Enabling legal and regulatory conditions for the uptake of business models for renewable energy aggregation

Fabian Pause & Maximilian Wimmer
Foundation for Environmental Energy Law (SUER)
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Barriers for aggregation

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Legal & regulatory barriers for aggregation

- BestRES project started in 2016 with a **comprehensive analysis of existing barriers** for aggregation in countries of project partners (D2.3, *Legal and regulatory barriers with a national and European perspective*, August 2016)
- Assessment of legal and regulatory barriers for implementation of each of the **13 improved business models** (D4.1, September 2017)
- Assessment of the **impact of *Clean Energy* package** on legal and regulatory barriers for aggregators (September 2018)
- **Specific challenge for the project team**: How to deal with the **dynamic interdependency** between national and European law (depends widely on the status quo of the liberalization of the particular markets)?

Main legal & regulatory barriers identified

- Market rules in general, market participation in particular
- Wholesale and network tariffs
- Inadequate national support schemes for RES and market "not fit for RES"
- Lack of provisions on local settlement of generation and self-consumption
- Need of standardization, lack of standards and processes for interactions between market actors
- Lack of data provision/access and data forwarding
- Lack of clear rules for data and privacy protection

The *Clean Energy* package
New legal framework for aggregation

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Aggregation as a cross cutting issue

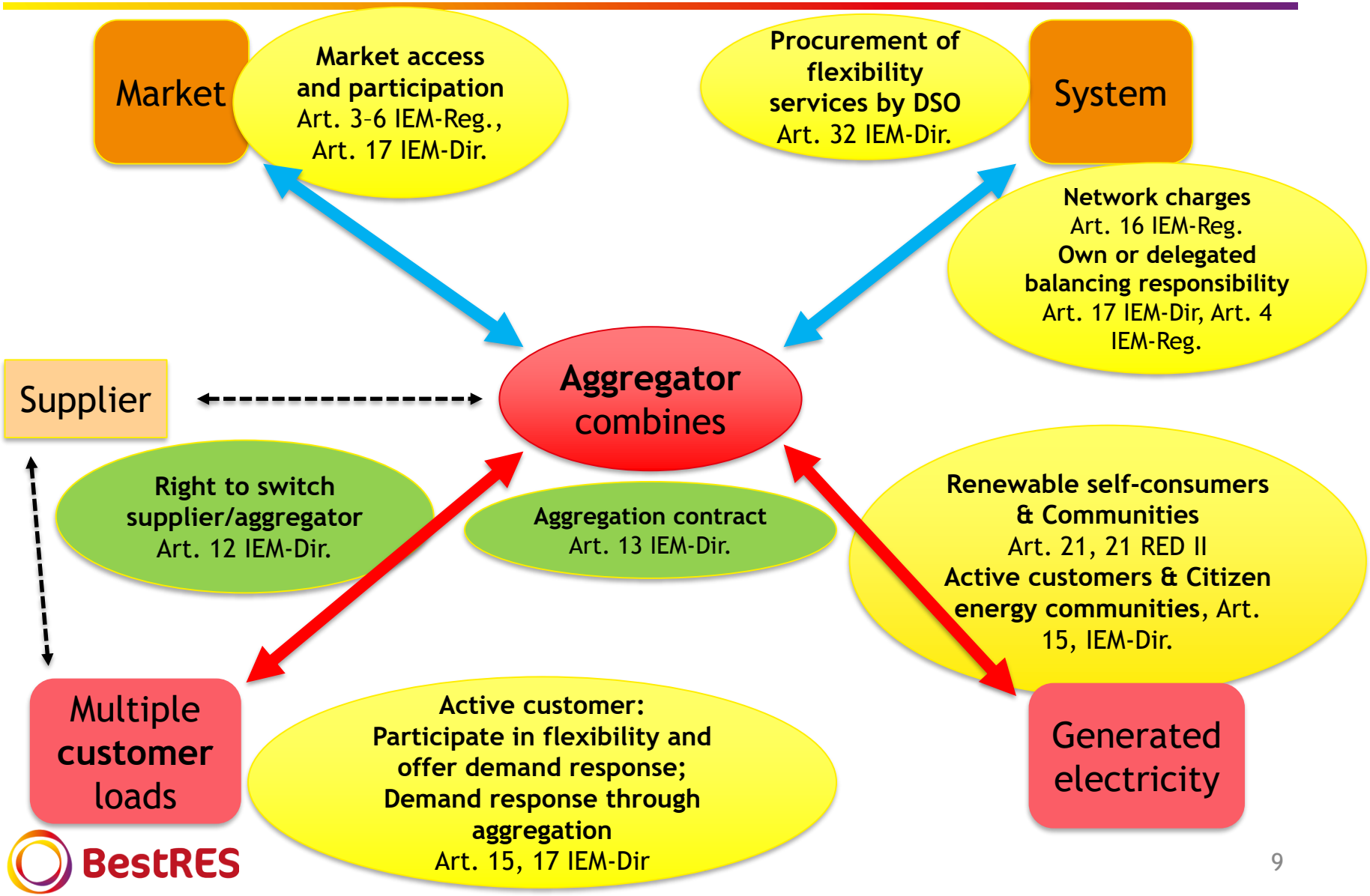
- **General objectives of new market design (Art. 1 IEM-Reg.)**
  - Enabling market signals for increased efficiency, **higher share of RES**, […] **flexibility**, sustainability, decarbonisation and innovation;
  - Setting fundamental principles for well-functioning, integrated electricity markets: **non-discriminatory market access** for all resource providers and electricity customers, […] **facilitate aggregation of distributed demand and supply**.
- **The role of aggregation (Recital 40 IEM-Dir.)**
  - All customer groups (industrial, commercial, households): access to energy markets **to trade their flexibility and self-generated electricity**;
  - Customers should be allowed to make full use of the **advantages of aggregation of production and supply;**
  - Market participants engaged in aggregation: likely to play important role as **intermediaries** between customer groups and the market.

New definition of aggregation

- **Aggregation means** a function taken by a natural or legal person that **combines multiple customer loads or generated electricity** for sale, for purchase or auction in any electricity market (Art. 2 No. 14 IEM-Dir.)
- **Independent aggregator** means a market participant that performs aggregation that is **not affiliated** to its customer's supplier. (Art. 2 No. 15 IEM-Dir.)

- **Not amended**: Definition of 'Aggregator' in Art. 2 No. 45 EED: *demand service provider that combines multiple short-duration consumer loads for sale or auction in organised energy markets*

Aggregators as enabling intermediaries



BestRES

Provisions on market access and participation

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Aggregators as equal market players

- **General market principles, Art. 3 IEM-Reg.**
  - Market rules shall facilitate more flexible generation, sustainable low carbon generation, and more flexible demand;
  - Market participation of consumers and small businesses shall be **enabled by aggregation** of generation from multiple generation facilities or load from multiple demand facilities: jointly offered on electricity market and jointly operated in electricity system.
- **Access to balancing markets, Art. 5 IEM-Reg.**
  - Balancing markets, including prequalification processes: organised to ensure non-discriminatory access to all market participants, including electricity generated from variable RES, demand response and energy storage, be it **individual or through aggregation**;
  - Procurement of balancing capacity: market-based and organised to be non-discriminatory between market participants in prequalification process, **individually or through aggregation**.

Demand response through aggregation, Art. 17 IEM-Dir.

- MS shall **allow and foster participation** of demand response through aggregation.
- Each market participant, including independent aggregators shall have **the right to enter electricity markets without consent** from other market participants.
- Final customers who have a contract with independent aggregators shall **not face undue payments**.
- Aggregators shall be **financially responsible for imbalances** they cause.

New framework for RES and local settlement of generation and self-consumption

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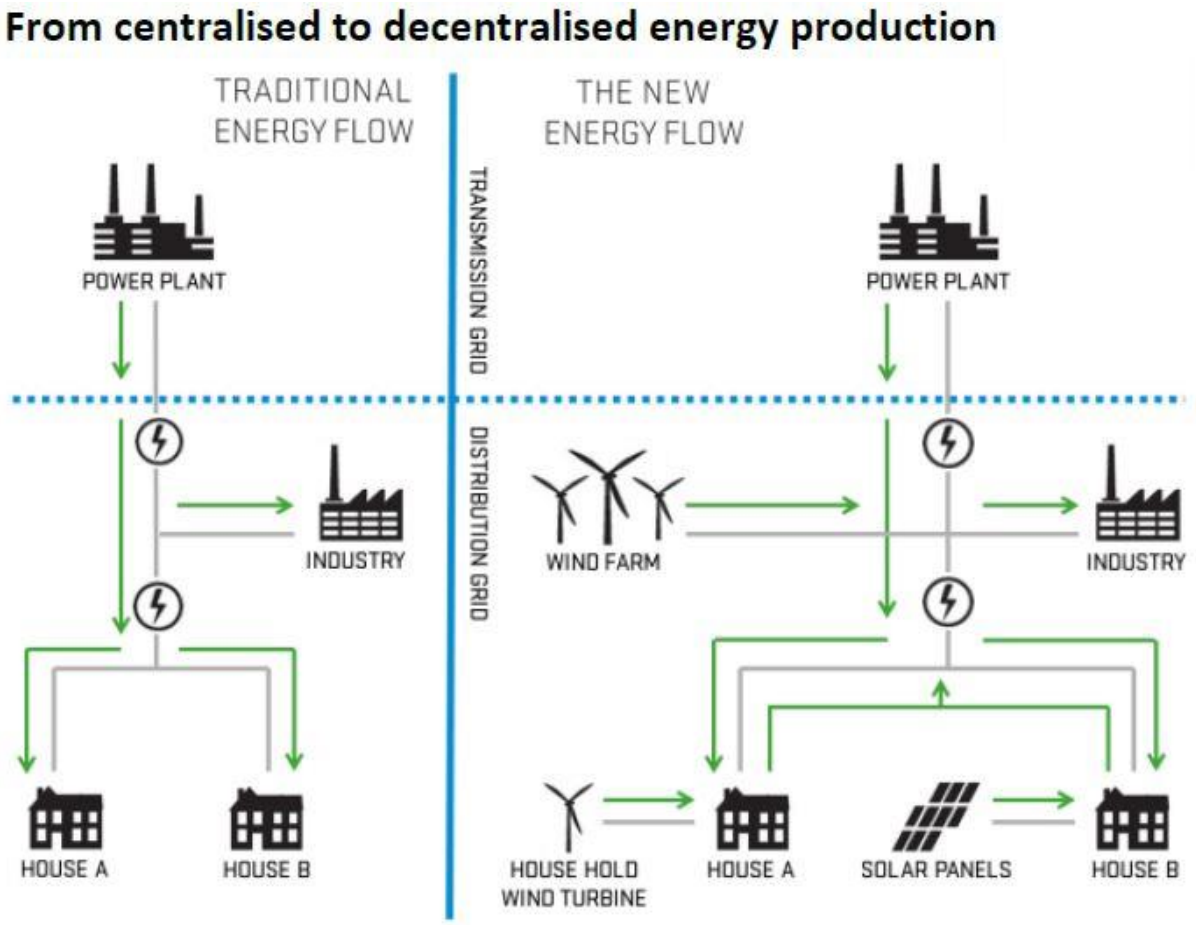
The Pathway – tomorrow is today



New framework for promotion of RES

- **National support schemes, Art. 4 RED II:**
  - Market-premium and non-discriminatory (*technology neutral*) bidding procedures as a general rule;
  - Exemptions for small-scale installations and demonstration projects.
- **Renewable self-consumers & energy communities, Art. 21, 22 RED II**
- **Balancing responsibility, Art. 4 IEM-Reg.:**
  - All market participants responsible for imbalances they cause in system;
  - Derogations for RES installations with installed capacity of < 400 kW.
- **Dispatching of generation & demand response, Art. 11 IEM-Reg.:**
  - Shall be non-discriminatory, transparent and market based;
  - Priority to RES installations with installed capacity < 400 kW.
- **Non-market-based downward redispatching, Art. 12 IEM-Reg.:**
  - RES installations only be subject if no other alternative or if other solutions → significantly disproportionate costs or severe risks to network security.
  - Financial compensation of the redispatched installation.

Local settlement of generation and self-consumption (I)

- **Renewables self-consumers, Art. 21 RED II:**
  - Are, **individually or through aggregation**, entitled to generate renewable electricity, including for their own consumption, store or sell their excess production of such electricity, including through renewables PPA, electricity suppliers and peer-to-peer trading arrangements, […]
  - Enabling framework of MS shall grant renewables self-consumers, for self-generated renewable electricity that they feed into the grid, non-discriminatory access to […] all electricity market segments.
- **Renewable energy communities, Art. 22 RED II, are entitled,**
  - to generate, consume, store and sell renewable energy, including through power purchase agreements;
  - access all suitable energy markets both **directly or through aggregation** in a non-discriminatory manner.

Local settlement of generation and self-consumption (II)

- **Active customers, Art. 15 IEM-Dir.:**
  - Are entitled to
    - operate either **directly or through aggregation**;
    - sell self-generated electricity including through PPAs;
    - participate in flexibility and energy efficiency schemes.
  - Are financially responsible for imbalances they cause in electricity system; to this extent they shall be balance responsible parties or shall delegate their balance responsibility.

Local settlement of generation and self-consumption (III)

- **Citizen energy communities, Art. 16 IEM-Dir.:**
  - MS shall ensure that CEC:
    - can access all electricity markets either **directly or through aggregation** in a non-discriminatory manner;
    - are treated in a non-discriminatory and proportionate manner with regard to their activities, rights and obligations as final customers, generators, suppliers, distribution system operators **or market participants engaged in aggregation**;
  - A citizens energy community can be engaged in electricity generation, distribution and supply, consumption, **aggregation**, storage or energy efficiency services […];
  - CEC shall be financially responsible for imbalances they cause in the electricity system; to this extend they shall be balance responsible parties or shall delegate their balance responsibility.

Provisions on data and privacy protection and data access

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Two important parallel developments

- New General Data Protection Regulation ('GDPR') is in force since 25th May 2018
  - GDPR replaces Data Protection Directive from 1995:
  - **GDPR is directly applicable in all Member States**
  - MS have to reform their national data protection law
- Important provisions regarding data protection and access as part of the *Clean Energy* package

Provisions on data protection and access

- **Protection of customers' personal data, Art. 17 IEM-Dir.**
  - **Framework** of MS: non-discriminatory and transparent rules and procedures for data exchange between market participants engaged in aggregation and other electricity undertakings; to ensure **easy access to data** on equal and non-discriminatory terms while **fully protecting** commercial data and **customers´ personal data**.
- **Access to data for eligible parties, Art. 23 IEM-Dir.**
  - MS/designated competent authorities: to specify rules on access to data of final customer by **eligible parties**;
  - Responsible party for data management: to provide to **any eligible party** access to the data of the customer; requested data in a non-discriminatory manner and simultaneously at disposal.
- **Tasks of DSO in data management, Art. 34 IEM-Dir.**
  - MS shall ensure that all eligible parties have non-discriminatory access to data under clear and equal terms;
  - In MS with **smart metering systems** and DSO involved in data management: discriminatory access to data from eligible parties to be excluded (Art. 23).

The national level

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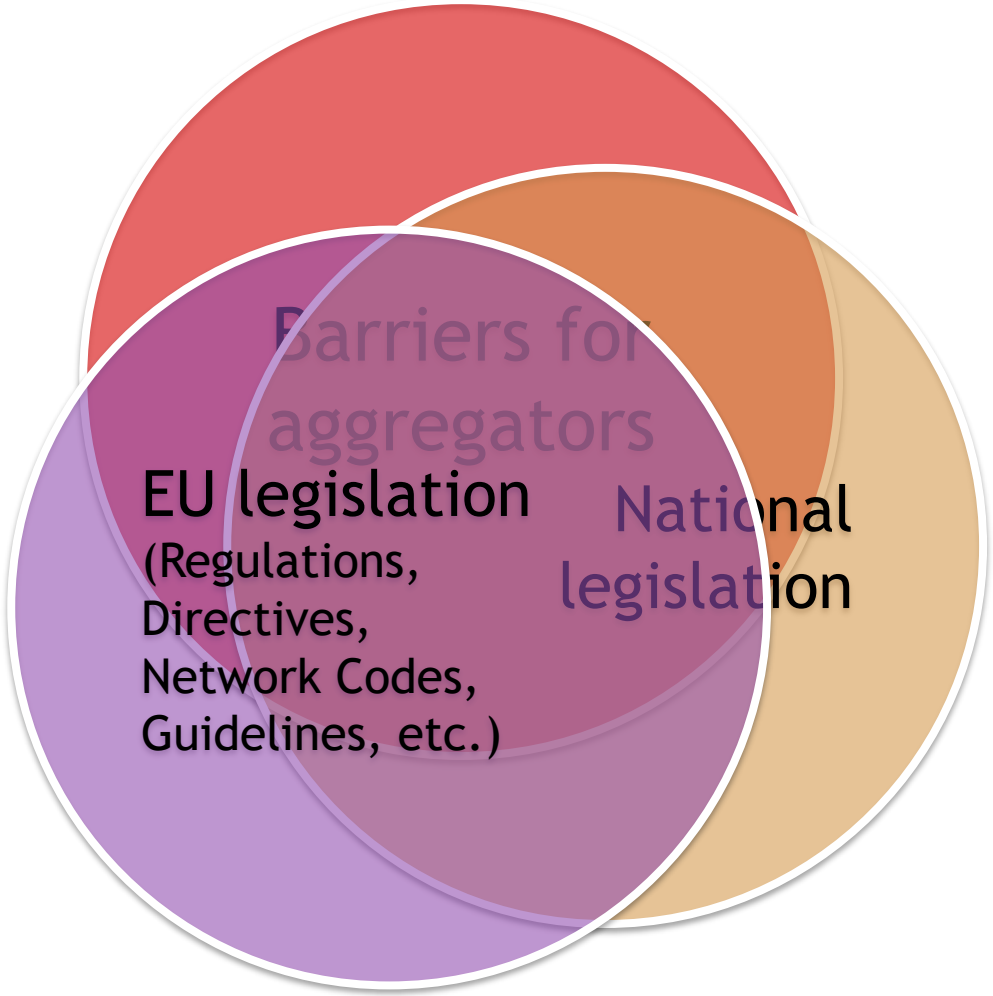
Relation between EU and national legislation



Identification of barriers

	Access to the balancing market	Customers' data access	Network charges/ Grid tariff flexibility
UK (BM 1 & 2)			X
Germany (BM 3 & 4)			X
France (BM 5)	X		
Italy (BM 6)	X		
Belgium (BM 7 & 8)	X		X
Austria (BM 9 & 10)		X	
Portugal & Spain (BM 11 & 12)	X	X	
Cyprus (BM 13)			

Enabling framework at national level

- **Access to the balancing market**
  - Harmonization of access modalities and a simple market design.
  - Open for all technologies and big or small market players (esp. at the aFRR market, no specific MW thresholds).
- **Access to customers' data**
  - Easy access to customers' data is crucial for aggregators.
  - Real-time quality data are necessary.
  - Processes should be defined clear and unambiguous as well.
- **Network charges/Grid tariff flexibility**
  - Market design should reward the use of flexibility, not prevent it.
  - Network charges and grid tariffs system should take account of the necessities of RES and in particular for renewable self-consumers to facilitate its activation.

Conclusions

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Conclusions

- Aggregators = enablers for market access of consumers/prosumers.
- Non-discriminatory market access for aggregators is an important topic in the *Clean Energy* package.
- Renewable self-consumers/energy communities and Active consumers/Citizen energy communities allow new business models for aggregators.
- Access to and exchange of data crucial for aggregators (negative: not explicitly mentioned as eligible party in Art. 23 IEM-Dir.); high level of protection of customers' data to be kept.
- An open balancing market (especially aFRR) for all technologies very important for flexibility business models.
- Technological progress, esp. in the area of smart meter, facilitates access to customers' data and its protection.
- The regulatory design of network tariffs and grid charges should foster the use of renewable energy and flexibility.

Thank you

For further information, visit the BestRES homepage:

http://bestres.eu

or:

http://stiftung-umweltenergierecht.de/projekte/bestres/