **Aggregators** are still not recognized as such in "full capacity" in most of the Western Balkans (WB) countries – *paperwork*.

- New technologies, such as **energy storages** (medium to large batteries) are also still not properly recognized and regulated – from its physical connection to the grid, to its possible use (acting in fact as a prosumer) and especially in connection with nearby generation and/or consumption.

- Available potential of DER (**distributed energy resources**) still don't have easy and regulated (*mostly due to missing Secondary legislation*) access to the FREE Market – *paperwork again*.

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DSOs

- Since most of DER are SPP (**Small-scale Power Plants**) producing from RES (Renewable Energy Sources) connected to the Distribution System, DSOs now have an active role in the process.
- Last 6 months **big interest** of RES to change (switch) off-taker which as in the case of customers should be easy and straightforward is still not – new and not well known procedures to be implemented on the DSO side.
- DSOs not (well) **prepared** for SPP (administrative and bureaucratic burden) DSO-TSO/MO communication needs more improvement and closer cooperation.
- DSOs **unbundling** not yet done in all WB countries.
- Administrative **barriers** exist also in neighboring EU member countries – e.g. Croatia, where all legal prerequisites are in place but procedures long are time consuming.

TSOs

- **Intra-day market(s)**
  (to 15-min resolution) – speed up.
- **Balancing market(s)**
  Urgent need for regional cross-border cooperation (harmonization is prerequisite) and preferably regional balancing market (e.g. BETSEE project).

Balancing rules:

- ✓ **Different in all counties, although similar to some extent, big differences exist, from registration to balancing price formation and its transparency and public availability.**
- ✓ **Balancing price formation: several completely different approaches are applied (e.g. one vs two prices (different for positive and negative imbalance), formation of prices linked to some Power Exchange or not, applied dead-band for single price differently defined in amount and in consequences, etc.).**

STEPS forward

First step is off-take of **fixed** power but ultimate goal has to be **flexible** use of DER, capable to provide System Services needed for the Power System safe and secure (real-time) operation – TSO and/or DSO level?

Planning and re-planning of (hourly to 15-min) production – newly introduced challenge for SPP and their off-takers – due to Balancing costs incurred!

Missing basic prerequisites:

- Remote Measurements (*technical*)
- Secondary legislation (*legal*)
- Practice (*human*)
- Goodwill (*human*)

Contractual Relationships

Tie and regulated chain needed from Producer to the Wholesale (and balancing) Market.

- **Clear separation of:**
  - **Functions,**
  - **Licenses,**
  - **Market Participants,**
  - **market roles,**
  - **etc. is needed.**
- **Off-taker and BRP (Balance Responsible Party) – Should not be obliged to be the same entity!**

Facts about regional electricity market that concerns offtake

- No Forward (nor Futures) market in the region – Hungary is the nearest, somehow liquid, reference market.
- Long-term deals concluded between traders, and only occasionally and rarely with state-owned power utilities.
- Still no Power Exchanges in BIH, MNE, ALB and NMK.
- No intraday market in WB, only realistic connection with SIDC is on BIH-CRO border.
  - ✓ BIH: some 80-90MW of the SPP on the free market.
  - ✓ SRB: some 20MW of the SPP on the free market.
  - ✓ ALB and MNE: expected soon to have first MWs of the SPP on the free market.

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DSO

PRODUCERS **(his Highness atm)**

Off-takers

Aggregators ("Aggregation" and VPP)

TSO and MO

WHOLESALE Electricity Market

Electric Power System

(Flexibility – System Services: Ancillary and Congestion Management)

DSO

Retailers/suppliers

CONSUMERS **– end-users (Demand-Response)**

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Thank you for your attention!

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