Citizens participation and auction schemes of Renewables

Experiences in Germany
Milestones of the development of renewable electricity generation in Germany
Paradigm change to auction schemes changed investors landscape – no longer guaranteed support

Continuous actor’s diversity

Protect Small Players in the auction scheme
- Tendering schemes face small players with higher risks of sunk costs
- Acceptability of the energy transition
- Financial participation of citizens

Citizens Energy Projects in an auction scheme
Steps of developing tendering schemes (2014-2017)

- Pilot phase for ground mounted PV 2015-2016
  - Beside actors diversity several challenges needed to be solved before rolling out tendering, e.g. underbidding, non-realization, higher risks for investors, strategic bidding

- Preparation for tendering scheme extension to other renewables
  - Market analysis for all RES published and part of a public consultation
  - Development of tendering schemes for other RES until autumn 2016
  - Different consultation steps in between
  - Stakeholder diversity and citizen participation should play a role in auction scheme
  - Experience out of the PV ground mounted tendering's were taken into consideration

- Beginning of 2017 first tenders for other RES within EEG 2017
Definition for citizens energy projects in wind onshore tenders

Special definition for local energy communities according to §3 no.15 EEG:
“Citizens energy company” shall mean every company which consists of at least ten natural persons who are members eligible to vote or shareholders eligible to vote

- in which at least 51 percent of the voting rights are held by natural persons whose main residence has been registered pursuant to Section 21 or Section 22 of the Federal Registration Act for at least one year prior to submission of the bid in the urban or rural district in which the onshore wind energy installation is to be erected

- in which no member or shareholder of the undertaking holds more than 10 percent of the voting rights of the undertaking,

whereby in the case of an association of several legal persons or unincorporated firms to form an undertaking it is sufficient if each of the members of the undertaking fulfils the preconditions pursuant to letters a to c.
Privileges for citizens energy projects in wind onshore tenders [§36g EEG]

- Two years in addition to realize projects
- No imissions act approval as prequalification and slight changes of the final site possible
- Uniform pricing for local energy communities instead of pay as bid for regular bidders
- Half of the usual security has to be deposited once the imissions act approval has been obtained
## auction results  Wind Onshore

<table>
<thead>
<tr>
<th></th>
<th>May 17</th>
<th>Aug 17</th>
<th>Nov 17</th>
<th>Feb 18</th>
<th>May 18</th>
<th>Aug 18</th>
<th>Oct 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>ct/kWh awarded price (Volume-weighted average)</td>
<td>5.71</td>
<td>4.28</td>
<td>3.82</td>
<td>4.73</td>
<td>5.73</td>
<td>6.16</td>
<td>6.26</td>
</tr>
</tbody>
</table>

| awarded volume (MW) | 807 | 1.013 | 1.000 | 709 | 604 | 666 | 363 |
| auctioned volume (MW) | 800 | 1.000 | 1.000 | 700 | 670 | 670 | 670 |
| bid volume (MW) | 2.137 | 2.927 | 2.591 | 989 | 604 | 709 | 388 |
Citizens Energy Projects:
Ø 2017: 95% (no permit)
Ø 2018: 15% (permit mandatory)
Empirical Development

→ 2017: Special conditions for high percentage of local energy communities led to an high percentage of awards to this group of bidders. A design parameter which has been introduced to support a minority resulted in a distortion of the results.

→ 2018: Suspension of privileges for citizen energy projects until 2020 (uniform-pricing remains)
**Conclusion & Discussion for further Options**

- **Definition** of local energy communities **is elementary** for the success of any kind of special support/rules. But so far we are missing it.

- It still remains important in the context of acceptance of the energy transition

- Changes in the auction design lead to uncertainty of the players and should be avoided

- Repayable investment grants for planning phase
  - Grant of 200,000€
  - Phased disbursement
  - 1,4% of total investment
  - KfW- funding programs
Clean Energy Package 2019

- **Art. 16 ED:** Citizen Energy Communities (CEC)
- **Art. 22 RED-II:** Renewable Energy Communities (REC)
- Empowering citizens
  - Energy communities are an effective tool to increase public acceptance of new projects
  - Energy communities are a tool to mobilise private capital for the energy transition
  - Energy communities could be a tool to increase flexibility in the market

Source:
European Commission
Existing models, e.g. DE, DK

Set up cooperative and invest or legal partnership → Cooperative no supply licence → Use money to build RES

Proceeds from electricity sales or feed in tariff go to investors → Sells electricity

Source: European Commission
Additional possibilities due to CECs and RECs

Innovative: energy sharing and peer-to-peer possibility
Challenge: redefining consumer/supplier relationship and regulate new configurations appropriately

Source: European Commission
## Clean Energy Package 2019 – Energy Communities (2)

<table>
<thead>
<tr>
<th></th>
<th>CEC</th>
<th>REC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy</strong></td>
<td>Electricity</td>
<td>Renewable energy</td>
</tr>
<tr>
<td><strong>Membership</strong></td>
<td>Any entity</td>
<td>Natural persons, local authorities, SMEs</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>Effective control by natural persons, local authorities, SMEs</td>
<td>Effective control by natural persons, local authorities, SMEs located in the proximity of the projects</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>Primary purpose to provide environmental, economic or social community benefits for members or the local area</td>
<td></td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td>Generation, storage, selling, sharing, aggregation or other energy services, distribution</td>
<td></td>
</tr>
</tbody>
</table>

**Source:**
European Commission
CEER Report on Regulatory Aspects of Self-Consumption and Energy Communities published in June 2019 with the following conclusions:

Energy communities should be able to compete on a level playing field, meaning the regulatory framework should be such that they do not face undue barriers nor create undue distortions in existing markets.

The provisions adopted in the CEP remain relatively open to interpretation, and transposition into national law will be critical to the viability and valuable role of such communities. Each MS should ensure that the following areas of the regulatory framework are sufficiently addressed:

1. **Consumer rights** – Energy communities may more closely link generation and supply and it is important that participants of energy communities maintain the same consumer rights, for example, around switching supplier to ensure quality of service and contractual certainty.
II. **Balancing and flexibility** – Energy communities could help to enable the flexibility potential of customers and therefore more effectively integrate renewables and new technologies, e.g. electric vehicles (EVs), into the grid. Effective market design is essential to ensure this reduces system costs overall, and not just for those within the energy community. Multiple suppliers to consumers will also need to be managed effectively through clear contractual arrangements and data transparency, but this is the same issue as with third party aggregation and not CEC specific.

III. **The business model and market design** – Local consumption should still respond to effective market price signals. The 3rd Package is based on trading electricity within large bidding zones to ensure the most cost-efficient operation of generation.
Grid ownership, operation and development – Energy communities owning grid infrastructure remains optional for MS. However, if and where this approach is adopted, it should avoid duplication of assets, ensure economic efficiency, be subject to appropriate regulation in line with the regulatory framework for DSOs and ensure customers receive an adequate level of quality of service.

CEER will work closely with the Commission and discuss the relevant provisions of the Electricity and Renewables-II Directive, NRAs can implement the provisions consistently only when the national transposition is aligned closely.

Link: https://www.ceer.eu/documents/104400/-/-/8ee38e61-a802-bd6f-db27-4fb61aa6eb6a
Thank you for your attention

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Comparison Prequalification of >750kW wind turbines

<table>
<thead>
<tr>
<th></th>
<th>Investors</th>
<th>Citizens Energy Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum bid quantity</td>
<td>-</td>
<td>6 Turbines, 18MW</td>
</tr>
<tr>
<td>Prequalification</td>
<td>Immissions act for the bidding turbine</td>
<td>General wind assessment</td>
</tr>
<tr>
<td>Bid bond</td>
<td>30 €/kW</td>
<td>Security before 15 €/kW</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Security after 15 €/kW</td>
</tr>
<tr>
<td>Realisation Period</td>
<td>30 Months</td>
<td>54 Months</td>
</tr>
<tr>
<td>Pricing</td>
<td>Pay-as-Bid</td>
<td>Uniform Pricing</td>
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<tr>
<td>Location of the bid</td>
<td>Site-Related Bid</td>
<td>County Related</td>
</tr>
<tr>
<td>Participation</td>
<td>-</td>
<td>Offer 10% to local municipality</td>
</tr>
<tr>
<td>Other Regulations</td>
<td>Grid Development Area</td>
<td>No intention to transfer shares</td>
</tr>
</tbody>
</table>