Baltic InteGrid
Integrated Baltic Offshore Wind Electricity Grid Development

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

Interreg
Baltic Sea Region
• Baltic InteGrid among 35 selected out of 300 concept notes
• Priority area: Management of Natural Resources
• EUSBSR Flagship project; running until 2019
Offshore wind in the Baltic Sea region

- BASREC: 40 GW OWE capacity in BSR
- Only about 1.5 GW actually installed
- Vast majority of EU OWE capacity is in the North Sea
- OWE market in BSR smaller & earlier stage

Knowledge transfer potential from North Sea
Meshed offshore grid

- High initial investment
- Highly complex regulatory, legal, market, policy & tech obstacles to navigate

+ Annual savings compensate
+ Coordination has already begun
+ Resilience for operators
+ RES & market integration
Radial approach

Meshed approach
### BSR: Offshore wind (MW)

<table>
<thead>
<tr>
<th>Country</th>
<th>Installed</th>
<th>Construction</th>
<th>Planned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>338,8</td>
<td>350</td>
<td>5391</td>
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<tr>
<td>Denmark</td>
<td>885</td>
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<td>Sweden</td>
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<td>10,009</td>
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<td>1559</td>
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<tr>
<td>Poland</td>
<td></td>
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<td>12,807</td>
</tr>
</tbody>
</table>
Current OWE in the BSR (MW)
Current and planned OWE in the BSR (MW)
Electricity market integration in the Baltic Sea region

- Need for enhanced coordination OWE & grid planning
- Regional electricity exchange increase to 2030
- Need for more interconnectors

*BASREC* Study “Electricity Grid Expansion in the Context of Renewables Integration in the Baltic Sea
Baltic InteGrid

Coordinated OWF development

Regional electricity market integration

Meshed grid in BSR
Policy and Strategic Alignment

- EU Energy Union
- EU Energy and Climate Policy
  20-20-20 Targets
  - Regulation No 347/2013 on trans-European energy infrastructure
  - Directive 2014/89/EU: framework for maritime spatial planning
- EU BSR Strategy: subobjective Reliable Energy Markets
- BEMIP (Baltic Energy Market Interconnection Plan)
Core pillars of the Baltic InteGrid

Baltic Offshore Grid Forum
Baltic Offshore Grid Concept
Pre-feasibility studies

► Network & conference platform
► Interdisciplinary research
► In-depth perspective on 2 cases
Core pillars of the Baltic InteGrid

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The Baltic Offshore Grid Forum: Expert network platform

22 events over the project lifetime:

- 6 Country Workshops
- 12 Thematic Working Groups
- 4 Key events

1. Policy & regulation
2. Market & supply
3. Technology & grid
4. Environment & society
5. Spatial planning
6. Cost-benefit analysis
Core pillars of the Baltic InteGrid

Baltic Offshore Grid Forum
Baltic Offshore Grid Concept
Pre-feasibility studies

- Network & conference platform
- Interdisciplinary research
- In-depth perspective on 2 cases
The Baltic Offshore Grid Concept: Research study

Interdisciplinary research on meshed grid development from 6 angles:

1. Policy & regulation
2. Market & supply
3. Technology & grid
4. Environment & society
5. Spatial planning
6. Cost-benefit analysis
Core pillars of the Baltic InteGrid

Baltic Offshore Grid Forum
Baltic Offshore Grid Concept
Pre-feasibility studies

- Network & conference platform
- Interdisciplinary research
- In-depth perspective on 2 cases
Pre-feasibility Studies
2 case-studies on offshore wind farm interconnectors

1) Polish - Swedish connection (possible inclusion LT and DE)
2) Swedish - German connection
Address the option of a South Baltic transmission grid ring
Recommendations and outputs

- Environmental impact study & mitigation strategy
- Cost-benefit analysis and quantitative model
- Business cases of Market & Supply Chain
- Policy inventory & recommendations (roadmap)
- MSP maps and technology catalogue

Target groups

- TSOs
- Policy-makers
- OWE industry
- Investors
- Research
- Academia
- Civil society
- (Maritime) spatial planners
- Environmental organisations
The partners

14 partners from the 8 EU Member States

1. IKEM | Germany
2. Foundation for Sustainable Energy | Poland
3. Rostock Business and Technology Development
4. Technical University of Denmark | Denmark
5. Energy Agency for Southeast Sweden | Sweden
6. Deutsche WindGuard | Germany
7. Maritime Institute in Gdansk | Poland
8. Stiftung OFFSHORE-WINDENERGIE | Germany
9. Latvian Association of Local and Regional Governments | Latvia
10. Aalto University | Finland
11. University of Tartu | Estonia
12. Klaipeda University Coastal Research and Planning Institute | Lithuania
13. Lund University | Sweden
14. Aarhus University | Denmark
The AO’s

Germany
- Siemens AG
- BMUB (Ministry for the Environment, Nature Conservation, Building and Nuclear Safety of Germany)
- Ministry of Energy, Infrastructure and State Development of Mecklenburg-Vorpommern
- 50Hertz Transmission GmbH
- Ecologic Institute
- Kisters AG
- Becker Büttner Held
- Eclareon

Denmark
- Danish Energy Association
- Energinet.dk
- Danish Wind Industry Association

Latvia
- Ministry of Economics

Finland
- Finnish Wind Power Association

Estonia
- Elering-generating opportunities

Lithuania
- The Ministry of Energy
- Litgrid AB

Poland
- Inwestycje Infrastrukturalne Sp. Z O.O
- Maritime Office in Gdynia
- PGE Energia Odnawialna S.A.
- Polish Offshore Industry Association
- PSE S.A. Polskie Sieci Elektroenergetyczne
- Baltex Energia i Górnictwo Morskie SA SKA
Save the date!

15 May: Country workshop
Offshore Wind Energy Infrastructure: Opportunities and Challenges in Latvia

16 May: Conference
Towards a Meshed Grid: Offshore Wind Energy and Interconnectors in the Baltic Sea Region

About

The EUSBSR Flagship project Baltic InteGrid (Integrated Baltic Offshore Wind Electricity Grid Development) combines state-of-the-art interdisciplinary research with a professional network for the exchange of expertise on the optimization potential of offshore wind energy in the Baltic Sea Region by applying the meshed grid approach. The partners of the European project „Baltic InteGrid“ cordially invite you to learn more about first results of the project!

Sign up!

For regular updates on the research and events of the Baltic InteGrid, sign up for our newsletter! The agenda, venue and registration of the Country Workshop and Meshed Grid Conference will be available on our website www.baltic-integrid.eu soon. We look forward to connecting with you!
www.baltic-integrid.eu

Newsletters, conferences and latest project developments
Thank you!