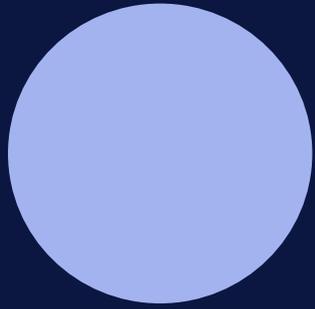


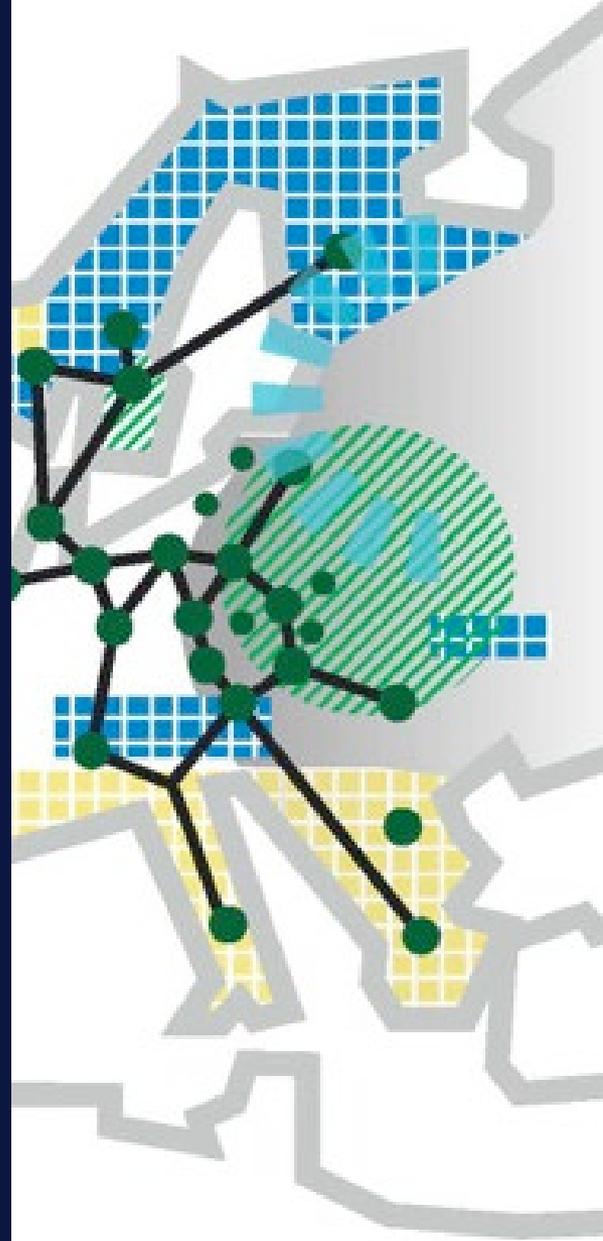
ESPON research

What territorial researchers can do for understanding and utilizing offshore energy potential

Marjan van Herwijnen – ESPON EGTC
Michaela Gensheimer – ESPON EGTC



Potential European Territorial Futures



Territorial foresight

What is territorial foresight?

- a framework to support participants in a structured forward way of thinking concerning territorial development

What is the added value of doing territorial foresight?

- Understanding territorial consequences of (im)possible futures
- Approaching complexity and uncertainty
- Creating a larger ownership
- Informing decision making

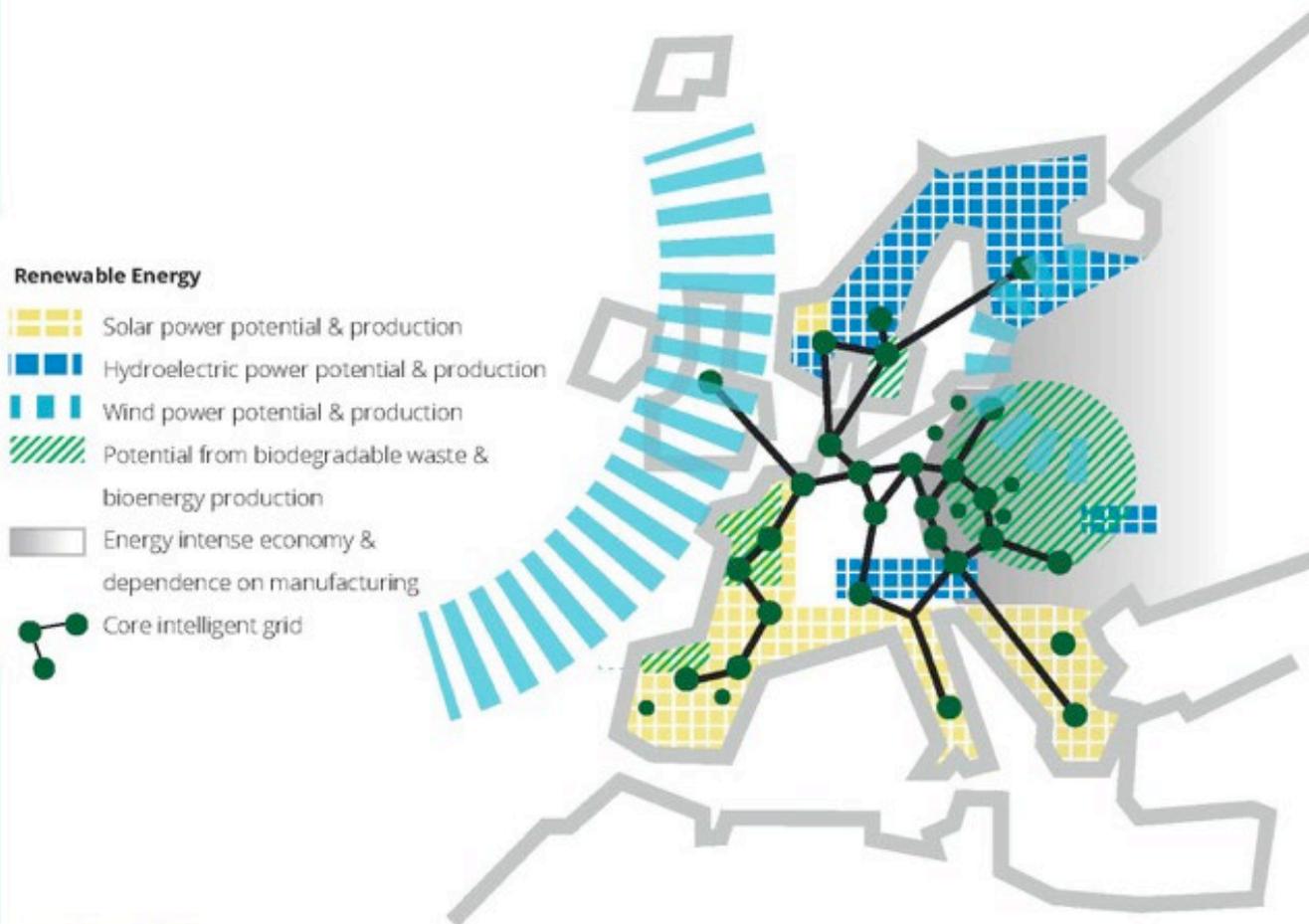
What could be the territorial consequences if Europe had a fully renewable energy system by 2030?

Three main components have been identified to address this question:

- Regional transport and mobility
- Reduction in energy consumption
- Regional renewable energy generation

Regional renewable energy generation

Renewable Energy: Integrated Place-based & Network-based Territorial Foresight



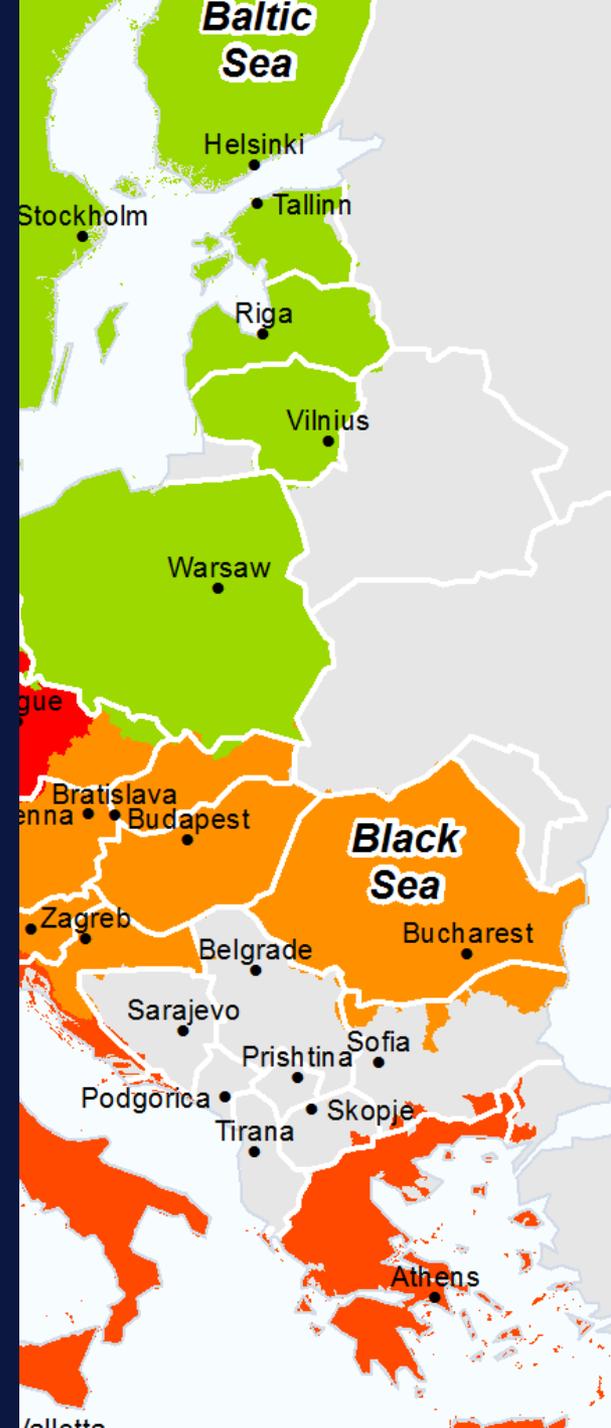
Guidelines for Territorial foresight

- Aims to **help practitioners to design their own successful territorial foresight process** by providing a multifaceted view of territorial foresight.
- Part A – a stepwise guide to the territorial foresight process developed and tested by the ESPON project
- Part B – a more general guide to co-creative foresight-oriented policy making
- Part C – a wider contextual framework useful for exploring territorial foresight

- See: <https://www.espon.eu/territorial-futures>

2

ESPON and MSP-LSI



Most relevant ESPON evidence for MSP-LSI

- **ESaTDOR** – European seas and territorial development, opportunities and risks (2013)
 - Mapped European sea use patterns
 - Analysed relationship between terrestrial and maritime planning

<https://www.espon.eu/estador>
- **MSP-LSI** – Maritime spatial planning and land-sea interactions (2019)
 - Developed general framework for considering LSI in MSP
 - Advocates “One space” approach to spatial planning
 - Analysed spatial footprint of maritime activities (inter alia offshore wind energy) and their ‘stickability’

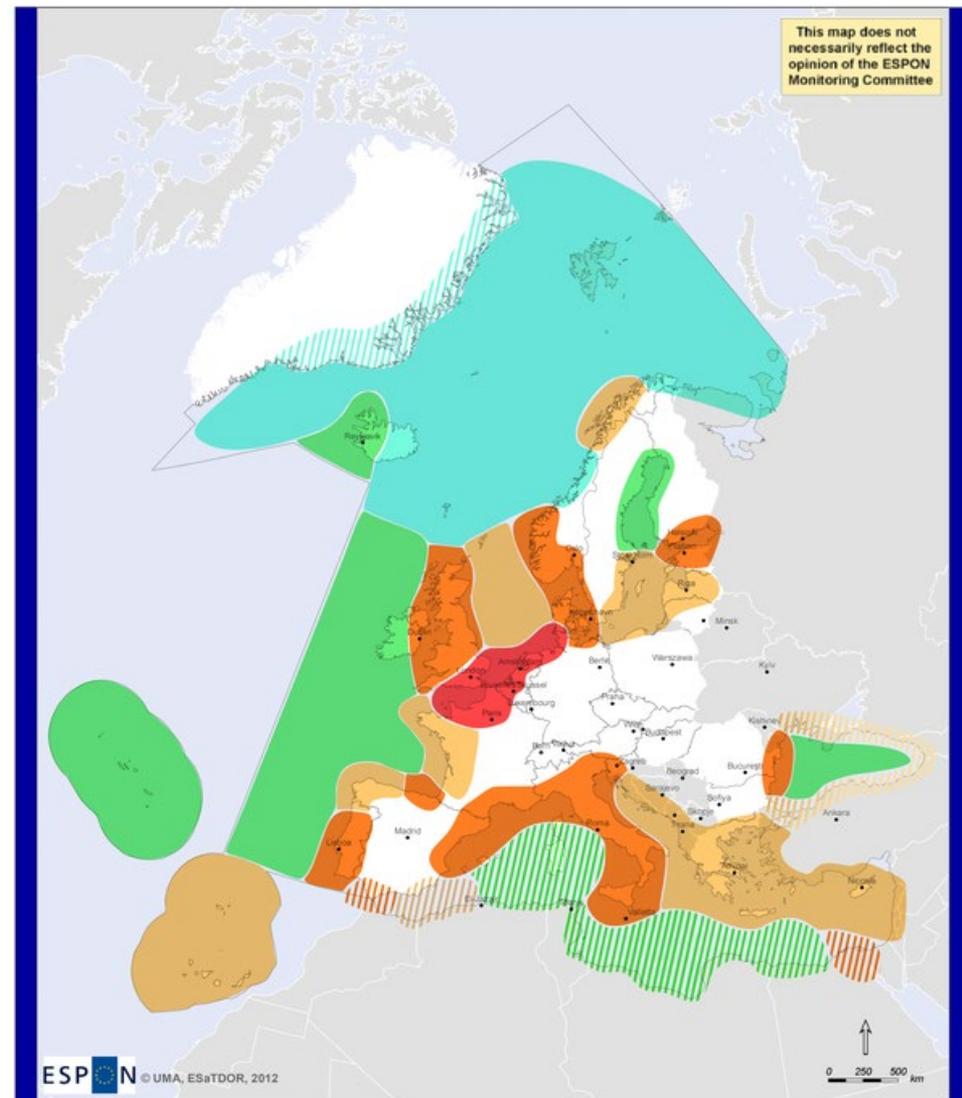
<https://www.espon.eu/MSP-LSI>
- **ESPON policy brief** – Maritime spatial planning and land-sea interactions (2019)

<https://www.espon.eu/brief-maritime-planning>

European maritime regions

Black Sea region considered as a “regional hub”, i.e.

- High maritime employment, significant economic importance;
- Nationally significant flows and some international connections, also on European scale to hinterland;
- Significant environmental pressures.



ESPON © UMA, ESaTDOR, 2012

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Thematic data: Typology Map, Economic Significance and Environmental Pressures Composite Maps
Land boundaries: © EuroGeographics Association and ESRI. Regional level: NUTS2.
Sea boundaries: OSPAR Convention, EU Integrated Maritime Policy and EEZ.

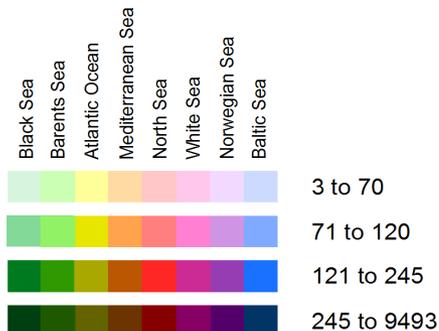
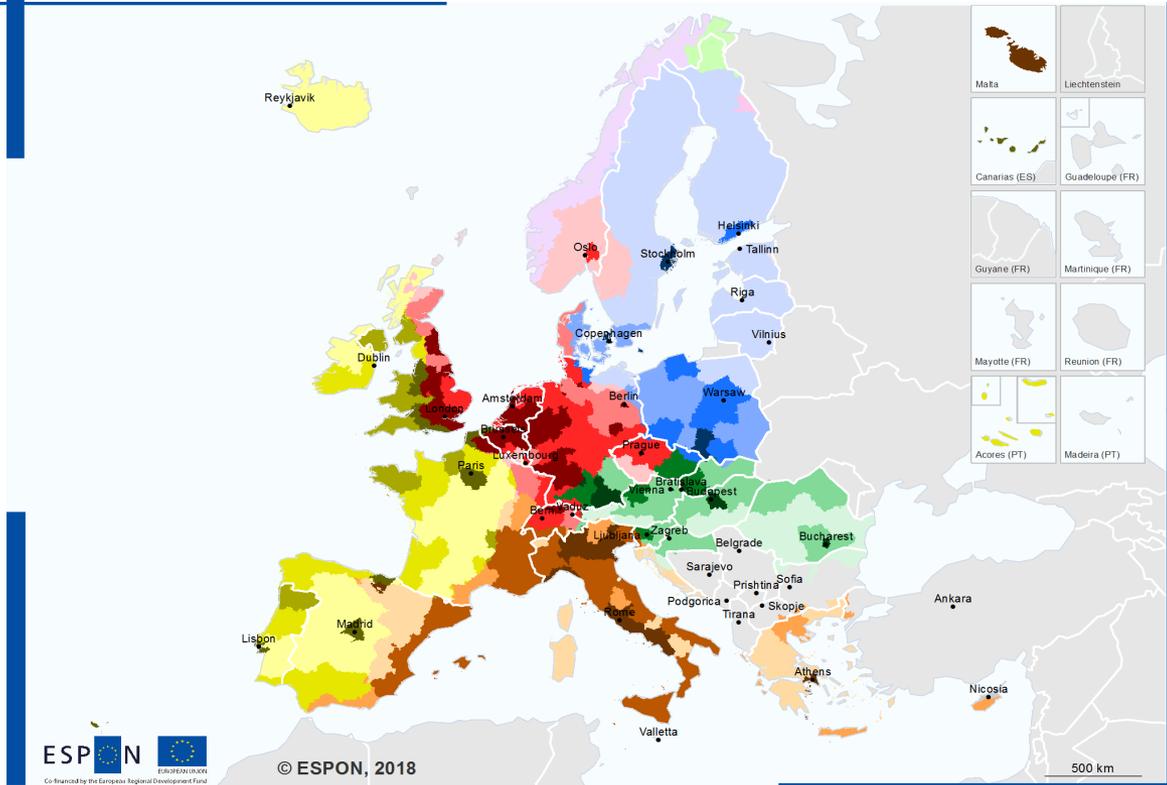
Regions derived from typology map

- European Core
- Regional Hub
- Transition
- Rural
- Wilderness
- Typology influenced by lack of data

This schematic typology map shows how Europe's coastal and maritime regions may be classified based on the intensity of land-sea interactions (economic activities, flows of goods, people and information and environmental pressures). These interactions are greatest in the European Core and at their lowest in the Wilderness.

LSIs go far beyond coastal strips

Population density per NUTS2 within catchment 2017 (persons/km2)



Territorial level: NUTS 2 (version 2013)
 Source: UMA, MSP-LSI, 2018
 Origin of data: Water catchments, UNEP; EUROSTAT, 2017.
 © UMS RIATE for administrative boundaries

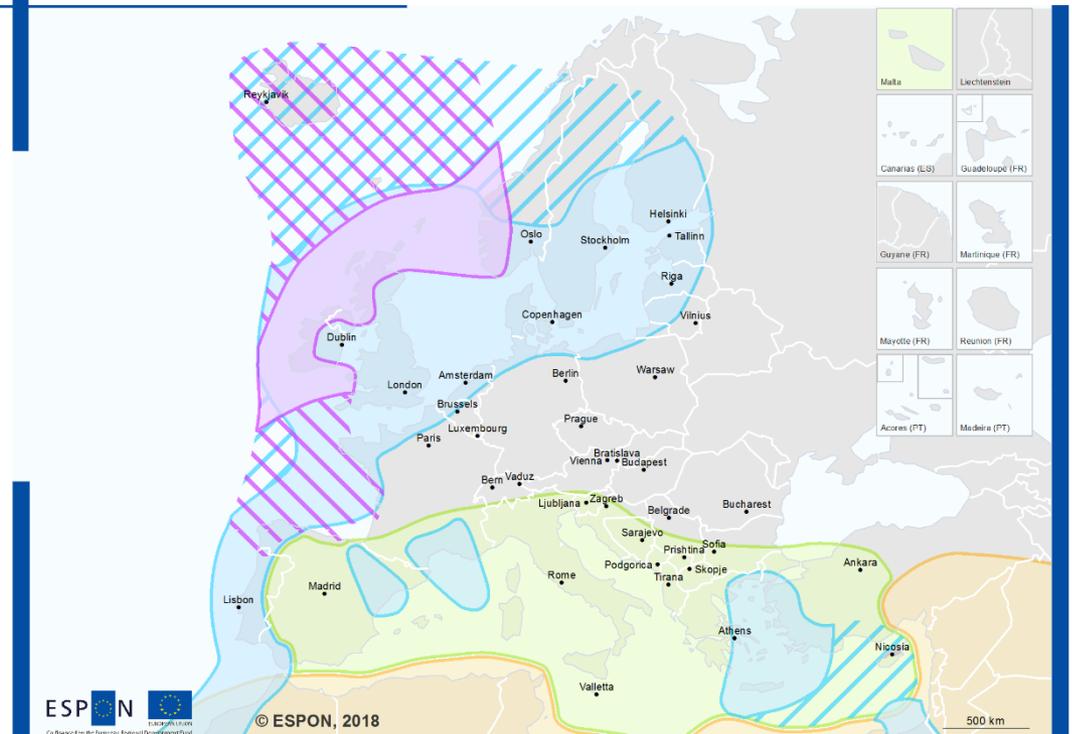
- All parts of the European territory are connected to a European sea.
- While a lot of land-sea interaction happens along the coasts, they extend much further across the European territory, linked to river catchment areas.
- The extent of these interactions indicates the need for a **more holistic planning approach** that considers land and sea as “one space”.

Renewable energy potentials in European sea regions (land & sea)

- As Europe seeks to decarbonize energy supply different European seas have different potentials to contribute to this agenda.
- Delivery of blue energy requires effective local partnerships between different stakeholders, public and private, on land and sea.
- Spatial impacts of such developments extend a long way from where the production takes place.

=> **An integrated “one space” approach can help reconciling potentially competing interests.**

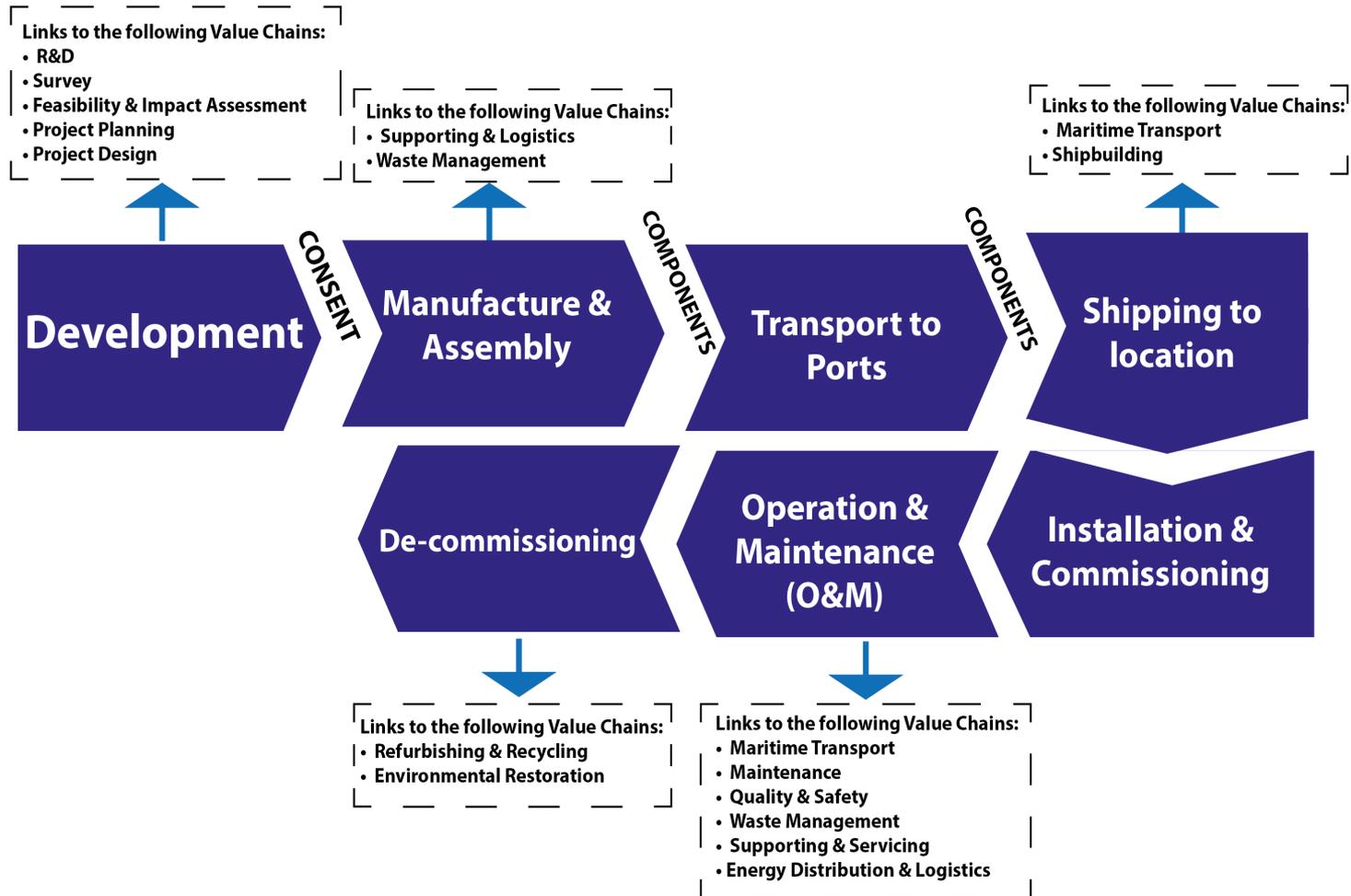
Blue Energy Typologies



- Orange: Predominance of solar energy
- Light Green: Combination of solar and wind energy
- Light Blue: Predominance of wind energy
- Blue Diagonal Lines: Wind typology influenced by lack of data
- Purple: Predominance of wave energy
- Purple Diagonal Lines: Wave typology influenced by lack of data

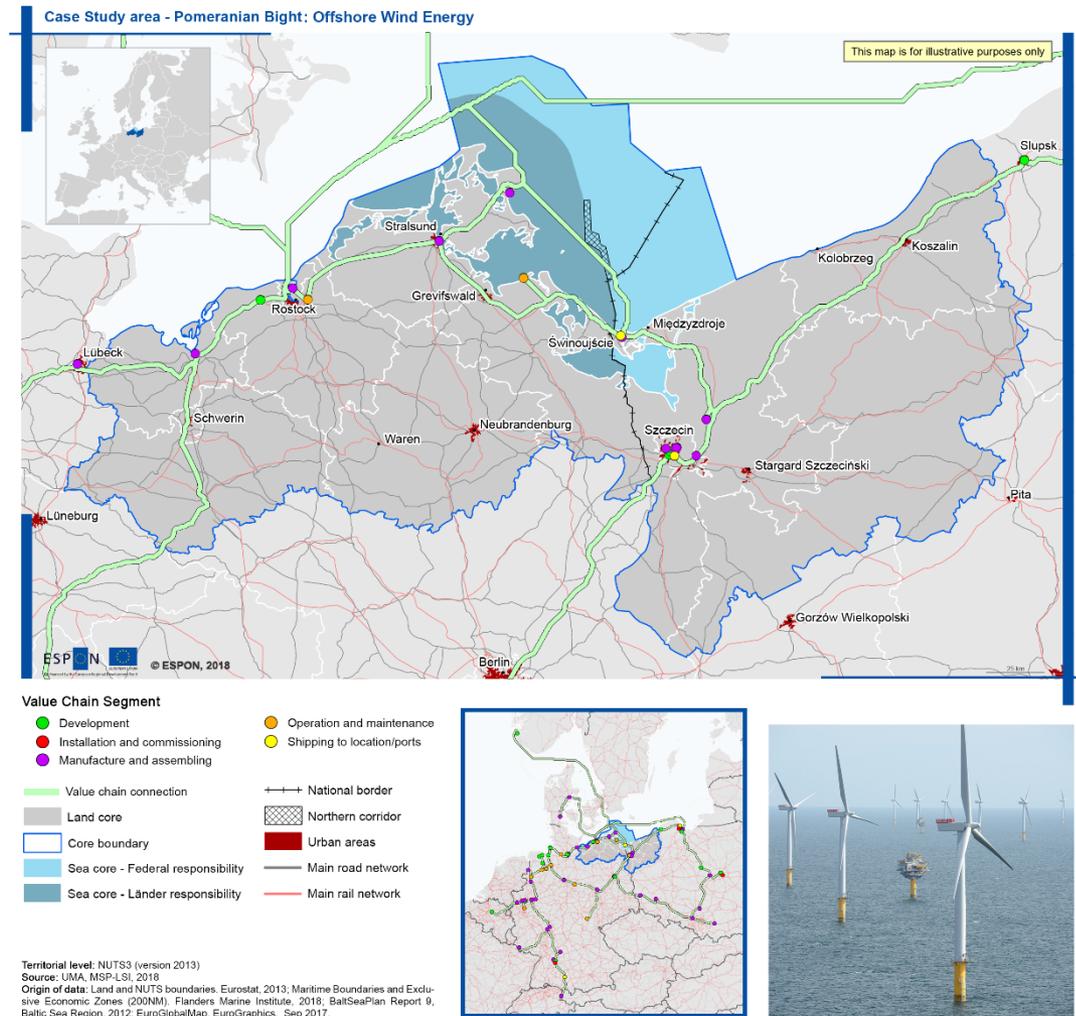
Territorial level: NUTS 2 (version 2013)
 Source: UMA, MSP-LSI, 2018
 Origin of data: UMA, 2014 (based on Aqua-RET Project, 2012;
 4C Offshore, 2014; and DESERTEC Foundation, 2009)
 © UMS RIATE for administrative boundaries

Offshore wind energy value chain



LSIs in offshore wind energy

- Coastal communities may derive some local benefits from offshore wind farm development, operation and maintenance. But the **local ‘stickability’ of economic benefits is often relatively low.**
- At the same time, **potential conflicts** related to this sector and perceived disbenefits may be **felt most by those living close to the coast.**





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Inspire Policy Making with Territorial Evidence

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Thank you!

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