



Coherent Linear Infrastructures
in Baltic Maritime Spatial Plans

FROM PLANNING ISSUES TOWARDS PLANNING SOLUTIONS

Work Packages 4.1 and 4.3

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1. Introduction

The Baltic Sea faces an increasing spatial demand for human activities, resulting in potential planning conflicts and increasing transboundary effects. Maritime Spatial Planning has been identified as the central instrument for promoting the aims of the EU’s Blue Growth Strategy, while at the same time contributing to the achievement of Good Environmental Status required by the Marine Strategy Framework Directive. The adoption of the EU Directive on Maritime Spatial Planning (2014/89/EU) has promoted the process of MSP as it requires all coastal EU member states to prepare cross-sectoral maritime spatial plans by 2021. The MSP Directive recognizes that MSP is a national competency. It is in the competence of each member state to define the topics and format of their national MSPs.

Although MSP is a national competency, the directive calls for national plans to be coherent. Coherent planning across borders is needed to ensure efficient and optimal use of the sea space and to achieve economic, social and environmental objectives. Considering different national priorities, different governance structures and not-synchronised status of MSP-processes it is quite challenging to plan coherent. This is also due to the fact that the plans are developed at varying geographical scales and different strategic levels.

So promoting greater coherence between national maritime spatial plans represents the key challenge with regard to uses and activities of transnational character. Baltic LINES addresses this challenge of achieving greater transnational coherence for shipping routes and energy infrastructure and cooperation in MSP across the BSR. Work package 4 concentrates on the identification of planning mismatches focussing on these two sectors in border areas and collects methods how these could be avoided or solved. Main findings were made in course of discussions during project meetings.

Three deliverables present results from project meetings, expert interviews and stakeholder consultation with the following objectives:

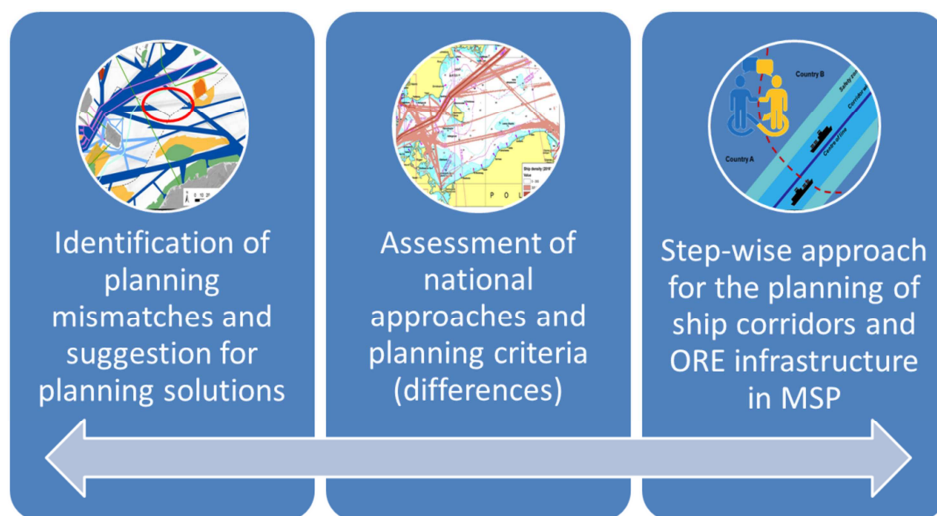


Figure 1. System of Work Package 4 deliverables.

This infopaper and the related infographic aim to identify possible planning mismatches which require adaptation and creation of planning solutions for pan-Baltic shipping and energy corridors. So the focus of the paper is set on the question: where is need to improve planning?

All results have been developed during group discussions between partners during two partner meetings in Tallinn and Gdansk. Based on maps project partners jointly identified a set of planning mismatches relating to the need for coherence of transnational energy infrastructure and shipping lanes by comparing national MSPs (or their current stages). As a second step partners discussed four cases on the specific planning issues and possible solutions.

2. Theoretical background

2.1 Definition of Planning Issues

Planning issues are understood as

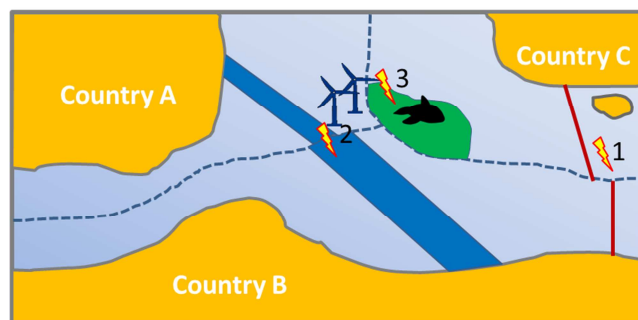
- Current and future mismatches on how shipping routes and energy infrastructures are taken into consideration in sectoral and integrated MSP within the different countries (transnational mismatch/ foregone synergies within one given sector)
- Current and future transnational spatial use conflicts between these different sea uses (transnational mismatch between shipping lanes and energy production sites or corridors)
- Current and future conflicts between these uses/ solutions and nature protection aims.

The focus is on issues which are of pan-Baltic nature and thus require a pan-Baltic solution, which in turn may require adaptation to current planning on national MSP level. For the identified planning cases representing critical planning issues possible planning solutions have been discussed. The suggested solutions on more general level as well as case-specific are included at the end of this infopaper.

2.2 Abstract examples of planning issues for shipping and energy

1. Planning mismatch: Routing of cable corridors does not match at EEZ border
2. Different methodologies: application of different dimensions of designated areas for shipping
3. Nature conservation issues: Planned offshore wind farms bordering sensitive marine protected areas in neighbouring country

Figure 2. Abstract examples of planning issues.



3. Identification of Planning Cases

In the course of the project the following exemplary cases referring to different kinds of planning mismatches have been identified. The identification of the cases concentrated on planning issues with a pan-Baltic dimension.

- **CASE 1:** **Area around Åland** – Transfer of IMO regulations into national MSPs
- **CASE 2:** **West of Sareema Island (Estonia)** – planning issues between shipping corridors and offshore wind farms
- **CASE 3:** **South-East/ Central Baltic Sea** – Mismatches between shipping corridors
- **CASE 4:** **Area around and east of Bornholm** – Mismatches between shipping corridors, issues between shipping and energy

Different types of planning mismatches and potential reasons

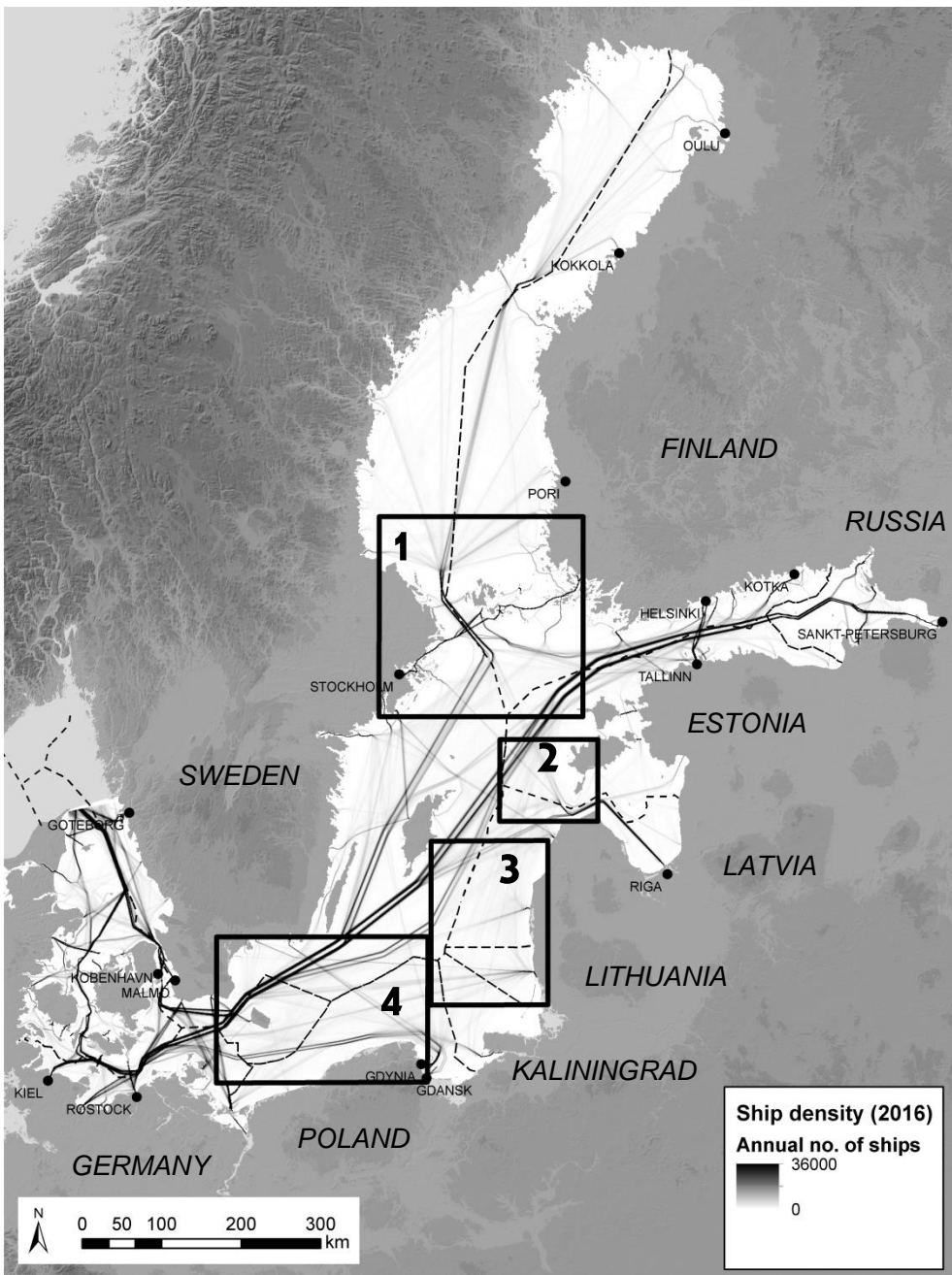
When selecting appropriate planning cases different types of mismatches could be identified. For example do some countries add additional safety zones along routeing measures while others just transfer the spatial dimension of the IMO routeing scheme as such. In one country ship corridors are designated, but sometimes not continued in the next bordering country. Another type of an obvious mismatch is the fact that ship corridors sometimes have different widths in one country as compared to its continuation in the next bordering country.

In some cases shipping area designations do not follow directly the actual ship traffic as other incompatible uses like offshore wind farms have been permitted in the area that is used by shipping according to AIS (automatic identification system) data.

All these identified mismatches can lead to potential planning issues or planning conflicts, for example planning issues between shipping (efficiency) and offshore wind farm development. Even navigational safety issues might arise from planning mismatches between shipping and energy installations.

Planning mismatches can result from different reasons, for example:

- planning criteria are not aligned
- no focus on transboundary MSP
- different national MSP approaches
- relevant data from neighbouring countries missing or outdated
- methodological differences: e.g. purpose of areas, different categories of area designations



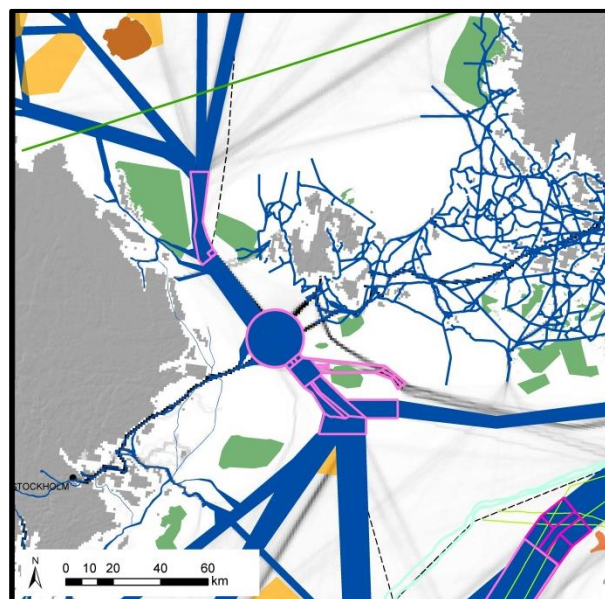
- IMO routing measures
- Shipping priority area
- Shipping interest area
- Offshore wind farm (approved)
- Offshore wind farm application
- Offshore wind interest area
- Interconnector
- Power cable
- Pipeline
- Protection zone for cables
- Marine protected area
- - - EEZ borders

* Due to practical layout issues different national terms and definitions are not reflected here. Instead, collective terms are used to obtain similar colour codes.

Case 1: Area around Åland

Countries: Sweden, Finland

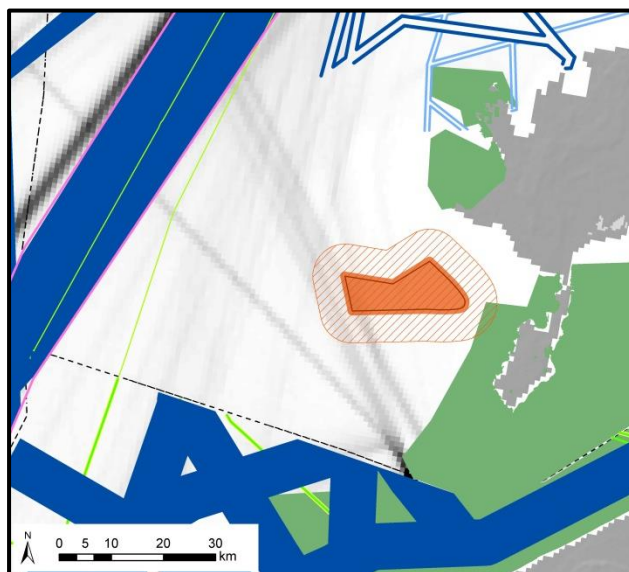
Planning issue: Different methods to transfer IMO regulations into national MSP ship corridors



Case 2: South-West of Saaremaa Island

Countries: Estonia, Sweden, Latvia

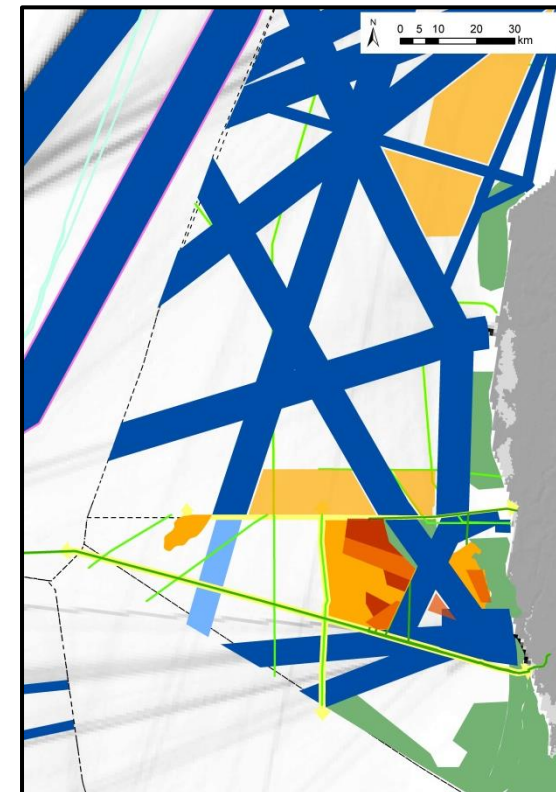
Planning issue: Mismatches between ship corridors and potential impact on navigational safety from planned offshore wind farm



Case 3: South-East Baltic Sea

Countries: Sweden, Latvia, Lithuania, Russia, Poland

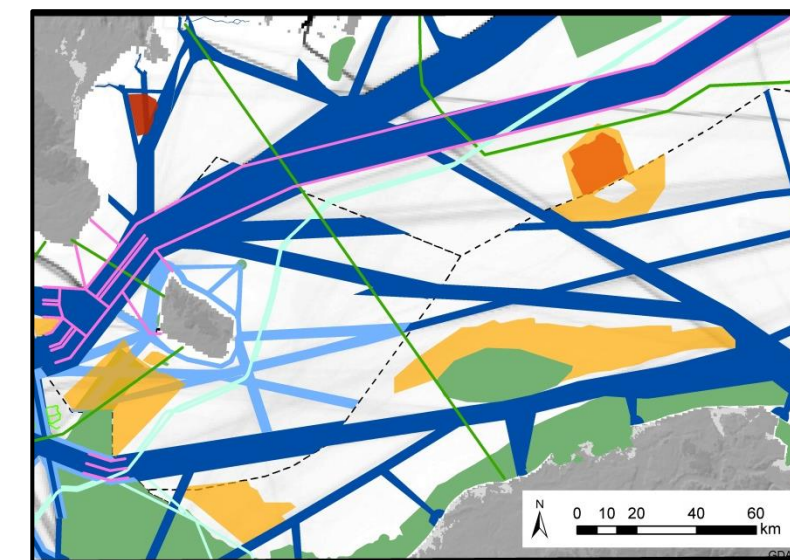
Planning issue: Mismatches between ship corridors of several countries (gaps between, and different widths of corridors)



Case 4: Area around and east of Bornholm

Countries: Poland, Sweden, Denmark, Germany

Planning issue: Mismatches between ship corridors (gaps between, and different widths of corridors), issues between shipping and energy (shift of traffic due to OREI)



3.1 CASE 1: Area around Åland

Countries: Sweden, Finland

a) Definition of planning issue(s)/ planning mismatch

- existing vs. non-existing method for transferring IMO regulations to MSP

b) Which sectors are involved?

- shipping/shipping

c) Potential reasons

- different approaches for designating shipping areas and transferring IMO regulations into national MSPs
- different stages of national MSPs

d) Map

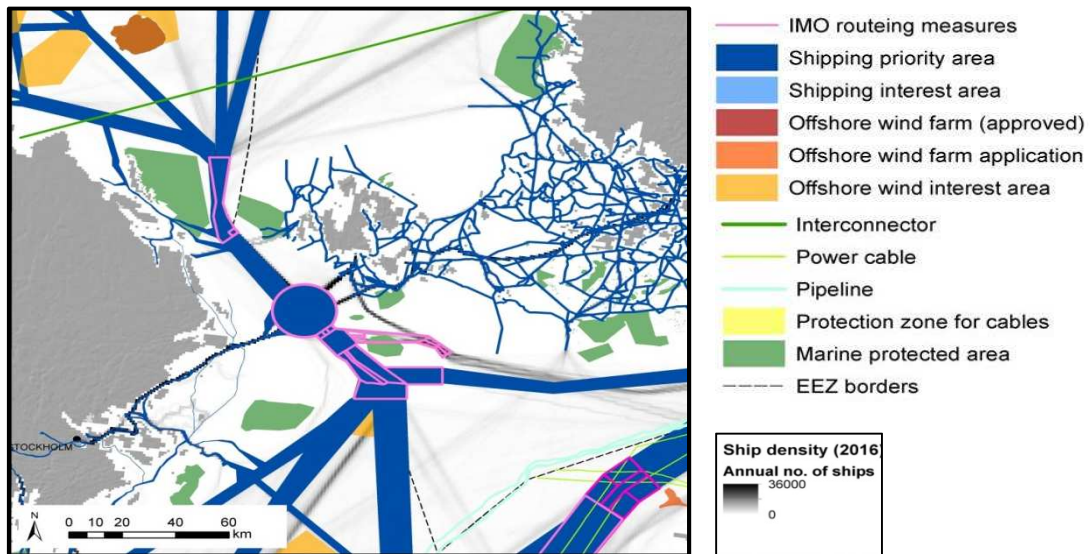


Figure 3: Planning Case Area around Åland.

3.2 CASE 2: West of Saaremaa Island

Countries: Estonia, Sweden, Latvia (other countries through international maritime traffic (IMO TSS zones close to offshore renewable energy installations, OREIs)

a) Definition of planning issue(s)/ planning conflicts

- Potential impact on navigational safety from planned offshore wind farms
- Mismatches between shipping corridors and potential impact on navigational safety from planned offshore wind farm
- Potential wind farm area west of Saaremaa Island (Estonia) is crossed by intensive maritime traffic according to the AIS-based maritime traffic visualization (cf. figure 4). This spatial overlap is creating a critical transnational and cross-sectoral planning issue that needs to be resolved before the actual planning decisions are made in this sea area.
- Shipping corridors are not connected at Estonian-Latvian/ Estonian-Swedish borders

b) Which sectors are involved?

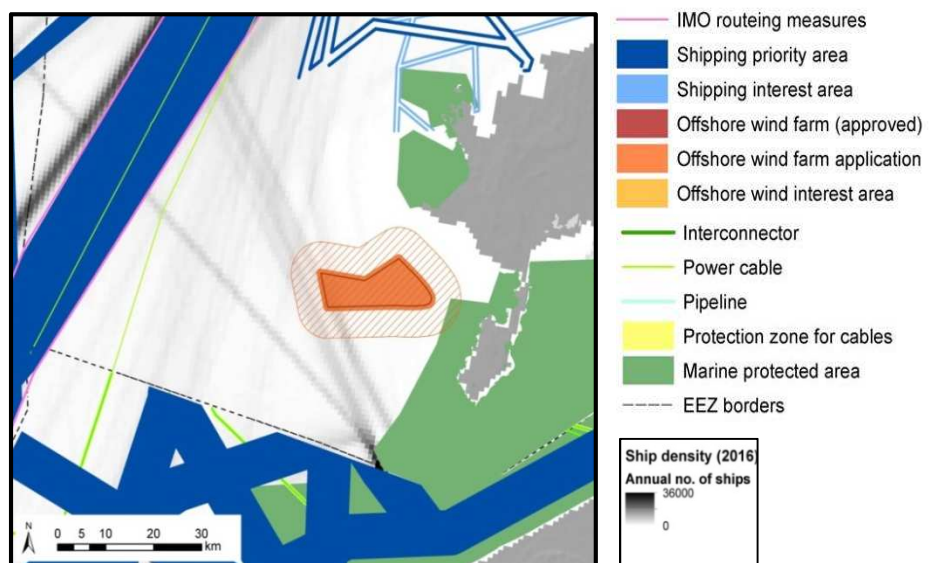
- shipping/energy - the probable impact on navigational safety from potential offshore renewable energy installations
- shipping/shipping

c) Potential reasons

- Hazard analysis is not integrated from the very beginning into the OREIs safety buffer areas design processes.
- MSP designating corridors for shipping not in place in Estonia by now.

d) Map

Figure 4:
Planning Case
West of
Saaremaa Island.



3.3 CASE 3: South-East/ Central Baltic Sea

Countries: Latvia, Lithuania, Sweden, Russia, Poland

a) Definition of planning issue(s)/ planning conflict

- Shipping corridors are not connected at Latvian-Swedish border (gap between Latvian and Swedish shipping routes)
- Polish and Lithuanian shipping corridors are not connected (gap in Russian territory)
- Latvian and Lithuanian as well as Lithuanian and Polish shipping corridors have different widths

b) Which sectors are involved?

- shipping/shipping

c) Potential reasons

- different approaches/ area designation methods/ planning philosophies
- different rationale of how shipping routes are presented in MSP, e.g. in Sweden and Latvia

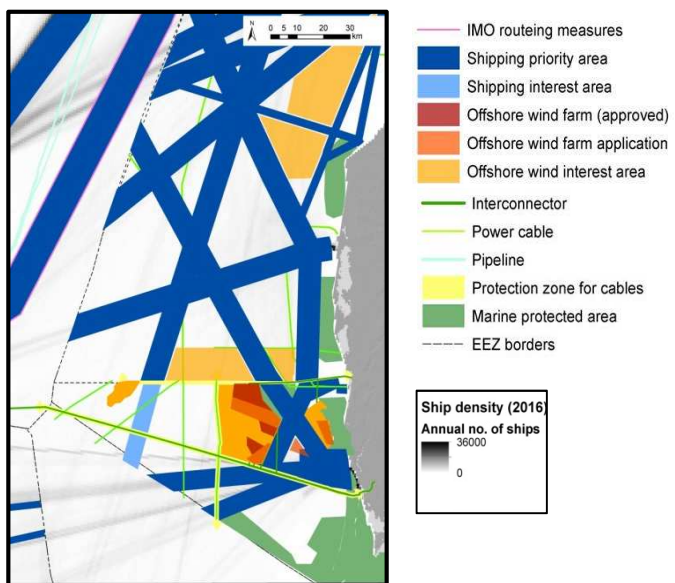
In Latvian MSP	In Swedish MSP
Name: Areas reserved for shipping	Name: shipping, investigation areas shipping
<i>Idea: to safeguard shipping priorities</i>	Focus on main shipping corridors to emphasize also those which may be wanted to be changed through IMO in the future due to environmental concerns, also more focus on flexibility / Shipping Traffic Management System
⇒ therefore maximum size to ensure that lanes are 'free' also for future development of ports	

- different prioritization of sectors on national level
- different planning horizons in national MSPs

d) Map

Figure 5: Planning Case South-East/ Central Baltic Sea.

*Remark: Due to practical layout issues different national terms and definitions are not reflected here. Instead, collective terms are used to obtain similar colour codes. Areas presented as **Offshore wind interest area** are in Latvian MSP research areas for wind power development, meaning priority research plots, non-conflicting with other uses and with good existing wind potential at the same time.*



3.4 CASE 4: Area around and east of Bornholm

Countries: Poland, Sweden, Denmark, Germany

a) Definition of planning issue(s)/ planning conflicts

- shipping corridors are not coherent, differing in width
- offshore wind farm permission areas on Middle Bank in Poland are crossed by shipping traffic (AIS-data show that ships go there) ⇒ in Polish draft for MSP area for shipping does not follow existing traffic (mismatch between actual AIS data and definition of MSP areas for shipping in Poland)

b) Which sectors are involved?

- shipping/shipping
- shipping/energy

c) Potential reasons

- different approaches for designating shipping areas (differing width)
- permission of offshore wind farms has been given without taking into account AIS data, licenses for offshore wind farms are in place/ have to be respected
- data issue (overall planning issue): outdated information, missing information, data issue particularly regarding cable data: status of several cables unclear

d) Map

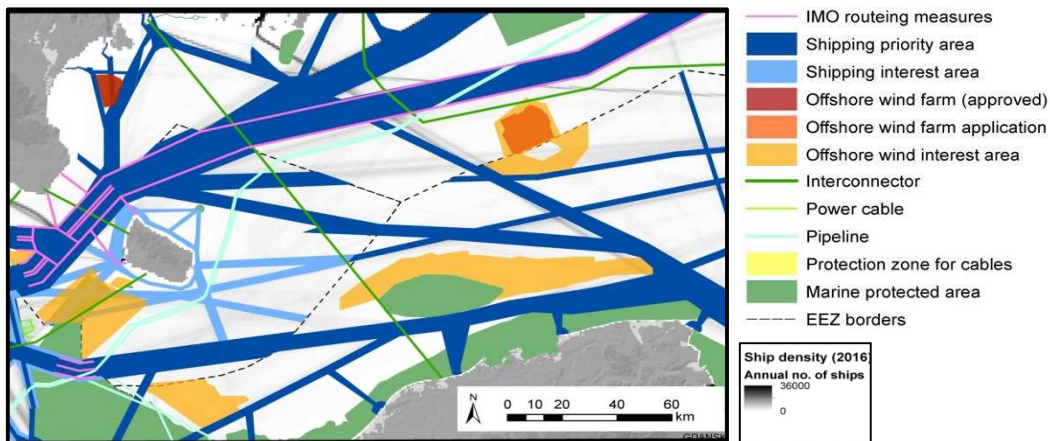


Figure 6: Planning Case Area around and east of Bornholm.

4. Towards planning solutions

For the above outlined planning cases suggestions for planning solutions have been developed. Discussions about possible planning solutions amongst partners came up with two different kinds of solutions: suggestions for solutions on a more general level and suggestions for case specific solutions. More general planning solutions have been considered and included in the practical guidance documents for the designation of areas for shipping and energy infrastructure in national MSPs under work package 4.4.

One notable outcome of the discussion was also that apparent planning mismatches in the map sometimes have a more symbolic character, but do not necessarily lead to planning issues in reality. For example, in planning case 3 Latvian shipping routes are not continued in the bordering Swedish area, what is a very obvious mismatch in the map. As there are no other spatial demands than shipping in the area so far, the incoherence in the map does not represent a real planning conflict at present. That's why, data should be interpreted carefully and planners have to decide whether there is a need for developing planning solutions in specific cases or not.

4.1 Suggested Solutions on a general level

- In general more coherence between national MSP processes / timeframes would help to prevent planning issues.
- As the timing of the national MSP (drafts) is differing and not aligned there is a special need for early consultation of national plan designations. It is recommended to provide maps for international consultation showing both designations of the country that is drafting the plan and data/ (draft) plans of the involved neighbouring countries. Such overview maps would facilitate the identification of potential transnational planning mismatches.
- One important reason for planning mismatches been discussed are different national MSP philosophies, for example differences between legally-binding plans and plans with a management character. Therefore it is necessary to get an overview of how MSP is implemented and what kind of planning criteria are applied in the different countries. The planning criteria report developed under work package 4.2 directly related to this suggested planning solution, as it describes national approaches.
- An explanation of calculation methods for width of shipping areas would also help to better understand and consider differing national approaches. A possible solution would be the application of one common approach for all BSR countries, but discussions amongst partners show that a common approach is practically impossible.
- According to different MSP approaches and different planning horizons (for example German approach of securing areas for potential future uses vs. more flexibility in Swedish plans), consideration of no-go-areas for shipping has been discussed. This means considering areas in MSP where shipping is not allowed at all to secure space for potential future area designations, e.g. for offshore wind energy installations.

- Another possible reason identified for planning mismatches are the differences in the strength of single sectors, especially shipping. Therefore a better balancing of sectors would be required. A stronger international competence or regulation for offshore energy installations would be desirable, as there is no international, IMO-like organization for energy.

4.2 Suggestions for case specific solutions

Discussions on case specific solutions focused on possible solutions for planning cases 2 to 4. Solutions on the first planning case, Area around Aland, have not been discussed during the partner meetings.

CASE 2: West of Saaremaa Island

Discussion/findings:

- The spatial overlap between the potential offshore wind farm area and the intensive maritime traffic is creating a critical transnational and cross-sectoral planning issue. For this reason a hazard analysis is needed to decide if the offshore wind farm can be build there, before the actual planning decision for the wind farm layout is taken. As the actual AIS traffic is passing over the left side of the wind farm, it is suggested to adapt the wind farm's extent to the spatial requirements for shipping.
- As an example, the possible practical solution to the planning issue presented can be based on the UK OREIs related safety of navigation guidance [UK, 2016] requirements. If the distance of turbine boundary from shipping route 1) is less than $< 0.5\text{nm}$ ($< 926\text{m}$) - intolerable, 2) is between $0.5\text{nm} - 3.5\text{nm}$ ($926\text{m} - 6482\text{m}$) is tolerable if the risk is being reduced to as low as reasonably practicable (ALARP) - additional risk assessment and proposed mitigation measures required, and 3) is more than $> 3.5\text{nm}$ ($> 6482\text{m}$) – broadly acceptable.

Reference: UK, 2016. UK Maritime and Coastguard Agency. *Safety of Navigation: Offshore Renewable Energy Installations (OREIs) - Guidance on UK Navigational Practice, Safety and Emergency Response.* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/502021/MGN_543.pdf

CASE 3: South-east/ central Baltic Case

Discussion/findings:

- Different timing of the drafts makes it hard to coordinate plans cross-border. For this reason it would be important to state the precise date in the draft plans and to inform each other as early as possible.
- During international consultation of draft plans only the national plans are shown, but not the plans/ designations of the surrounding areas. The suggested planning solution in the case

of mismatches between Swedish and Latvian shipping areas is to offer a map showing planning mismatches in the plans including the surrounding areas to get an overall view.

- One possible planning solution can be seen in the development of other areas than 'priority zones' for shipping area only. For example, reservation areas for shipping and/or avoidance areas for shipping could be designated in Swedish plans to reserve areas for Latvian shipping interest. It needs to be checked whether the suggested solution is legally possible.
- In case of future demands in Sweden for e.g. offshore wind farms that might affect Latvian shipping lanes, early consultation with Latvia and consideration of Latvian MSP is recommended.
- Also a positive example of consideration of neighbours' interest could be identified: Poland designated shipping lanes to safeguard Klaipeda port, as they know Lithuanian MSP.

CASE 4: Area around and east of Bornholm

Discussions/Findings:

- Partners discussed to check scenarios on port development, in particular to contact Kleipeda port for information on potential growth of Kleipeda port, in order to find out if there is a reason to designate areas in the Swedish sea for ships going to Kleipeda.
- With regard to the so-called "grey zone" a political agreement has been found between PL and DK to find common designations for this area. Problematic in this context might be the different stages in the MSP process of both countries.
- The interest area for OWF in Denmark should also consider traffic towards Kleipeda.

5. Conclusion

In the MSP draft phase still many cross-border mismatches can be found between designated ship corridors or between areas designated for shipping and energy. These mismatches often relate to different national approaches for MSP. Other factors are different methods for ship corridor designation or different application of planning criteria for the designation of offshore energy infrastructure. Therefore the planning criteria report under work package 4.2 includes a description of national MSP approaches and planning criteria for a better (transnational) understanding.

As an agreement on a common methodology for the whole BSR would be ideal, but is not feasible, Baltic LINES developed under work package 4.4 two practical guides for ship corridor and energy area designation in MSP to increase transnational coherency. Both the planning criteria report as well as the practical guidance documents can be seen as direct output of the planning issues discussion. In this respect the practical guides serve as planning solutions developed in Baltic LINES.

Lead partner



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