



Baltic InteGrid

Integrated Baltic Offshore
Wind Electricity Grid Development



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FUND





Institut für Klimaschutz, Energie und Mobilität

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Institute for Climate protection, Energy and Mobility

FUND



Berlin



Greifswald



Climate policy



Renewable energy,
energy efficiency



Electric / driverless /
shared vehicles

- Baltic InteGrid among 35 selected out of 300 concept notes
- Priority area: Management of Natural Resources
- EUSBSR Flagship project; running until 2019

35 projects approved
to create change for a better region





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



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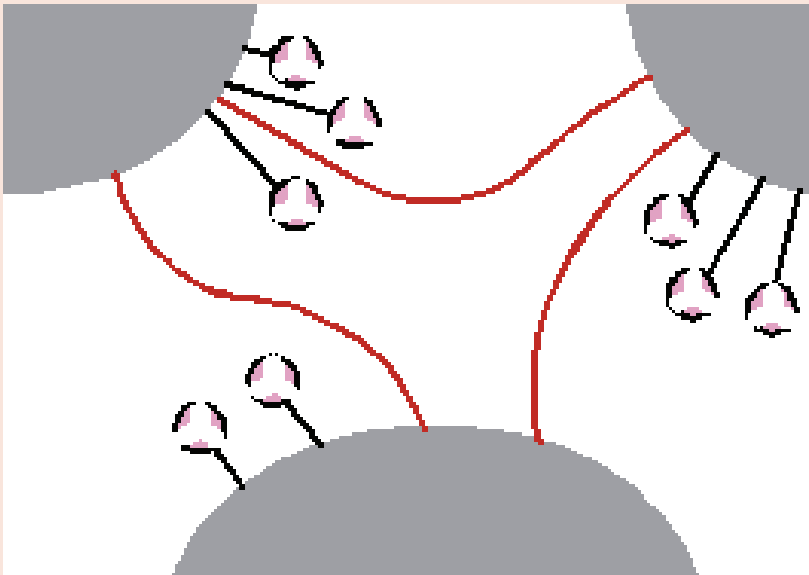
Interreg
Baltic Sea Region



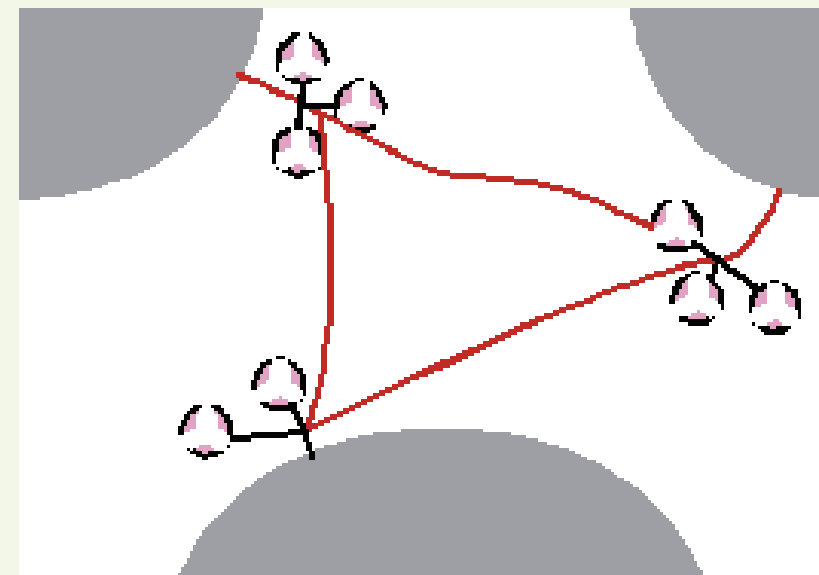
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Radial approach



Meshed approach





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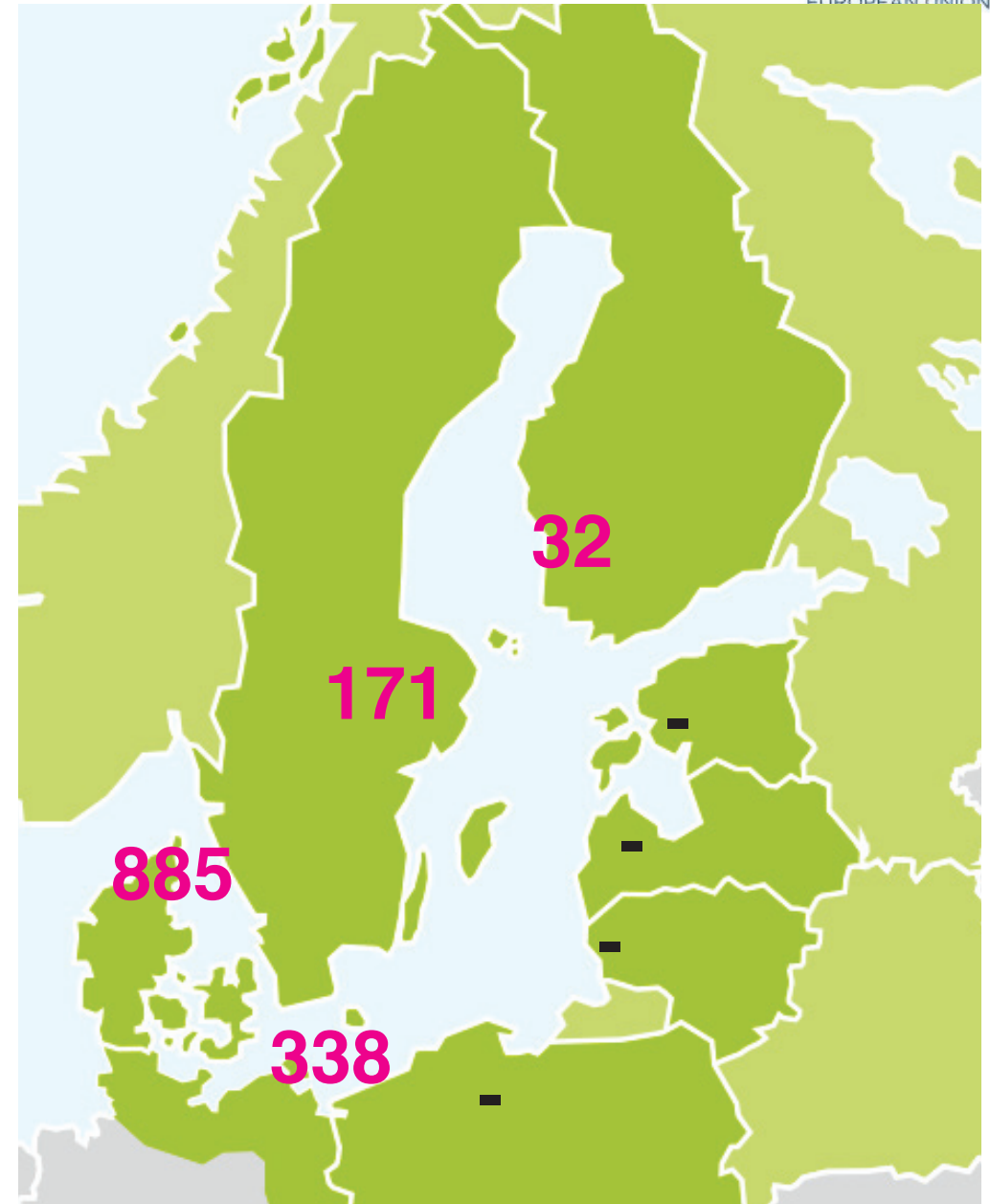
Interreg
Baltic Sea Region



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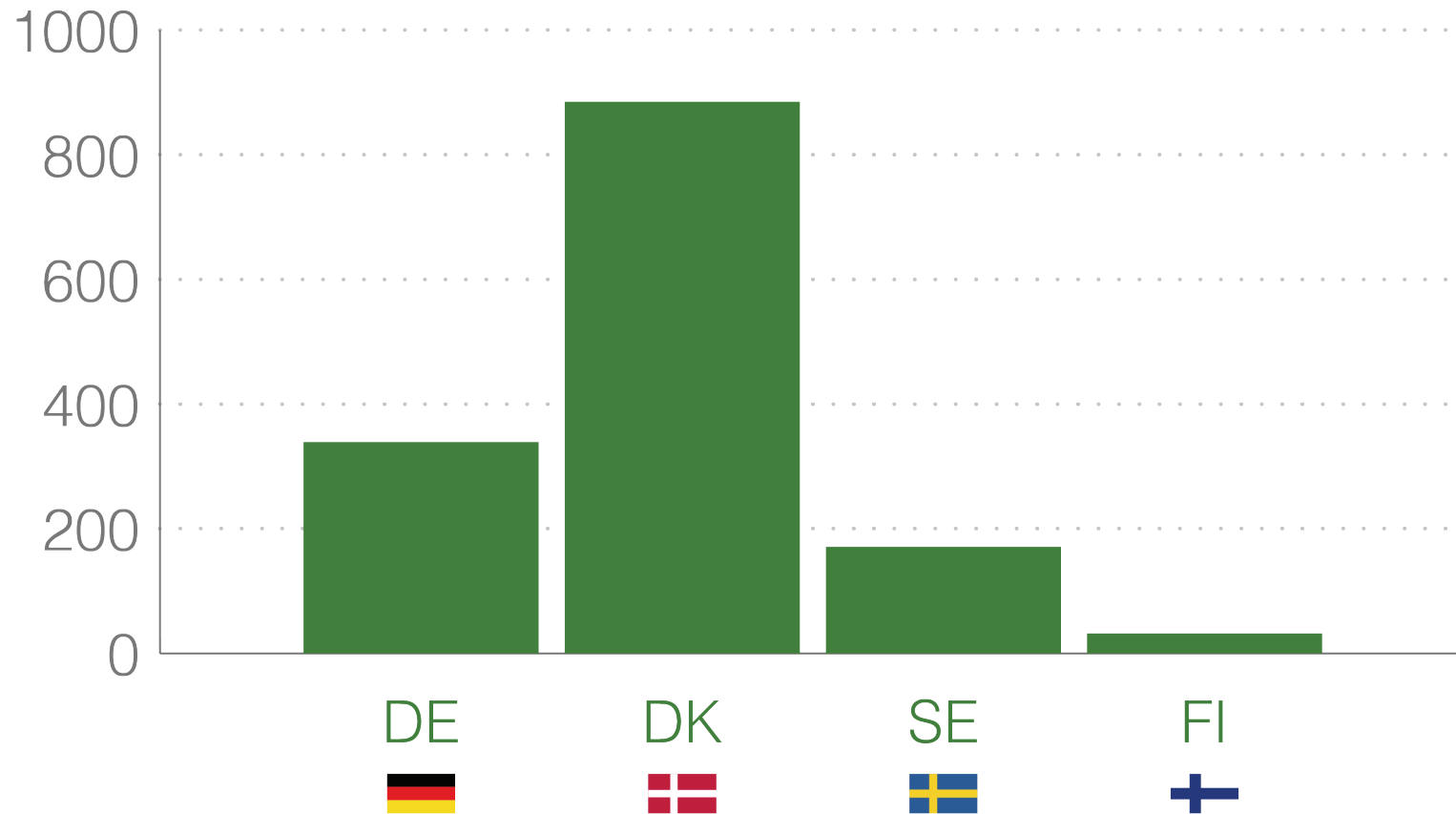
BSR: Offshore wind (MW)

	Installed	Construction	Planned
Germany	338,8	350	5391
Denmark	885		
Sweden	171		10,009
Finland	32	42	3687
Estonia			4816
Latvia			1375
Lithuania			1559
Poland			12,807



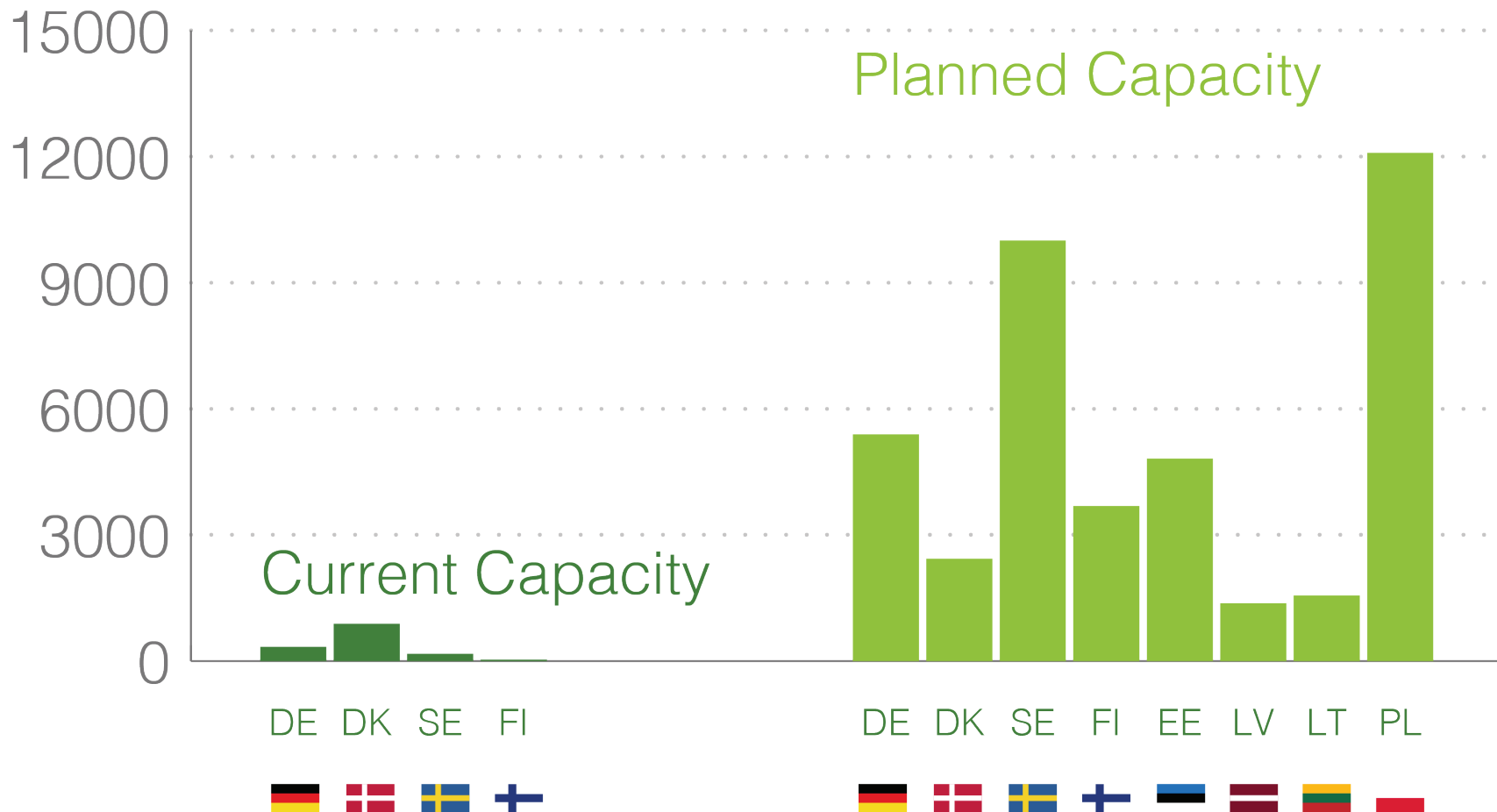
Current OWE in the BSR (MW)

Current Capacity





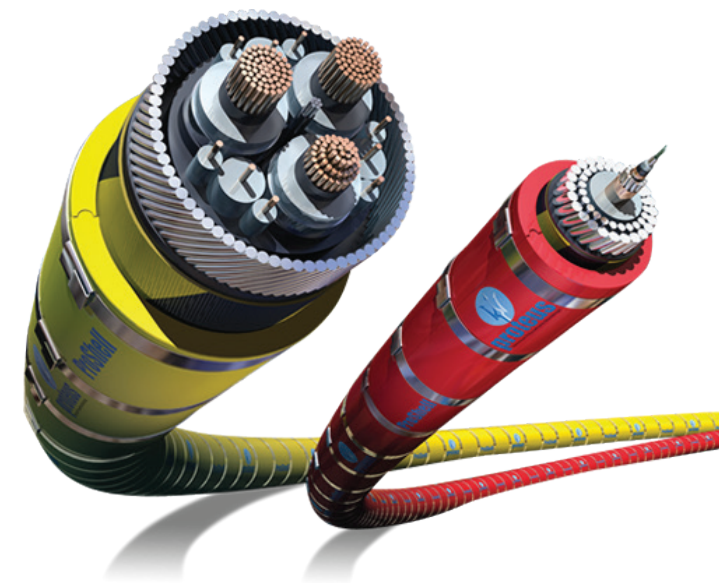
Current and planned OWE in the BSR (MW)



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





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Coordinated
OWF development

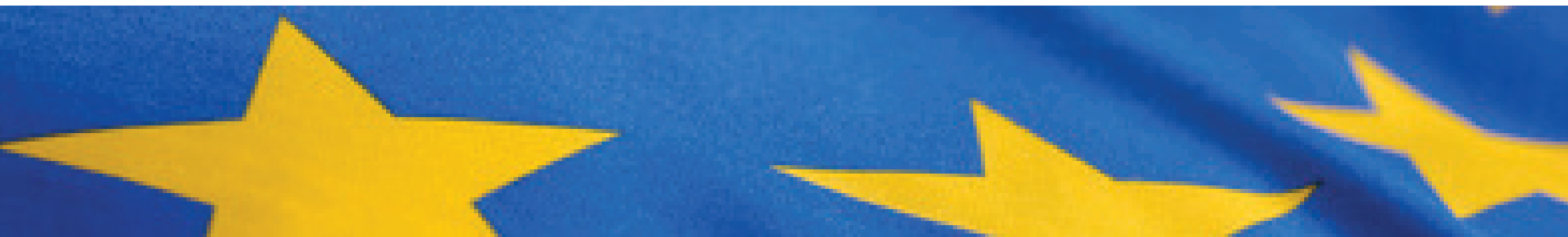
Regional electricity
market integration



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

▶ Network & conference platform

Baltic Offshore Grid Concept

▶ Interdisciplinary research

Pre-feasibility studies

▶ In-depth perspective on 2 cases



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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



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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



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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





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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



Baltic OffshoreGrid Forum

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!



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Newsletters, conferences and latest project developments



Thank you!

