MARITIME SPATIAL PLANNING AND OFFSHORE WIND DEVELOPMENT

2nd Baltic Maritime Spatial Planning Forum 2016
23 – 24 November 2016 in Riga, Latvia

Per Hjelmsted, HJELMSTED CONSULTING in cooperation with NIRAS
Reduction of cost of electricity from offshore wind is essential for development of the offshore wind industry.

Is MSP an obstacle for continuous cost reductions – or is MSP the tool?
ELECTRICITY PRICES
Offshore Wind Farms

Price over time

Euro/MWh*

* Price excludes transmission costs
MARITIME SPATIAL PLANNING AND OFFSHORE WIND DEVELOPMENT IN THE BALTIC SEA
MEAN WIND SPEEDS

Baltic Sea
WATER DEPTHS

Baltic Sea
## ELECTRICITY PRICES

### Offshore Wind Farms

<table>
<thead>
<tr>
<th>Offshore Wind Farm</th>
<th>Start of operation</th>
<th>Capacity MW</th>
<th>Euro/MWh*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horns Rev II</td>
<td>2009</td>
<td>209</td>
<td>69,1</td>
</tr>
<tr>
<td>Rødsand II</td>
<td>2010</td>
<td>200</td>
<td>83,9</td>
</tr>
<tr>
<td>Anholt</td>
<td>2013</td>
<td>400</td>
<td>140,1</td>
</tr>
<tr>
<td>Horns Rev III</td>
<td>2019</td>
<td>400</td>
<td>102,7</td>
</tr>
<tr>
<td>Borssele I + II (NL)</td>
<td>2020</td>
<td>&lt;760</td>
<td>96,9</td>
</tr>
<tr>
<td>Danish Nearshore</td>
<td>2020</td>
<td>350</td>
<td>63,3</td>
</tr>
<tr>
<td>Kriegers Flak</td>
<td>2021</td>
<td>600</td>
<td>49,6</td>
</tr>
</tbody>
</table>

* Price excludes transmission costs
ELECTRICITY PRICES
Offshore Wind Farms

Price over time

* Price excludes transmission costs
Where are the best locations – i.e. most cost effective – for OFW in The Baltic Sea?

- Regarding sea bed, water depth, wind speed and access to grid
- Disregarding national borders and political and regulatory obstacles

How should MSP be used?