AURES II – Auctions for renewable energy support

Vienna
6 November 2018
Jenny Winkler
Fraunhofer ISI
Contents

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• Project presentation
• Involvement of the Energy Community
• Sample results from AURES (I)
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Background

Auctions for supporting renewables

- Competitive determination of support level
- Quantity control through budget limit or auction volume

Required by State Aid Guidelines and RED II

Benefits of auctions

- Cost control/ increased support efficiency/lower support levels
- Increased effectiveness of support and more precise control of renewable extension

But: Auction design matters!
Auction design matters

Offshore wind auction, Anholt (2009/10)

- High delay penalties
- Strict schedule
- Opportunities abroad

Only one bid submitted

Onshore wind and biomass auction (2016)

- Uniform pricing
- No auction schedule
- Many project in the pipeline

Winners get zero support
Auction design matters

AER III auction, mainly onshore wind (1997/98)

- No pre-qualification on planning permissions
- Difficulties obtaining permission
  
  ⇒ Low realisation rates

Solar PV, 100-250 kW (2012)

- Unclear pre-qualification requirements
- Inexperienced bidders
  
  ⇒ Only 60% of the bids eligible
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The AURES projects

• Horizon 2020 projects to support the implementation of auctions in EU MS and (newly) in Energy Community contracting parties

• Evaluation and analysis of auctions for renewables and direct support to interested parties

• AURES I: 2015 – 2017

• AURES II: 2018 – 2021 (Kickoff 26/27 November)
AURES II - Partners

Lead partner:
Fraunhofer ISI
Contact:
Jenny Winkler
jenny.winkler@isi.fhg.de

Vasilios Anatolitis
vasilios.anatolitis@isi.fhg.de
AURES II – Expertise

- Extensive theoretical and practical knowledge regarding the implementation of auctions

- Experience in supporting governments in improving RES support including introduction of auctions in EU countries:
  - Germany (Ecofys, Fraunhofer ISI)
  - Austria (Fraunhofer ISI, TU Vienna)
  - Luxembourg (Ecofys)
AURES II – Objectives

- Generate and communicate new insights on the applicability, performance, and effects of specific auction designs
- Provide tailor-made policy support for different types of auction applications
- Facilitate knowledge exchange between stakeholders
AURES II – Work packages

- WP 1: Project management
- WP 2: Monitoring of auction implementation
- WP 3: Auction database and empirical insights
- WP 4: Effects of auctions on the RES sector
- WP 5: Impact of auctions on cost of capital
- WP 6: International auctions
- WP 7: The future of auctions
- WP 8: Modelling
- WP 9: Recommendations
- WP 10: Communication and dissemination
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AURES II – Relevance for Energy Community

• WP 2: Monitoring of auction implementation
  • **Case study** on Energy Community contracting party (regarding the process of implementing auctions for renewables),
  
  **Responsible project partner:** Ecofys

• **Cooperation with Energy Community Secretariate** to develop guidance for contracting parties planning to implement auctions,

  **Responsible project partner:** Fraunhofer ISI
AURES II – Relevance for Energy Community

• WP 5: Impact of auctions on cost of capital
  Survey regarding the effects of introducing auctions on risk perception of different stakeholders (including Energy Community Contracting Parties)
  Responsible project partner: Eclareon

• WP 6: International auctions
  • Case studies of cross-border auctions between EU MS and/or Energy Community contracting parties in cooperation with national stakeholders (incl. impact assessment)
  Responsible project partner: Ecofys
AURES II – Relevance for Energy Community

• Budget is available for
  • answering questions of policy makers in the process of implementing or conducting auctions
  • this includes support to defining exemptions from the required introduction of auctions (e.g. due to a low level of competition)
  • workshops in different countries with topics concerning auctions for RES support
AURES II – Relevance for Energy Community

• Budget is available for:
  • Case cooperation with policymakers (3-5 cases) on national auction schemes and on cross-border cooperation
  • Direct support of interested countries through ad-hoc studies, expert advice and bi- and multilateral meetings
  • Participation of AURES II experts in 30 external events
  • 6 regional workshops
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AURES results

- Cash-flow model
- Overview of main design elements for auctions
- Case studies
- Policy Memos
- AURES Auction designer
- Website: http://auresproject.eu
Design your renewable electricity auction
Are you a policy maker interested in allocating support for renewable energy installations via auctions? Do you want to understand which are the most common auctions for renewable energy support? Do you need to know more about which auction design has which effects on auction performance?

The AURES Auction Designer is a free online tool developed by the AURES project. It takes you through the most important questions which need to be answered by anyone trying to set up a successful renewable energy auction. The tool is interactive. Feel free to skip between the questions, try out different options, and play around with different design elements to observe their effects.

However, keep in mind that you will obtain the most useful feedback if you enter realistic answers. Therefore, if you want to prepare your data first, download our info sheet with background information and a list of the questions you will be asked when going through the tool.
<table>
<thead>
<tr>
<th>Technology</th>
<th>Total</th>
<th>Biogas</th>
<th>Biomass</th>
<th>Geo-therm</th>
<th>Hydro (large)</th>
<th>Hydro (small)</th>
<th>PV</th>
<th>CSP</th>
<th>Tide/Wave</th>
<th>Onshore wind</th>
<th>Offshore wind</th>
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</thead>
<tbody>
<tr>
<td>Installed capacity 2014 [MW]</td>
<td>12463</td>
<td>615</td>
<td>917</td>
<td>0</td>
<td>6821</td>
<td>1239</td>
<td>785</td>
<td>0</td>
<td>-</td>
<td>2086</td>
<td>0</td>
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</table>

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<th>Offshore wind</th>
</tr>
</thead>
<tbody>
<tr>
<td>NREAP planned capacity 2020 [MW]</td>
<td>13165</td>
<td>102</td>
<td>1164</td>
<td>1</td>
<td>7707</td>
<td>1291</td>
<td>322</td>
<td>0</td>
<td>0</td>
<td>2578</td>
<td>0</td>
</tr>
</tbody>
</table>

Select a technology for which you want to explore auction designs:

- Multiple technology
- Biogas (>1 MW)
- Biomass (>1 MW)
- Geo-therm (>1 MW)
- Hydro (>10 MW)
- Hydro (>1 MW)
- PV (>1 MW)
- CSP (>1 MW)
- Tide/Wave (>1 MW)
- Onshore (>1 MW)
- Offshore (>1 MW)
- Small plants (<1 MW)

Deployment target [MW] in the next 5 years:

Number of auctions during the next 5 years:

Volume per auction [MW]?

Expected market potential per auction [MW]?
Design elements
Vary the design elements below to observe their effect on auction performance.

Secondary objectives
Which criteria, apart from prices, are important to you in your auction?

Ceiling prices  Read more
- none
- ambitious

Material Prequalifications  Read more
- lenient
- strict

Financial Prequalifications  Read more
- lenient
- strict

Penalties  Read more
- lenient
- strict

Bidder restrictions  Read more
- loose
- tight

Actor Diversity  Read more
- No

Geographical distribution  Read more
- No

Domestic industry development  Read more
- No

System integration  Read more
- No

Technical specifications  Read more
- No

SOCIO-POLITICAL ACCEPTABILITY

Socio-Political Acceptability
- Support cost minimisation
- Awarding of favoured projects

ALLOCATIVE EFFICIENCY

Allocative Efficiency
- Awarding lowest cost projects
- Number of participating low cost projects
- Participating amounts (MW)

EFFECTIVENESS

Effectiveness
- Realisation rate

Read explanation for dimensions in chart
Prequalification requirements regarding project development stage

The measure

Prequalification requirements regarding the project development stage are intended to ensure that all bidders are serious and have a sound understanding of their project. Moreover, the requirements can help prevent occurrences of unforeseen obstacles, which may otherwise result in delays or non-realisation of projects. The required documentation is typically a detailed project description, grid access guarantee, land tenure, environmental permits, and construction permits. For small installations, more relaxed requirements are also possible.

Real-life examples

The Irish AER III auction suffered from low realisation rates. While part of the winning bidders had difficulty obtaining planning permission and their projects were thus not realised, there were at the same time significant potential wind park capacities holding planning permission but not an AER contract. In order to address this problem, the following auction rounds required all bidding projects to have secured planning permission. Later auction rounds also required bidders to hand in an indicative cash flow statement showing that the proposed project could at least break even.

In the Dutch SDE+ scheme, project developers are required to present a written permission of the owner of the location/land, a (technical) description of the installation, and a feasibility
### Design elements
Vary the design elements below to observe their effect on auction performance.

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<tr>
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<th>Read more</th>
<th>Option</th>
</tr>
</thead>
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<tr>
<td>Ceiling prices</td>
<td></td>
<td>ambitions</td>
</tr>
<tr>
<td>Material prequalifications</td>
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<td>strict</td>
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<td>Financial prequalifications</td>
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<tr>
<td>Bidder restrictions</td>
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<td>tight</td>
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</tbody>
</table>

### Secondary objectives
Which criteria, apart from prices, are important to you in your auction?

<table>
<thead>
<tr>
<th>Objective</th>
<th>Read more</th>
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</thead>
<tbody>
<tr>
<td>Actor diversity</td>
<td></td>
<td>No</td>
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**Socio-Political Acceptability**
- Support cost minimisation
- Awarding of favoured projects
- Realisation rate

**Allocative Efficiency**
- Awarding lowest cost projects
- Number of participating low cost projects
- Participating amounts (MW)

**Effectiveness**
- Read explanation for dimensions in chart
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Next steps in AURES II

- Kick-off meeting in Brussels (26/27 November)
- After: project team will contact Energy Community Secretariate again
- Ideas regarding case studies can already be communicated to project team now (via me)
- Questions around RES auctions and interest in closer cooperation or advice can already be communicated
- Active participation is of course very welcome!
Thank you for your attention!

Contact:
Jenny Winkler

jenny.winkler@isi.fhg.de