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Coherent Linear Infrastructures in Baltic Maritime Spatial Plans

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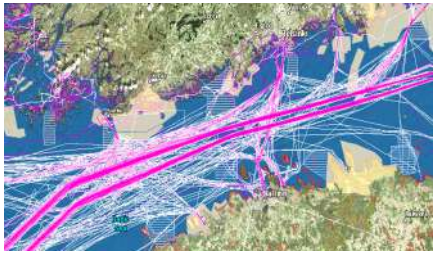


Baltic LINes

INTERREG BSR Baltic LINes project seeks to increase transnational coherence of shipping routes and energy corridors in Maritime Spatial Plans in the BSR with aim to develop the most appropriate framework conditions for Blue Growth activities like maritime transportation and offshore energy exploitation

Shipping involvement in MSP

Maritime Spatial Planning (MSP) is becoming an increasingly important issue for the shipping sector and particularly in relation to

- **maritime navigation safety management and**
- **developing a common vision for the use of sea space in a particular location that is essential to the successful outcome of the MSP process**

MSP has the potential to address the impacts of all activities in a specific place, so that marine ecosystems can be resilient and productive and accommodate appropriate, responsible economic activities

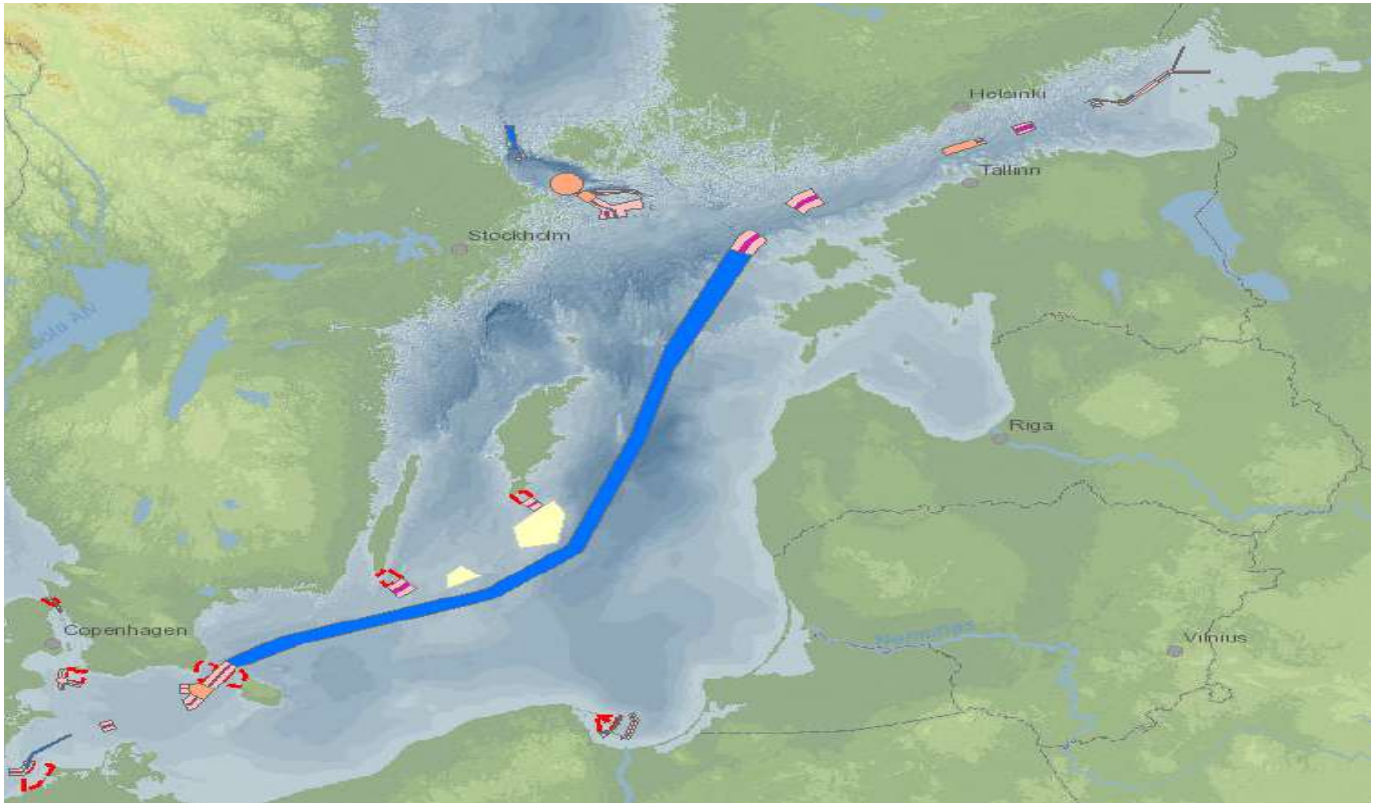
(Patraiko & Holthus, 2013)

IMO General Provisions on Ships' Routing

According to International Maritime Organizations' (IMO) General Provisions on Ships' Routing (GPSR) the purpose of ships' routing is to improve the safety of navigation

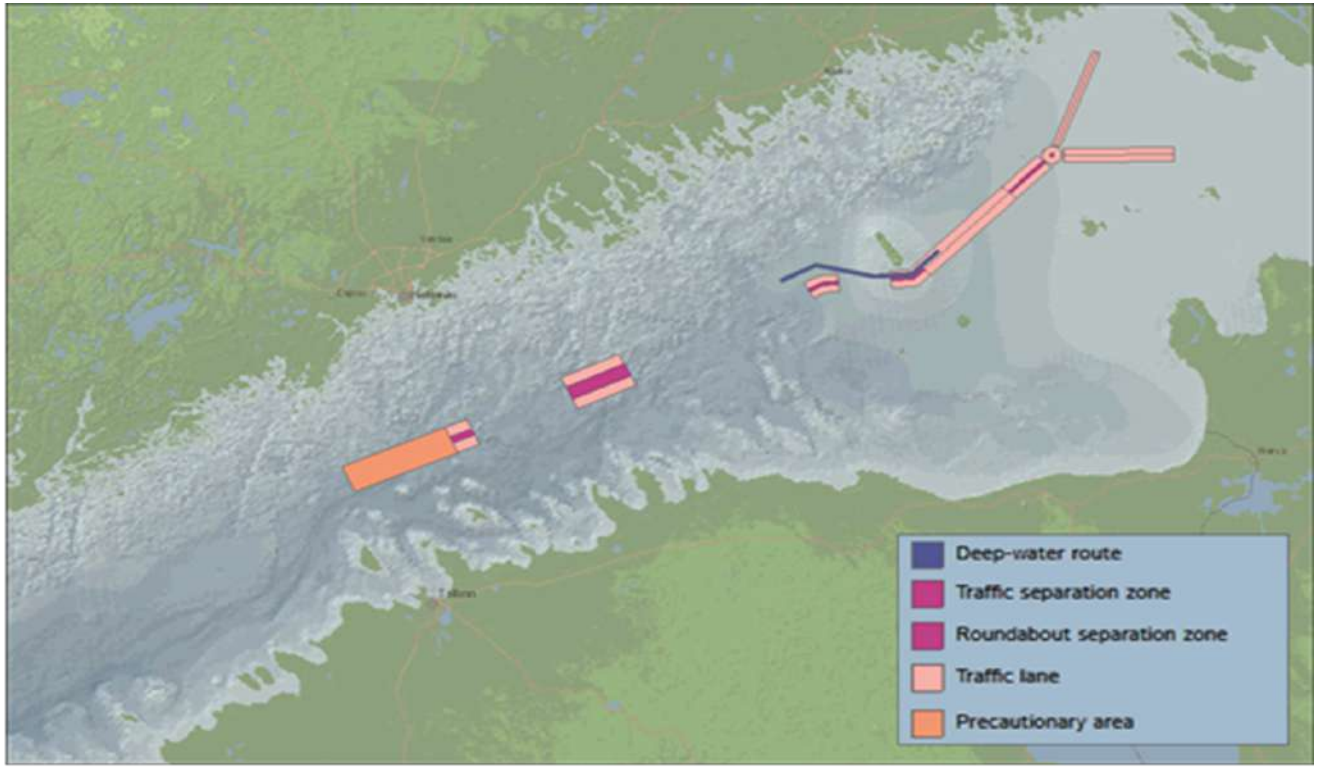
- **in converging areas and in areas where the density of traffic is great or**
- **where freedom of movement of shipping is inhibited by restricted sea-room**
- **the existence of obstructions to navigation (e.g. OWE)**
- **limited depths or unfavourable meteorological conditions**

IMO ships routeing (HELCOM MADS)



- Deep-water route
- Recommended route
- Traffic separation zone
- Roundabout separation zone
- Traffic lane
- Inshore traffic zone
- Precautionary area
- Area to be avoided

Ships' routing measures established in the GOFREP sea area (source: HELCOM http://maps.helcom.fi/website/mapservice/)



Ships' rerouting

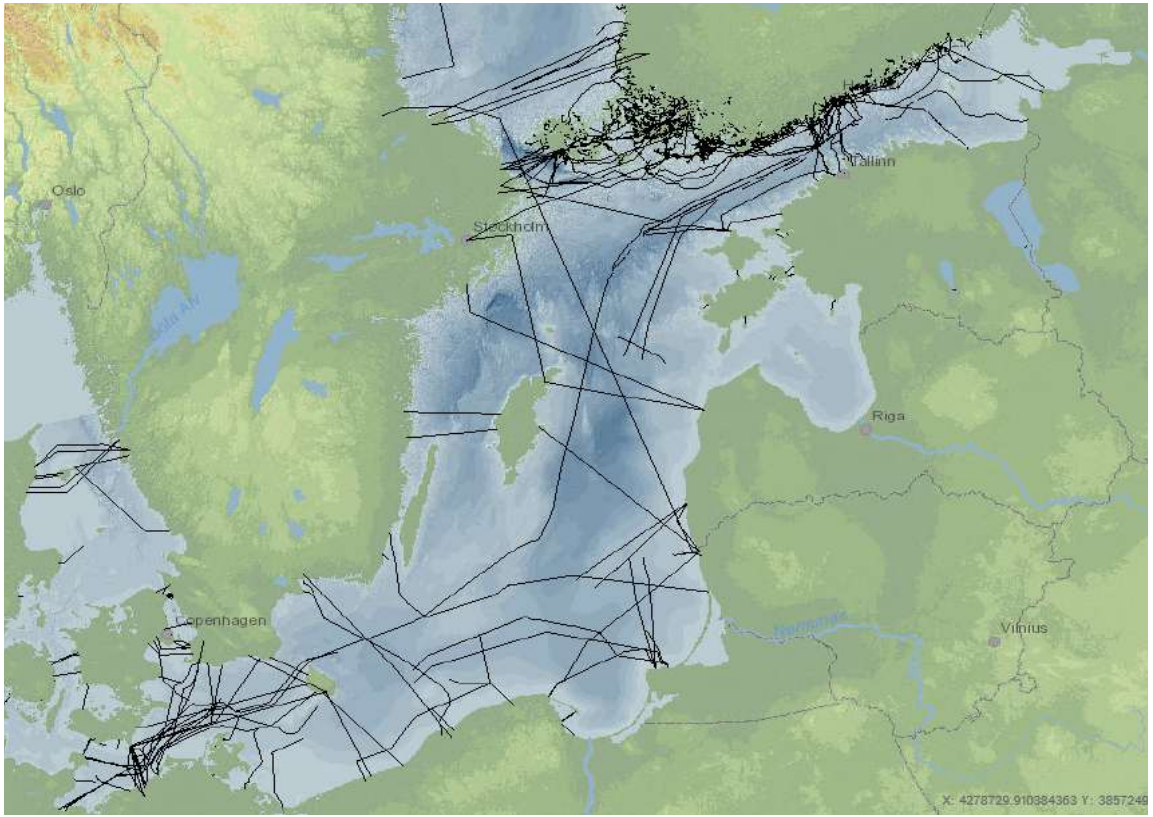
- Rerouting of a shipping lane may be justified in order to provide energy and food to a local community
- However, a proposal for altering shipping operations may increase the risk of collision or grounding to an unacceptable level, or change the commercial dynamics of a regional area so that ports become uncompetitive (Patraiko & Holthus, 2013)

A fully integrated European energy market

- **The European Council has called for all European Union Member States to achieve interconnection of at least 10% of their installed electricity production capacity by 2020.**
- **Each Member State should have in place electricity cables that allow at least 10% of the electricity that is produced by their power plants to be transported across its borders to its neighbouring countries**

(European Commission, 2015)

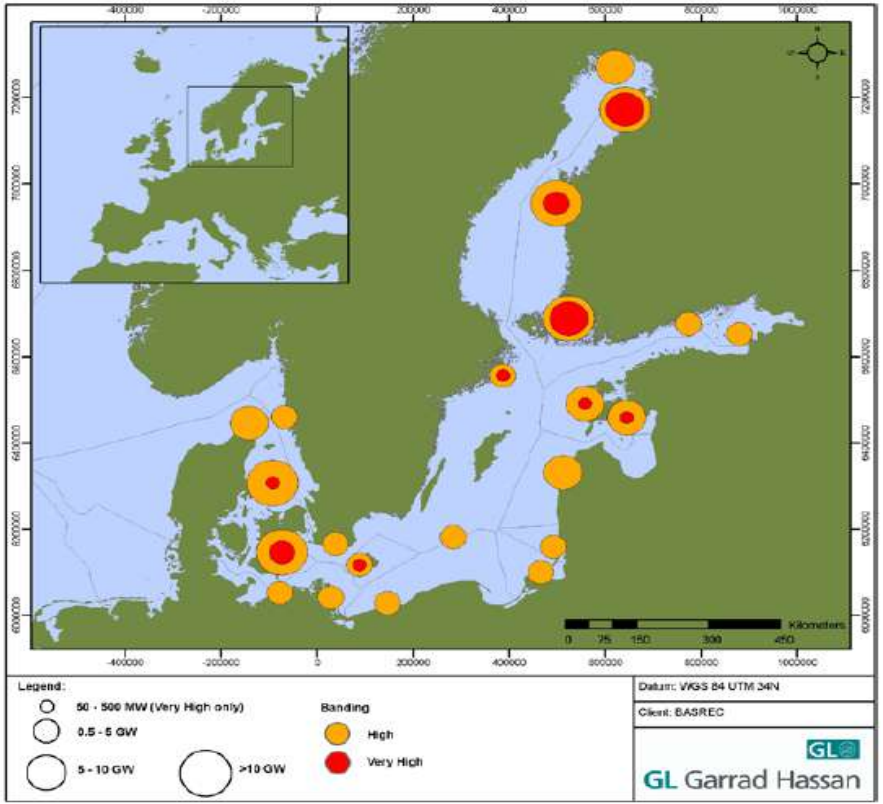
Sub-sea grid (HELCOM MADS)



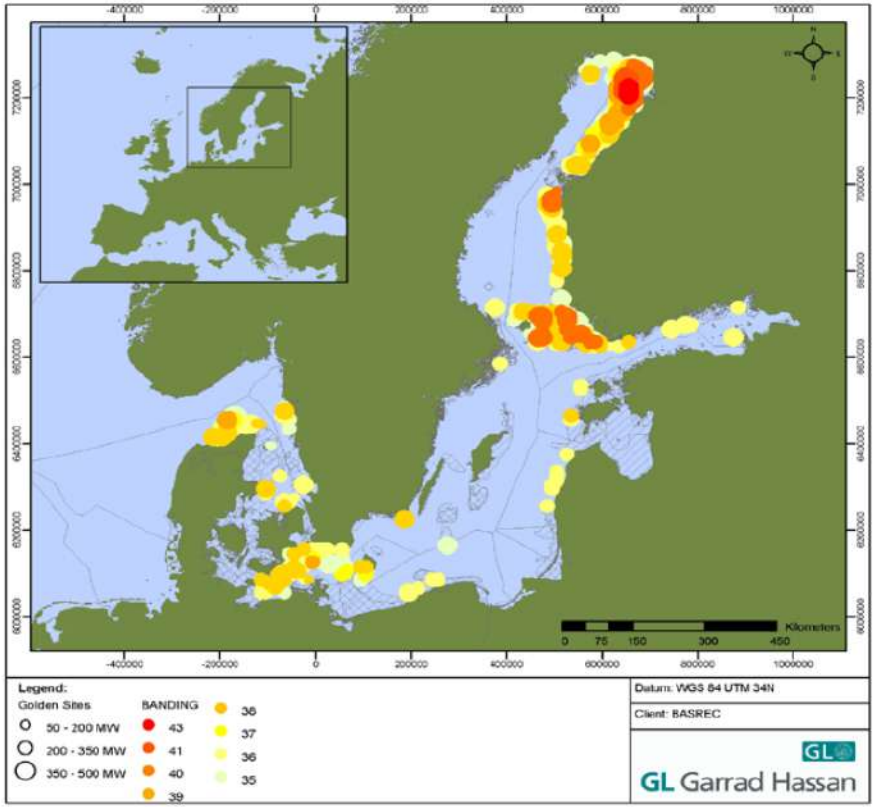
Decarbonizing the economy

- In July 2009, the leaders of the European Union and the G8 announced an objective to reduce greenhouse gas emissions by at least 80% below 1990 levels by 2050'
- Offshore wind farms and related subsea grid integration developments driven by climate protection objectives have become a common sight for the BSR EU Member States during the last decade

Golden offshore wind sites in the BSR, condensed view (BASREC, 2012)



Golden sites after excluding protected and bird areas (BASREC, 2012)



Suggested criteria for deciding the attractiveness of offshore areas/sites (BASREC, 2012)

1. Cost of energy - conditions that determine the basic cost effectiveness of offshore wind sites (including wind speed, distance to shore, and water depth)
2. Hard constraints ("show-stopping" conflicting area interests) such as other wind farms in operation or under construction, cables and pipelines, oil platforms, monitoring of radioactive substances or combine monitoring stations, and chemical munitions dumping grounds
3. Soft constraints in the form of shipping (ship transits) and fishery (kilo-tons landed), protected bird areas and other environmental protected areas such as Ramsar, Natura 2000 and special Baltic Sea Protected Areas

Suggested criteria for deciding the attractiveness of offshore areas/sites (BASREC, 2012)

4. Regional electricity demand - while some offshore sites may be highly cost-effective measured by the cost of energy and be relatively free of constraints, the demand for electricity may not be sufficient within the region served by available grid connections

5. Potentials for grid links to the continental power system - even if there are no grid interconnections at present to transmit electricity to areas with sufficient demand, it is always possible to reinforce the existing transmission system and build new interconnections. Yet, reinforcing and building long-distance transmission systems are costly and those costs need to be taken into account when deciding about the attractiveness of the potential offshore wind sites

Suggested criteria for deciding the attractiveness of offshore areas/sites (BASREC, 2012)

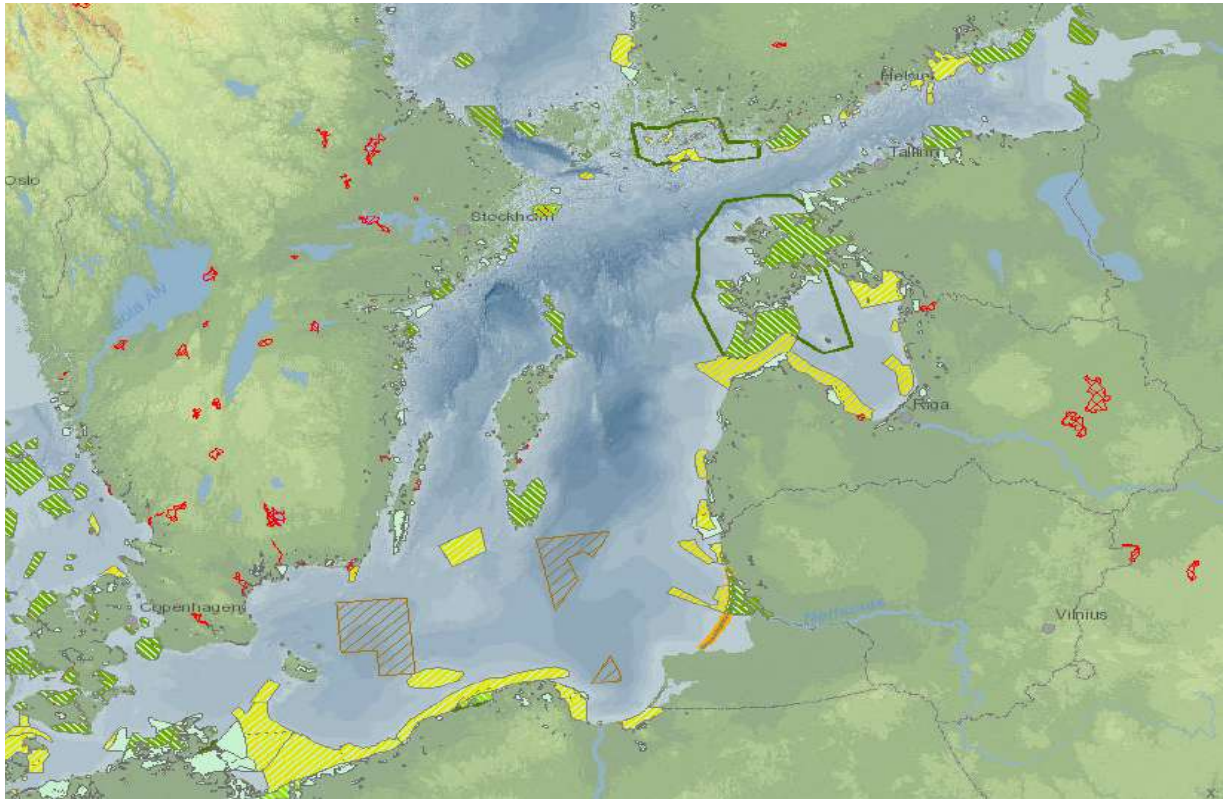
6. Local employment and (BLUE) growth stimulation - finally, construction and operation of huge offshore wind sites may generate significant employment and (BLUE) growth effects, especially in the populated coast areas surrounding the offshore sites

Such growth stimulation might be economically and socially more valuable in some places than in others, which is why this is also a relevant criterion in deciding about the relative attractiveness of offshore wind sites

Ecosystem-based approach to management of human activities

- **HELCOM Guideline for the implementation of ecosystem-based approach in Maritime Spatial Planning (MSP) in the Baltic Sea area defines the ecosystem approach as "the comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity"**

Protected areas



MSP as a tool for sustainable marine management

The MSP is becoming an increasingly important tool for sustainable marine management being

- **ecosystem-based**
- **integrated**
- **place-based or area-based**
- **adaptive**
- **strategic**
- **anticipatory and participatory iterative process**

Quality objectives of MSP

The *Ten tenets* of Elliott (Cormier et al., 2015) are suggested as the quality objectives of the Maritime Spatial Plan (QOP) and referring to that the integrated and holistic planning solutions should be:

1) environmentally/ecologically sustainable,
2) technologically feasible,
3) economically viable,
4) socially desirable/tolerable,
5) legally permissible,
6) administratively achievable,
7) politically expedient,
8) ethically defensible,
9) culturally inclusive, and
10) effectively communicable

Transnational cross-sectoral planning issues

It is suggested by this study to use the *Ten tenets* of Elliott (Elliott et al., 2017) as a framework to identify, specify and address the transnational cross-sectoral planning issues

The *Ten tenets* of Elliott

It is also suggested by this study to use the *Ten tenets* of Elliott (Elliott et al., 2017) as the safety constraints to be satisfied in a course of ecosystem based development and implementation of the integrated transboundary maritime planning solutions in terms of environment, legislation, policies, governance, cultural, social, economic, and technological considerations

Acknowledgements

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Thank you very much for your attention!