Design options for wind energy tenders

Viktoriya Kerelska
Public Affairs Advisor
**WindEurope: Representing the entire supply chain**

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind turbine manufacturers</td>
<td><em>Vestas</em>, <em>Envision</em>, <em>GE Renewable Energy</em></td>
</tr>
<tr>
<td>Wind farm developers</td>
<td><em>Acciona</em>, <em>RES</em>, <em>ERG Renew</em>, <em>Statoil</em></td>
</tr>
<tr>
<td>Power utilities</td>
<td><em>Enel</em>, <em>Iberdrola</em>, <em>E.ON</em>, <em>EDF energies nouvelles</em></td>
</tr>
<tr>
<td>Supply chain</td>
<td><em>BASF</em>, <em>ArcelorMittal</em>, <em>ABB</em></td>
</tr>
<tr>
<td>Installation / Logistics</td>
<td><em>Fred. Olsen Windcarrier</em>, <em>Van Oord</em> (Marine ingenuity)</td>
</tr>
<tr>
<td>Financial services</td>
<td><em>Brookfield</em>, <em>Rabobank</em>, <em>Allianz</em></td>
</tr>
<tr>
<td>Research institutes</td>
<td><em>TUDelft</em>, <em>CATAPULT</em>, <em>DTU</em>, <em>Fraunhofer IWES</em></td>
</tr>
</tbody>
</table>

+ National wind associations
Background

2014-2020 State Aid Guidelines

• EC reference when assessing the compatibility of national support mechanisms with internal market rules

• Tenders will be a reference model for all RES starting in 2017
Tendering experience in EU

Past/existing

Upcoming
What is at stake?
Deployment

154 GW installed

Penetration
Cost reduction

European LCOE (€/ MWh)

Source: EC, 2014 and WindEurope
**Cost reduction**

Levelised results of recently awarded offshore tenders (€)

LROE: Levelised Revenue of Electricity
Total levels are estimates at FID

* grid cost analysis in progress
Innovation

2014

3.7 MW

Max. 6 MW

2016

4.8 MW

Max. 8 MW

Source: WindEurope
System reliability

Daily Wind Power Numbers

windeurope.org/daily-wind/
System reliability

Monthly production values of wind and solar (Spain, 2015)

Source: WindEurope
2016: What have we learned?
Mixed results

Netherlands
Borssele 3&4
€54.5/MWh

Spain
500 MW auction
€0/MWh

Auction design is crucial for outcome!
How to design wind tenders?
Design aspects for tender systems

<table>
<thead>
<tr>
<th>Before</th>
<th>During</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ensuring certainty and visibility</strong></td>
<td><strong>Cost-effectiveness</strong></td>
<td><strong>Ensuring project fulfilment</strong></td>
</tr>
<tr>
<td>• Scope of the auction (national, regional, or European)</td>
<td>• Price settlement (sealed-bid tender, descending clock)</td>
<td>• Time to deliver</td>
</tr>
<tr>
<td>• Technology neutral vs specific</td>
<td>• Caps</td>
<td>• Transparency on bids selected</td>
</tr>
<tr>
<td>• Capacity and frequency of auctions</td>
<td>• Floors</td>
<td>• Liabilities and penalties in case of delay or non-fulfilment</td>
</tr>
<tr>
<td>• Size of systems included in an auction</td>
<td></td>
<td>• Secondary market and resubmission of unsuccessful bids</td>
</tr>
<tr>
<td>• Pre-qualification criteria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Entry-cost</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Before
- **Ensuring certainty and visibility**
  - Scope of the auction (national, regional, or European)
  - Technology neutral vs specific
  - Capacity and frequency of auctions
  - Size of systems included in an auction
  - Pre-qualification criteria
  - Entry-cost

### During
- **Cost-effectiveness**
  - Price settlement (sealed-bid tender, descending clock)
  - Caps
  - Floors

### After
- **Ensuring project fulfilment**
  - Time to deliver
  - Transparency on bids selected
  - Liabilities and penalties in case of delay or non-fulfilment
  - Secondary market and resubmission of unsuccessful bids
Wind industry recommendations

• Ensure coordination between different administrative levels

• Set up adequate prequalification criteria

• Calibrate penalties

• Organise regular auction rounds

• Prioritise technology-specific tenders
Provide long-term visibility

Germany
Tailor design to technologies
Netherlands

Borssele 1&2; 3&4

- Early clarity on tender rules for investors
- Favourable site conditions
- Pre-development done by government
- Minimised bureaucracy procedure

€72.2/MWh (July 2016)
€54.5/MWh (December 2016)

Consider market maturity and technical characteristics (e.g. cost, size, risk profile, project lead time)
NEXT YEAR, THE WIND INDUSTRY WILL BE MEETING IN

AMSTERDAM

28 - 30 NOVEMBER 2017

Amsterdam RAI Exhibition and Convention Centre

WindEurope Conference & Exhibition 2017

windeurope.org/confex2017
Design options for wind energy tenders

Viktoriya Kerelska
Public Affairs Advisor
vke@windeurope.org