

(Small scale) RES electricity production – facts, challenges, possibilities

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Electricity Market Operator

Balance scheme management (market access)

Recording of closed contracts and operational forecasts
and drawing up of indicative operating schedules

Imbalance settlement

Balancing market

REMIT RRM

Centre for RES/CHP support

Feed-in tariff support system for RES and CHP
- Unit management, contracts and support payment
- Support funds management
- Energy management

Guarantees of origin registry

Informing and training in the field of RES and
energy efficiency

Sustainable energy info portal

Clearing

Electricity Market Transparency

20+ years of experience in Slovenia

- Some form of RES support from **2001**
- **FIT support system:** major changes in 2009 and 2014; pay-outs from 22.7 mio EUR (2009) to 124.7 mio EUR (2020) (end 2020: 3.838 plants, 407.5 MW)
- **Net-metering:** start in 2016 – from 135 plants (1.1 MW) end of 2016 to 8.606 (106.6 MW) end of 2020 (27 hydro, 3 wind – vast majority solar PV) – estimated production 2020 81 GWh
- **Other types:** CAPEX support tenders (Ministry, Eco Fund), loans (Eco Fund), intersection with energy efficiency (e.g. rules mandating RES share in building energy consumption), „green“ electricity supplier products (backed by Guarantees of Origin)

Lessons learned – FIT

- „**Spikes**“ (more connections before price decrease) + **stop-and-go effect** visible (major benefit with the introduction of net-metering in 2016)
- **Transition to full auctioning was a problem for small-scale projects**
- Problems related to **personal, economic activity status of recipients (e.g. retirement)**
- **Spatial planning + permits!!!**

Tenders 1-7 (2016-2020) - selected projects (status 4dec20)

In system 39,4 MW

Not in system 316,8 MW

Not in system - Wind power 215 MW

Tenders 1 & 2 (2016-2017) completion rate ca. 20 %

Lessons learned – net-metering

- Beneficial in terms of **continuation of sector economic activity (PV)**
- **Dampens auctioning problems for micro projects**
- **No major problems with permits, activity registration** (net-metering consumers still just consumers, no need to register economic activity), **connections ...**
- Inroads into „**community energy**“ – 5 „community“ net-metering projects end of 2020
- Issues raised regarding **potential future grid fee externalities** – not currently (total production estimated at just 0.6 % of total SLO consumption)
- Some (anecdotal) evidence of limits in connections

Key take-aways for the future

- **Permitting and spatial planning** major issues (at least in SLO – NIMBY effect strong): PV (258 MW) and CHP (109 MW) of 407.5 MW total (wind = 3.2 MW)
- **Impact of tax / financial legislation important** (cost of business administration may be higher than income!) – micro projects must be treated as „consumer“ (non-business activity)
- Projects of **different scale** (and maybe also **technology**) need a **different approach**
- A **combination of policies** may be the best way forward
- Must not neglect **grid investment and development**

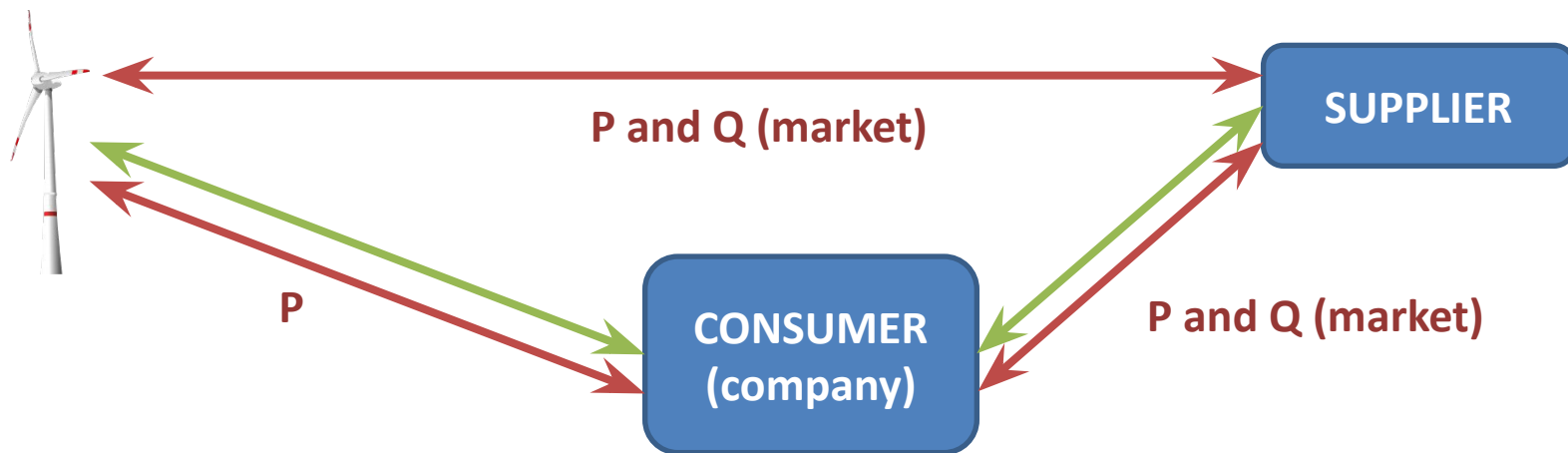
Potential way forward

- **Clean Energy Package (CEP)** highly emphasizes end-consumer rights and involvement (access to markets, access to data ...).
- **CEP impact on existing net-metering** (Dir 2019-944, Art 15(4)): „Member States that have existing schemes that **do not account separately for the electricity fed into the grid and the electricity consumed from the grid**, shall not grant new rights under such schemes after 31 December 2023.“
- Expansion of „**community energy**“ – citizen energy communities (CEC) and renewable energy communities (REC) (+ self-consumption)
- **Additional possibilities to develop viable business models** – e.g. independent aggregator, P2P ...

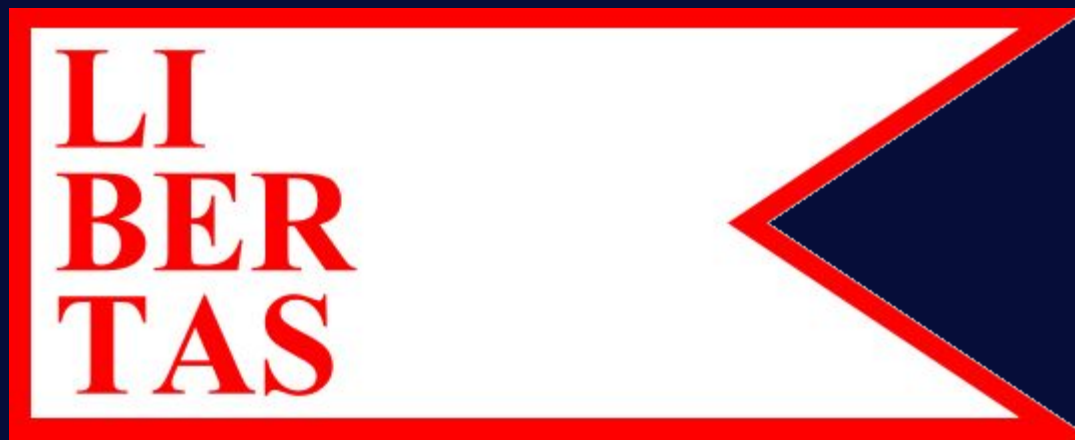
Potential way forward (2)

- **Legislation:** keep it as flexible as possible, to support different possible business models.
- Development of technology as well as policy supports **many different options:** classic support, self consumption, marketing flexibility, trading the „green label“ (PPAs, GOs), non-supported technical-based B2B solutions ...
- Due to the high pace of development of technology, it is **difficult to predict the financial viability of models in – for example – 5 years‘ time.**

„Corporate PPAs“ example



- Linking a RES producer directly to a RES consumer – either **directly**, or **indirectly** (CfD); as a combination of at least 2 contracts
- No really a direct contract – the point is the transfer of risks



**Stalno se prilagođavati ... ne
može se živjeti na staroj
slavi!**