Baltic InteGrid
Integrated Baltic Offshore Wind Electricity Grid Development

Baltic LINes
Coherent Linear Infrastructures in Baltic Maritime Spatial Plans

The Energy Challenge for the Baltic Sea:

An International Meeting and Interactive Simulation

Copenhagen October 30-31, 2018

Interreg Baltic Sea Region
EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

Objectives

- Develop a common understanding on:
  - Possibilities of renewable offshore energy and electricity transmission in the Baltic Sea region
  - Spatial implications of energy sector's developments - MSP
- Contribute to Baltic LINes outputs on energy
  - Energy scenarios
  - Planning criteria
  - Planning solutions
- Give input to Baltic Integrid vision for 2050
- Networking!

Baltic LINes

13:00	13:30	14:00	15:30	16:00	16:30	18:00
Welcome: What is *BalticLINes? Introduction of workshop methods.*	**SESSION 1: ENERGY TARGETS**		**Break**	**SESSION 2: FUTURE TRENDS**		**Dinner**
	Keynote: Tanja Tränkle *RISE Research Institutes of Sweden*	**Interactive session on *energy targets***		**Keynote:** Pawel Mawduk *Mawi Consulting Engineer*	**Interactive session on *future trends***	
	• *What are the key drivers?* • *What are the opportunities and barriers?* • *How much offshore wind energy can be produced within the area?* • *What are the spatial effects of the offshore wind developments?*			• *Developments in the offshore energy production technologies?* • *Key drivers and barriers?* • *Plausible timing?* • *What are the spatial effects of technology development?*		

09:00	09:30	10:00	11:15	11:45	12:30	13:30
Welcome: **Key points from day 1**	**SESSION 3: GRID/INTERCONNECTORS**		**Break**	**Baltic InteGrid vision of the electricity grid at sea and related recommendations to the maritime spatial planning process**	**Wrap-up.** **North SEE project experience.** **Final discussion on transnational cooperation.**	**Lunch**
	Keynote: Beritt Tennbakk *THEMA Consulting Group*	**Interactive session on *grid /interconnectors***				
	• *Is there a need to build more interconnectors?* • *How would you locate cables and cable corridors?* • *What would be the benefits of sharing offshore energy sources between countries?* • *What are barriers to sharing energy from offshore energy sources between countries?*					

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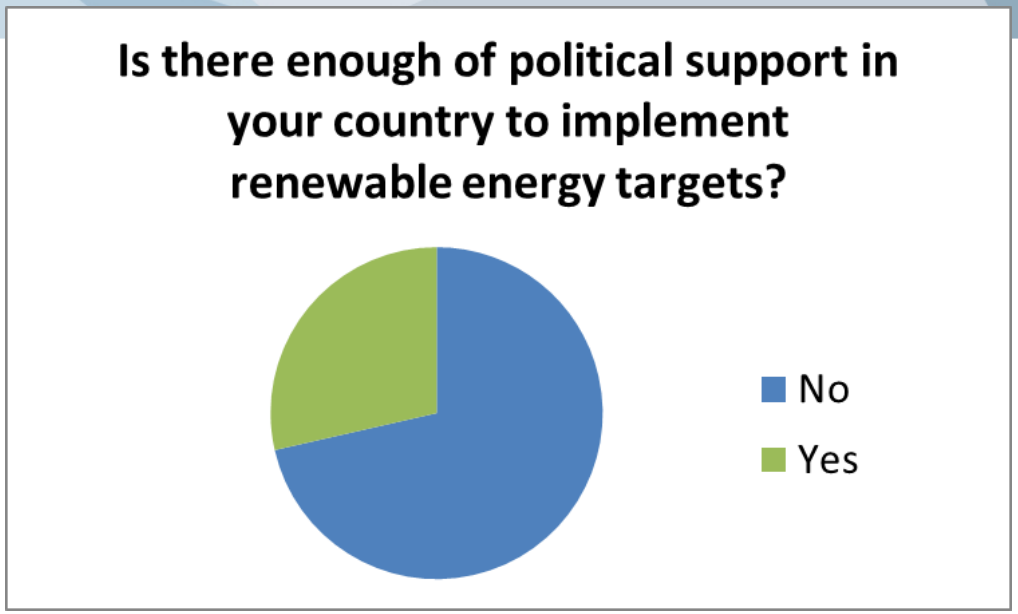
Groupworks

- Three groups
  - Northern
  - Central
  - Southern
- Three parts
  - Discussion on the topics
  - Working on spatial implications with the MSP Challenge
  - Comparison between the groups
- Three groupworks
  - Offshore wind
  - Alternative technologies
  - Grid development and interconnectors

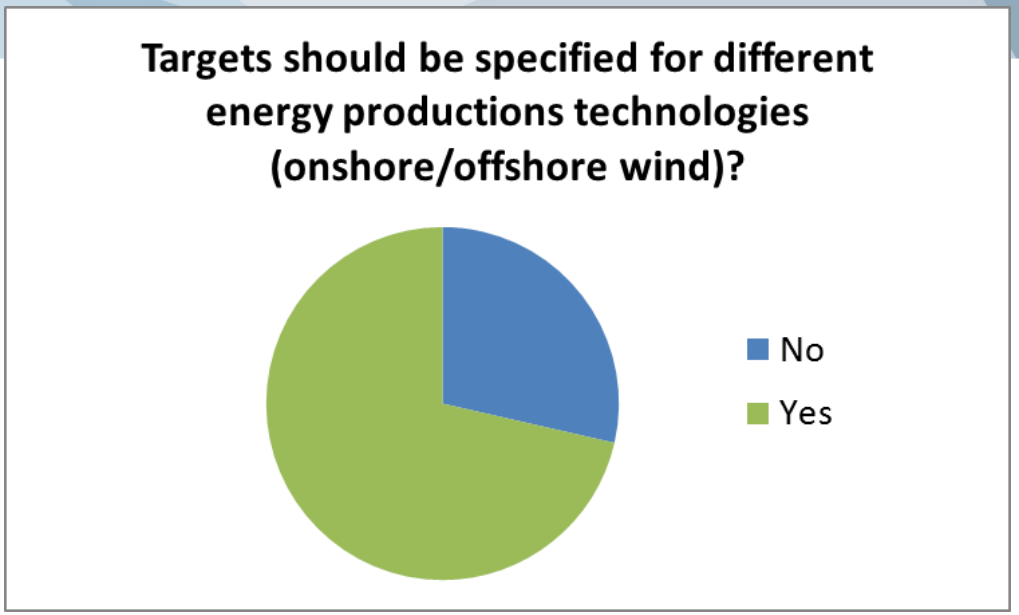
Energy targets

Tanja Tränkle, RI.SE



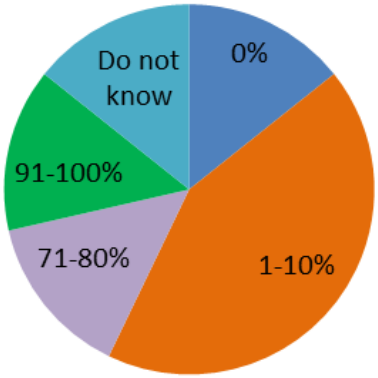
- **Country has ambitious national RES targets** in the National Energy Strategy: 30% by 2020; to 45% by 2030 and 80% by 2050. RES will become the main source of energy in electricity, heating and cooling and transport sector.
- **Targets are specified** in legislation.

- Even though there seems to be political will in our energy and climate plans in practice there is **no support system and projects are hindered** in all possible ways in planning process.
- **No specific goal /action plan** for offshore wind

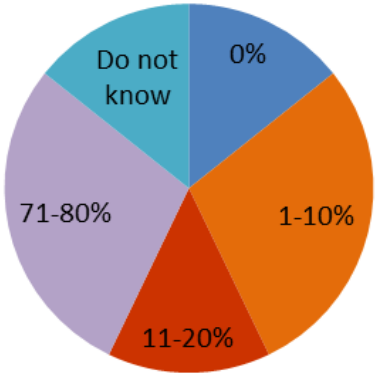


- If not specific goals it is not possible to make a good planning, **clear target, clear spatial needs (MSP)**
  - Disadvantage is that you may **plan for a technology that is not most efficient in the future**
- Offshore wind power still needs subsidies. Yet offshore it is possible to build massive wind farms that will make an impact of the energy portfolio to help reach climate goals.
  - Disadvantages - offshore wind power is not compatible with onshore wind yet.
  - **Advantages - A clear signal towards a certain way of producing energy** is needed for the market
- Country has already reached its goal of having 23% RES. Further RES development should be based on most cost-effective technologies.
  - Advantages - it ensures minimum financial burden on energy consumers
- A separate target for **offshore wind because it requires exploration studies** and assessments to find out possibilities for renewable energy development in the sea area.

Share of offshore wind of all offshore energy by 2030



Share of offshore wind of all offshore energy by 2050

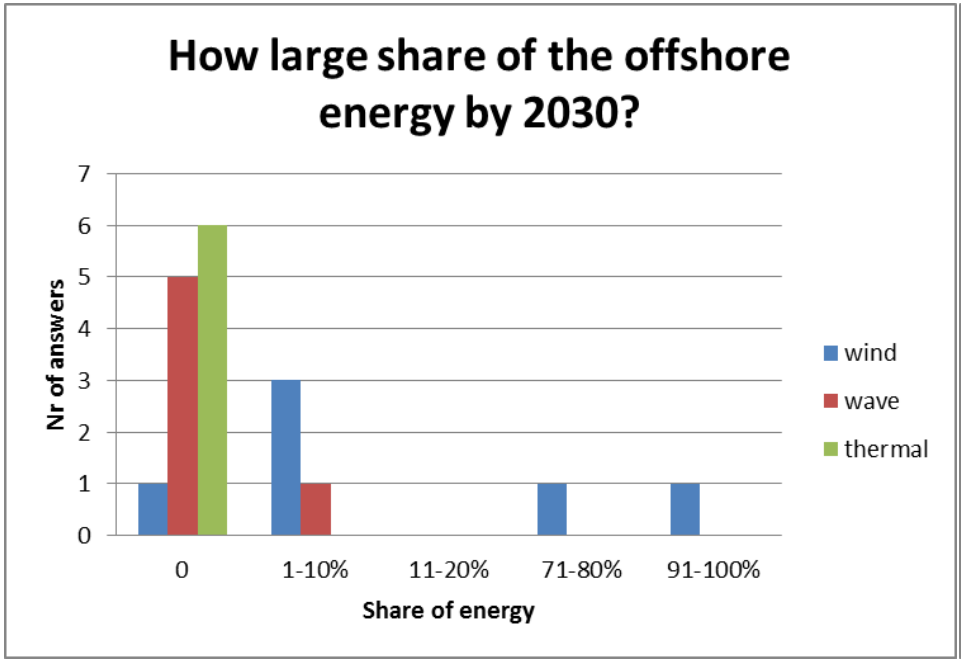


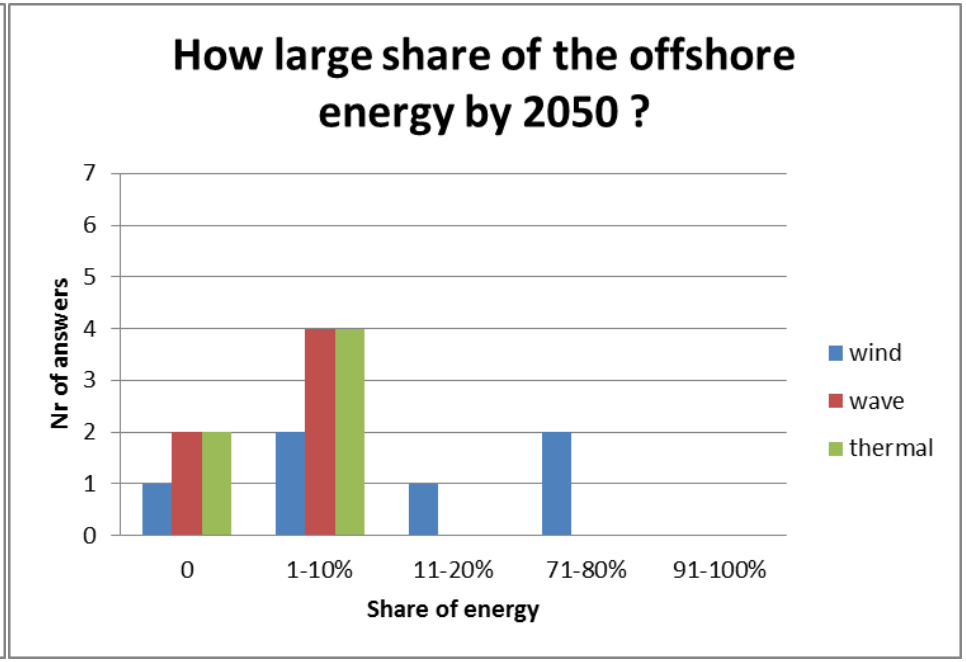
Groupwork on offshore wind

- What are the key drivers?
- What are the opportunities and barriers?
- How much offshore wind energy can be produced?
- What are the spatial effects of the offshore wind development?

Energy trends

Pawel Mawduk, Mawi Consulting





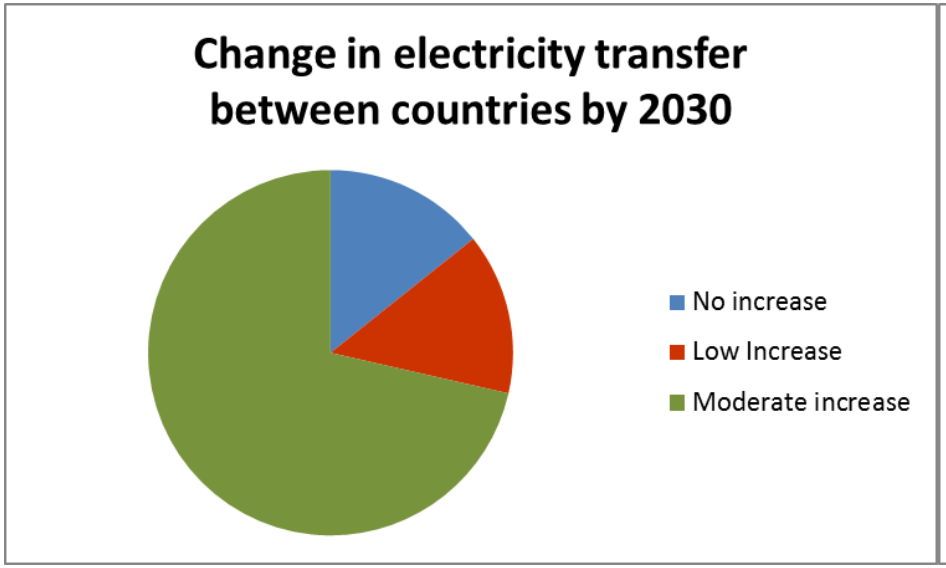
- Wind energy dominates, wave and thermal have potential
- No other technologies foreseeable
- Difficulty of assessing without detailed study and clear policy goals

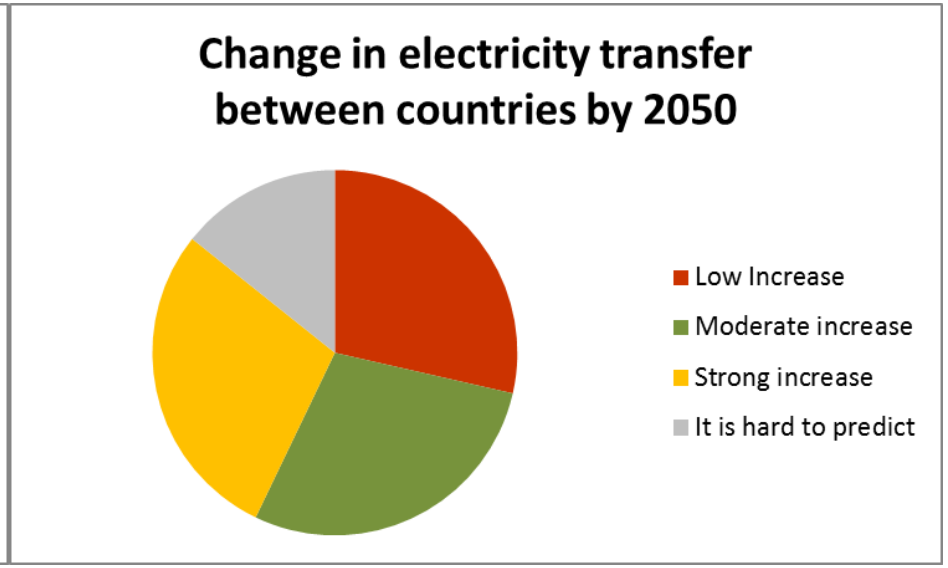
Groupwork on new technologies

- Developments in the offshore energy production technologies
- Key drivers and barriers?
- Plausible timing of new technologies
- What are the spatial effects of new technologies?

Grid and interconnectors

Berit Tennbakk, THEMA Consultant





- Variable electricity production will demand more transfer. Alternative storage is more expensive
- Baltic States are desynchronizing from Russia
- Market approach & energy security are priorities for the Energy Union which all indicates the growth of interconnections.
- The Baltic Sea region is a success story in the transfer to renewable energy. More connections to south are needed to distribute the green energy (e.g. to France, Luxembourg, Netherlands etc).
- Regarding transfer of electricity by 2030, the new lines between LV-EE (by 2021) and LT-PL (by 2025) will be installed.

Groupwork on grid development and interconnectors

- Is there a need to build more interconnectors?
- How would we locate cables and cable corridors?
- What would be the benefits of sharing offshore energy sources between countries?
  - What are the barriers?

Baltic Integrid vision for 2050

Pierre Ståhl and Thilo Krupp

NortSEE project results on Energy

Andronikos Kafas, Marine Scotland

What would be transnational needs and solutions for the Baltic Sea?

Feedback on the workshop

Baltic LINes

EUROPEAN UNION

Lead partner

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

Partners

HELCOM

corpi

Mecklenburg Vorpommern
Ministry of Energy, Infrastructure and State Development

Liikennevirasto
Finnish Transport Agency

Swedish Agency for Marine and Water Management

NHTV Breda University of Applied Sciences

SYKE

Vides aizsardzības un reģionālās attīstības ministrija

Breaking New Ground
Aalborg University

Maritime Institute in Gdańsk

VASAB
Vision & Strategies around the Baltic Sea

Urząd Morski w Gdyni

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