INSTITUT LUXEMBOURGEOIS
DE RÉGULATION

ELECTRICITY SHARING FROM A REGULATORY PERSPECTIVE

PROSEU workshop on exploring future energy system configurations

Zoom, 24 June 2020

Electricity sharing - a regulatory perspective

1. Electricity sharing in the Clean Energy Package
2. The principles of balance responsibility
3. Market integration of shared energy – possible models
4. Conclusion

Electricity sharing in the Clean Energy package

Renewable Energy Directive (2018/2001)

- […]renewables self-consumers located in the same building […] are **permitted to arrange sharing of renewable energy** that is produced on their site or sites between themselves (Art.21)
- […]renewable energy communities are **entitled to**: […] **share** […] **renewable energy** that is produced by the production units owned by that renewable energy community (Art. 22)

Electricity Market Directive (2019/941)

- […]citizen energy communities […] are **entitled to arrange** within the citizen energy community the **sharing of electricity** that is produced by the production units owned by the community (Art. 16)

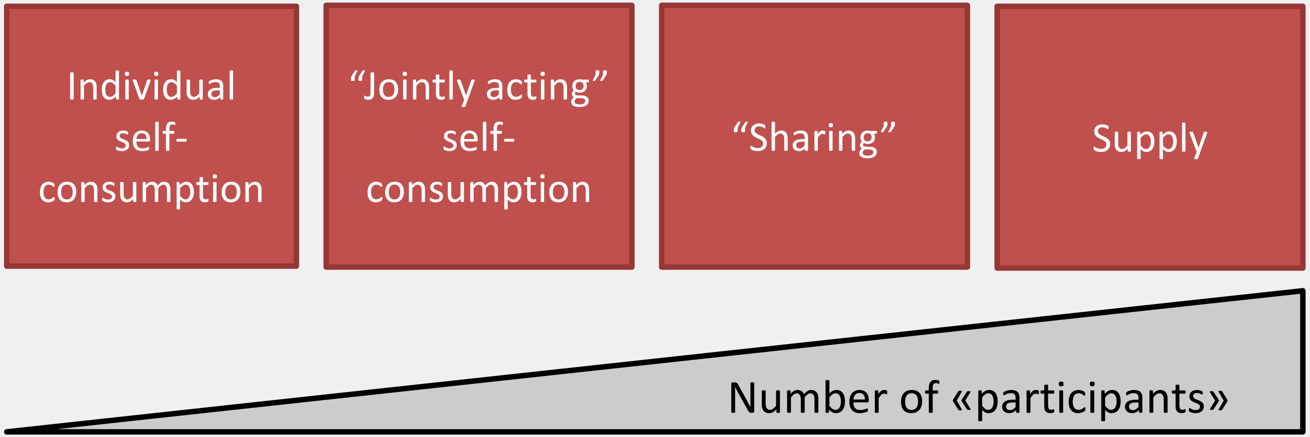
- **However, sharing is not further defined or specified.**
- **A national framework for sharing needs to be defined**

The principles of balance responsibility

- Supply and demand need to be in balance at any given time
- For this reason balance responsible party (BRP) need to forecast the energy that will be injected and withdrawn from their balance perimeter in advance
- All market participants (or their designated BRP) shall be responsible for the imbalances they cause in the system
    - Exceptions can be granted to power-generating facilities using renewable energy sources with an installed electricity capacity of **less than 400 kW** (Regulation 2019/943 Art.4)
    - When such derogations are given, MSs “shall **ensure that the financial responsibility for imbalances is fulfilled by another market participant**.”
- **As a general rule, electricity that transits through the grid needs to be attributed to a balance responsible party**

Market integration of electricity sharing

- The Clean Energy Package introduces different forms of “sharing” and “collective self-consumption”
- «Sharing» can take many forms – which cannot easily be distinguished



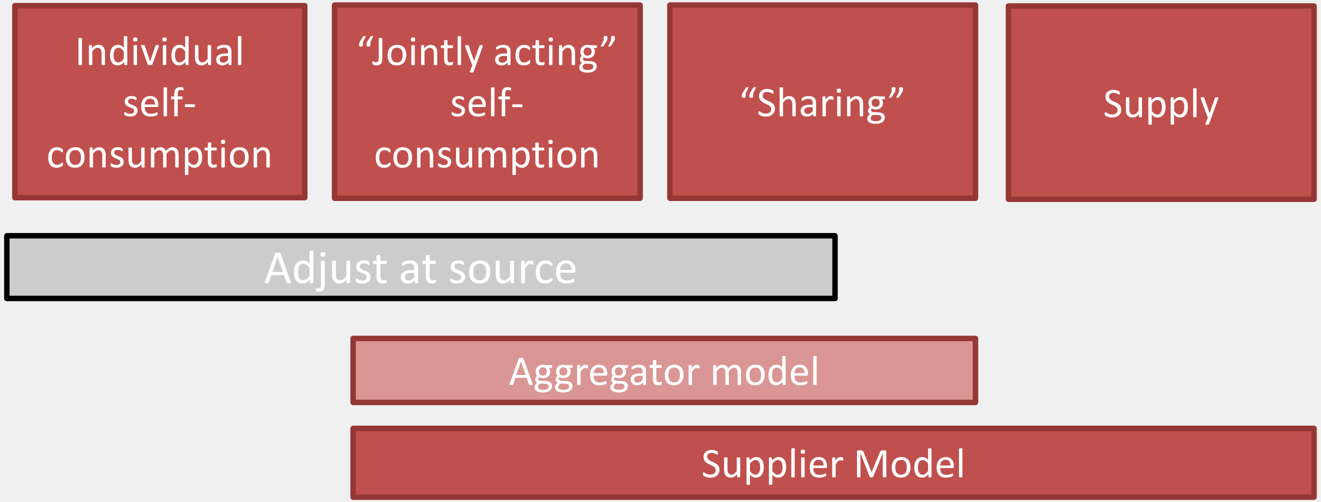
Market integration of electricity sharing

Sharing and collective self-consumption can be facilitated in three ways:

- **«Adjust at source model»:** Load curves are adjusted prior to settlement
  - Calculated load curves are used for settlement
  - Shared energy is not formally attributed to any balancing perimeter
  - Netting of load curves can be done by the DSO, or the community itself
- **«Aggregator model»:** Balancing energy is corrected ex-post based aggregation rules
  - The «aggregator» is balance responsible for the shared energy
  - Rules vary between member states: financial compensation, need for supplier approval etc.
- **«Supplier model»:** shared energy transits through a same supplier's balancing perimeter
  - The supplier also takes on the role of aggregator
  - No impact on balancing positions compared to situation without sharing
  - Sharing can be viewed as purely virtual

Market integration of electricity sharing

- These models can apply to a different extent for different types of sharing
- The "best" model depends on the requirements of the sharing group and the regulatory framework in place
- Rules and responsibilities apply as defined in the general framework for aggregators and suppliers



Conclusions

- The Clean Energy package introduces **sharing as a concept** in the EU framework but does not define it
- The Directives leave a lot of flexibility to MS to adapt to the national specificities and existing situations
- Sharing can be integrated into the existing market framework in different ways
- The best solution depends on the type of sharing arrangement and national framework

INSTITUT LUXEMBOURGEOIS
DE RÉGULATION

17, rue du Fossé
Adresse postale
L-2922 Luxembourg

T +352 28 228 228
F +352 28 228 229
info@ilr.lu

www.ilr.lu