

Università Iuav di Venezia

P L A N N I N G
C L I M A T E
C H A N G E LAB

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Maritime spaces: multidisciplinary approach (themes, disciplines, approaches and geographical scales)

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Università Iuav di Venezia



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Maritime spaces

A dynamic, multidisciplinary and vulnerable space.

Balance environmental, economic, social, cultural and recreational objectives, all within the limits set by natural dynamics.

'Integrated' means integration of all relevant **policy areas, sectors, and levels of administration**. It means integration of the **terrestrial and marine components** of the target territory, in both time and space.



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Multidisciplinary



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Multidisciplinary



Fisheries



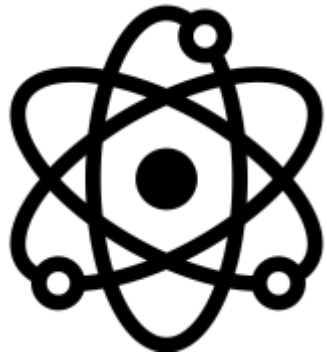
Sociologists



Jurists



Planners



Scientists



Policy Makers



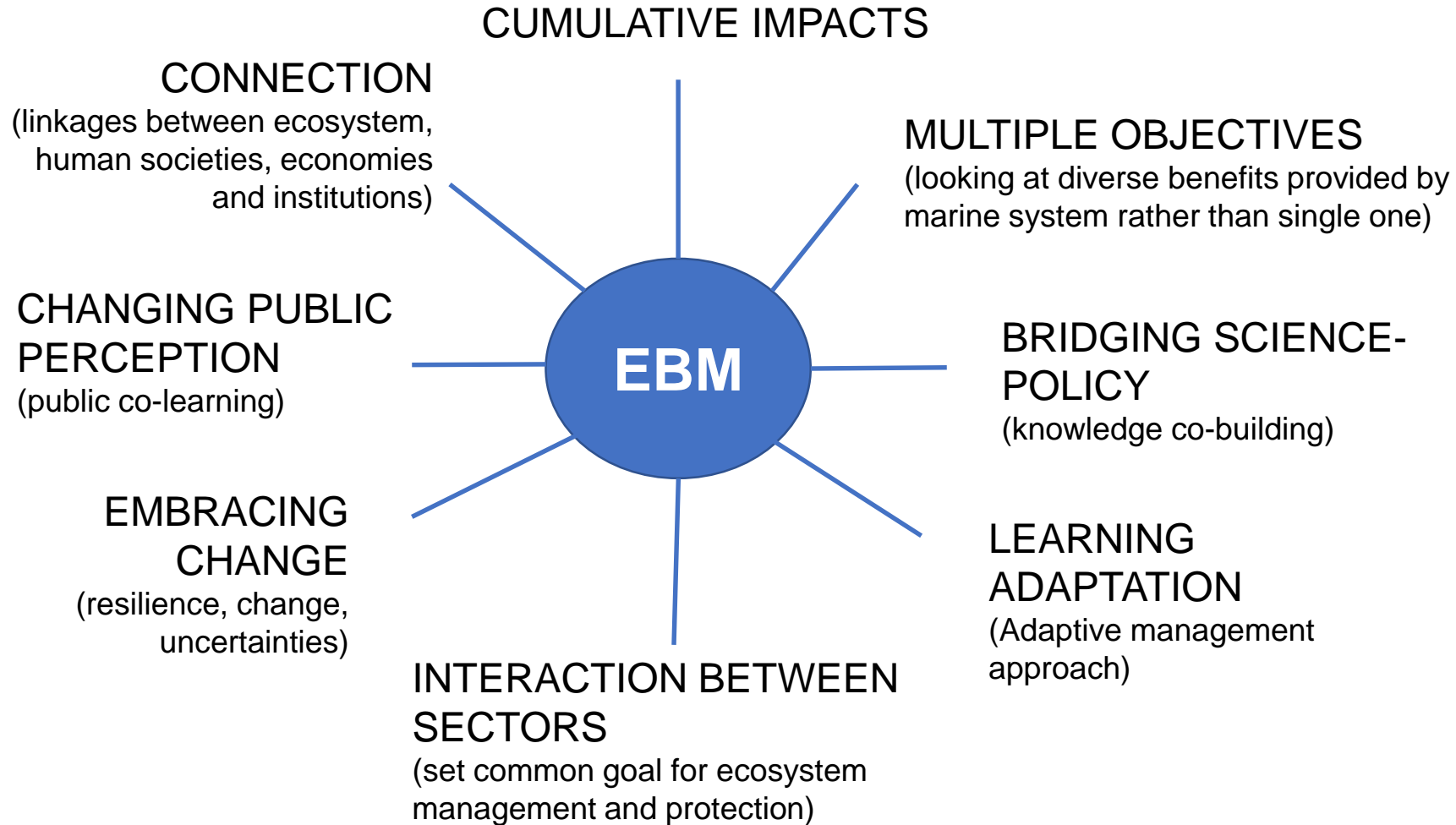
Academics



Politicians



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EBM

Based on McLoad & Leslie, 2009



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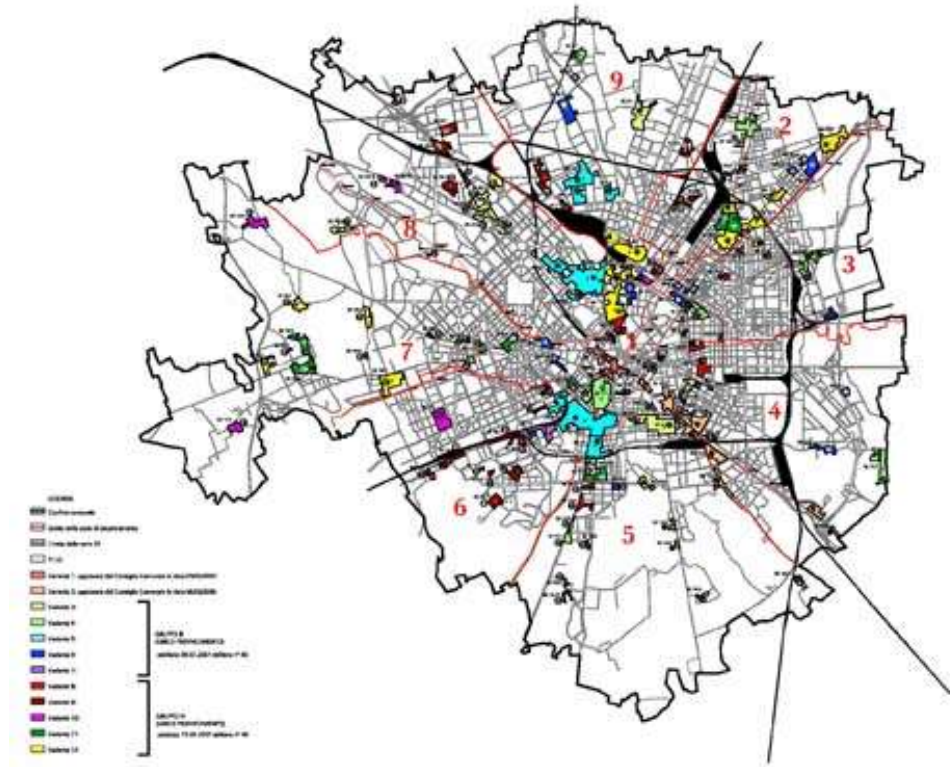
New planning challenges

Maritime Spatial Planning

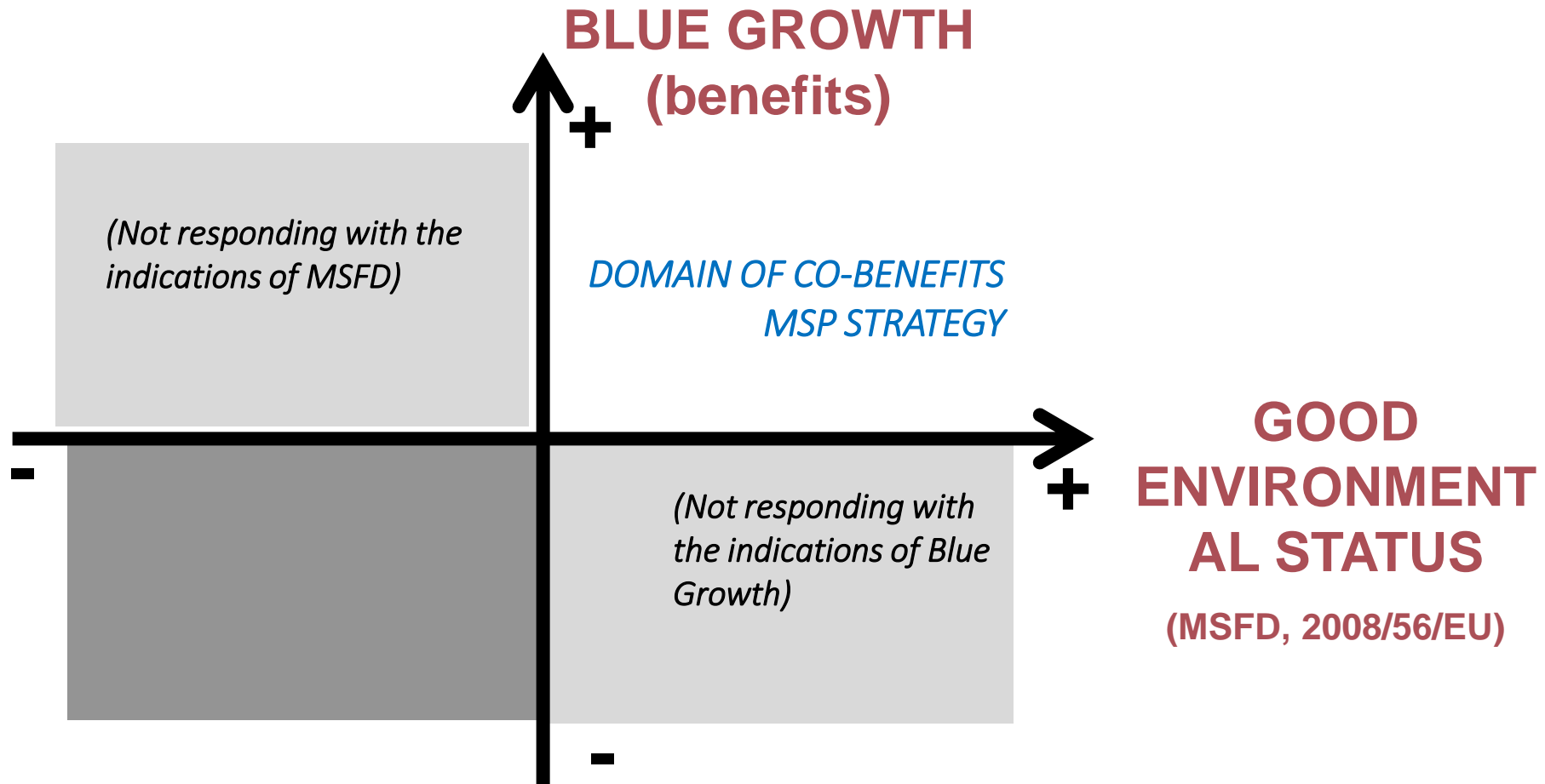


- Concessions
 - **Three Dimensions**
 - Sea as borderless
 - Problems in defining boundaries
 - Integration with other systems
-
- Private properties
 - Bidimensionality
 - Solid elements
 - Defined boundaries
 - Integration with other systems

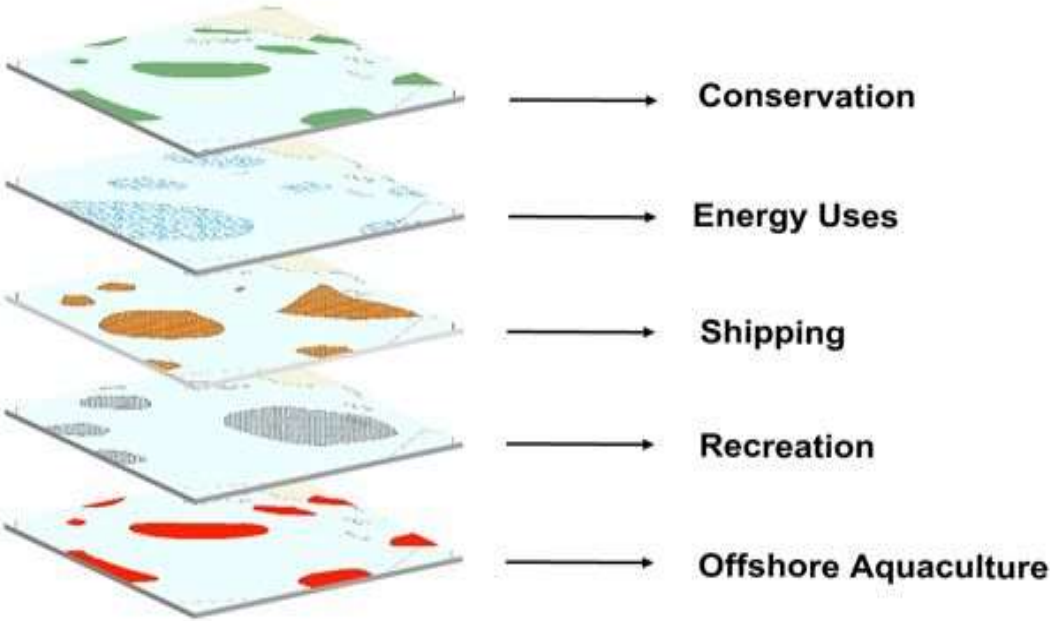
Land/Urban Planning



MSP and Blue Growth

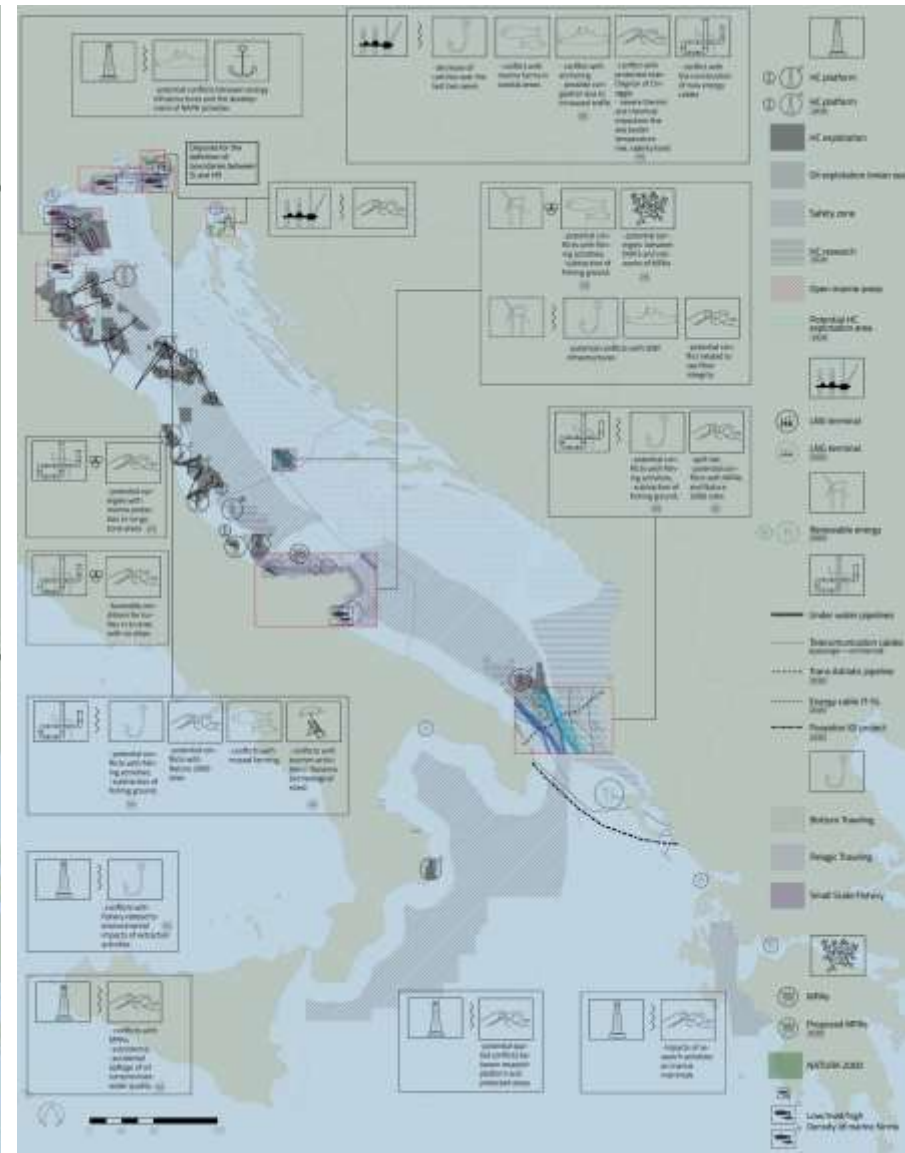
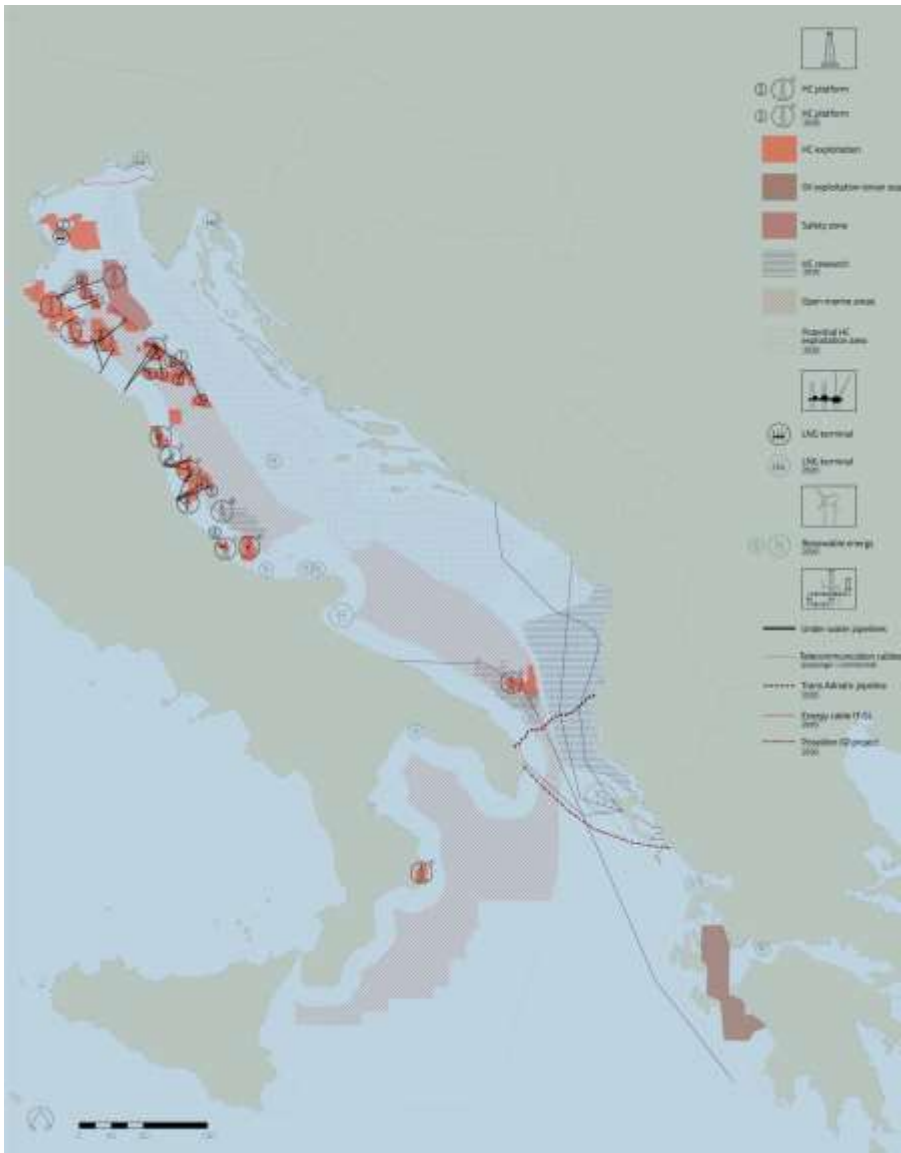


Outputs

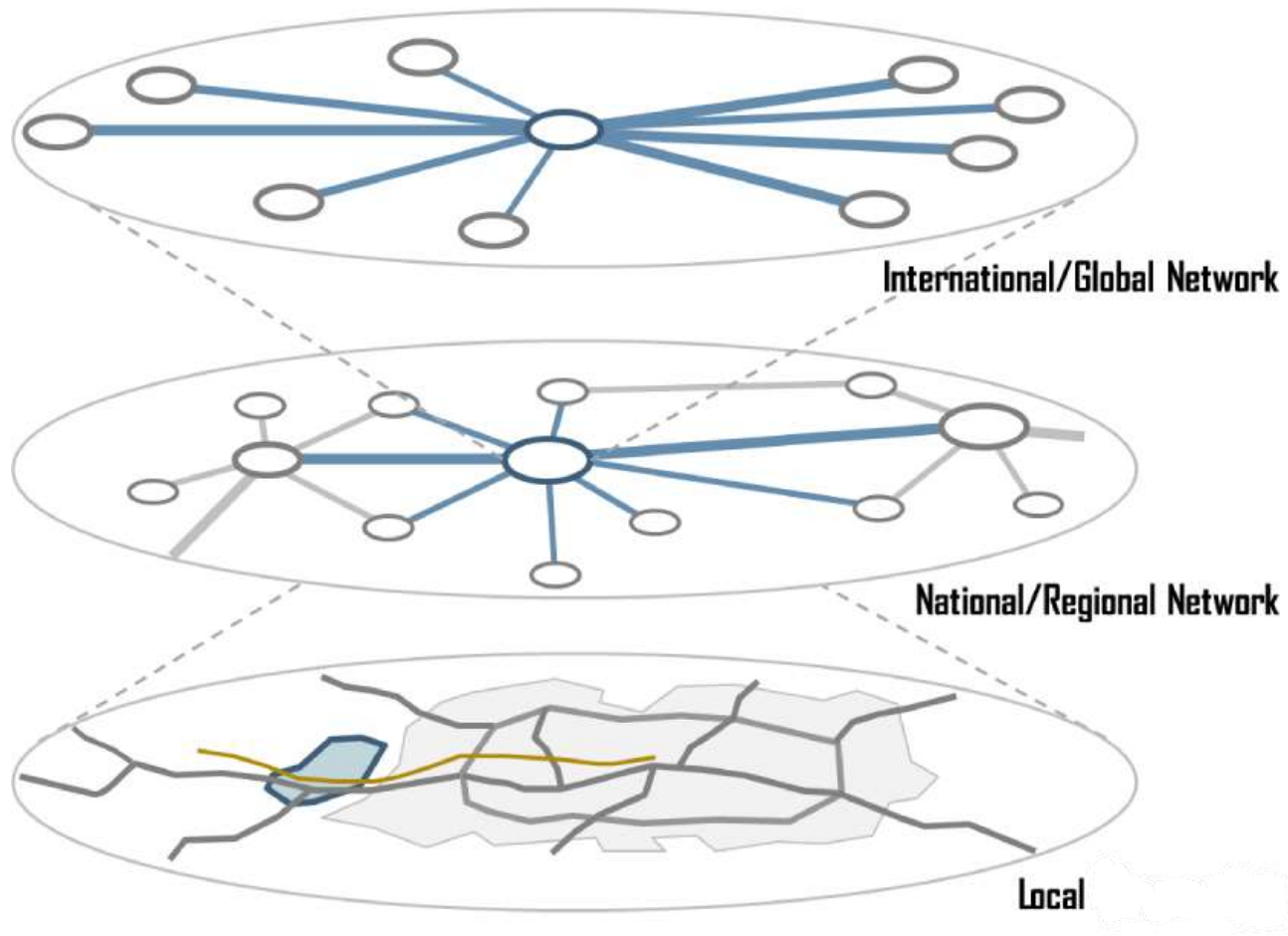


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Informative Levels



Geographical Scales



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Land-Sea and Sea-Land Interactions

SEA LAND INTERACTION

Economic activities / natural phenomena at "sea" interacting with "land"

SPECIFIC HUMAN ACTIVITIES

- Aquaculture in seawater
- Fishing
- Mining activities from seabed (including sand and marine aggregates mining)
- Industry (systems, including off-shore desalination, CO₂ capture and storage)
- Energy industry (offshore (oil and gas) energy, offshore renewable energy (wind, waves, surge))
- Infrastructures (ports, civil works of marine / coastal engineering [artificial reefs, breakwaters, etc.]
- Submarine cables and pipelines
- Maritime activities in general, including dredging and storage of materials
- Maritime transport (maritime traffic, commercial, including ferries)
- Tourism and cruise boat
- Recreation and Sports
- Biotechnology
- Marine Protected Areas (MPA), Biological Protection Zones (BPZ) (and in general 'area based management tools, including marine protected areas')⁴
- Defence and security

GENERAL HUMAN ACTIVITIES

- Waste (marine litter)

NATURAL

- Extreme events (storms, heavy tides, tsunami)
- Sea Level Rise (global and local)
- Risks to coastal areas (coastal erosion, marine flooding and saline intrusion)
- Algae bloom
- Volcanic and tectonic activities

LAND SEA INTERACTION

Economic activities / natural phenomena at "land" interacting with "sea"

SPECIFIC HUMAN ACTIVITIES

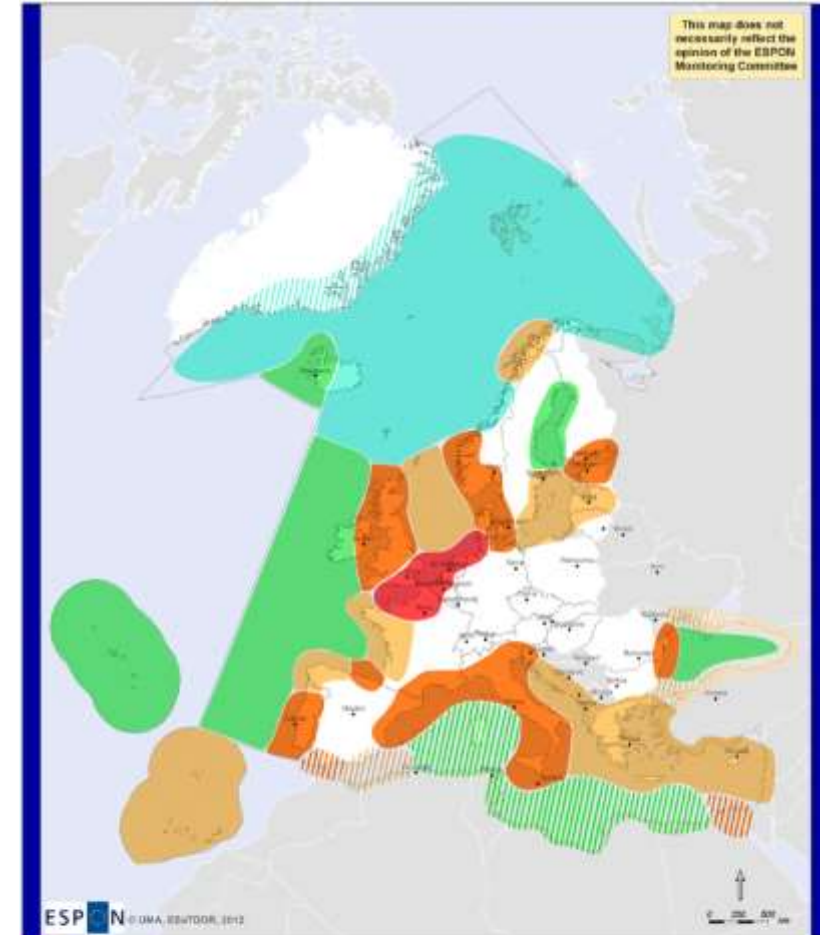
- Coastal and lagoon Aquaculture
- River and lagoon fishing
- Natural resource use (water abstraction, removal of aggregates (quarries))
- Farming and livestock farming
- Industry (food, manufacturing, on-shore plant, including desalination plant, CO₂ capture and storage)
- Energy industry (onshore energy (oil and gas), onshore renewable energy (wind, sun, geothermal))
- Infrastructures (river ports, including dredging activities, engineering work, including dam, bridges, remediation activities, railways and roads)
- Port activity
- Transports (river transport, road and rail transportation)
- Tourism, Sports and Recreation activities (i.e. bathing stations, touristic facilities)
- Biotechnology
- Natural Protected Areas (Nature reserves, National Parks, Regional Parks, etc., on-shore or with off-shore boundaries)⁵
- Defence and security

GENERAL HUMAN ACTIVITIES

- Urban plants (including pollution of water bodies that collect waste water)
- Waste
- Services network (i.e. sewage systems)

NATURAL

- Soil erosion (leaching, wind action)
- Natural subsidence
- Hydrogeological instability (including landslides)
- Transport of river sediments
- Flooding
- Volcanic and tectonic activities



ESPON
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Regions derived from typology map

- European Core
- Regional Hub
- Transition
- Rural
- Wilderness

Typology influenced by lack of data

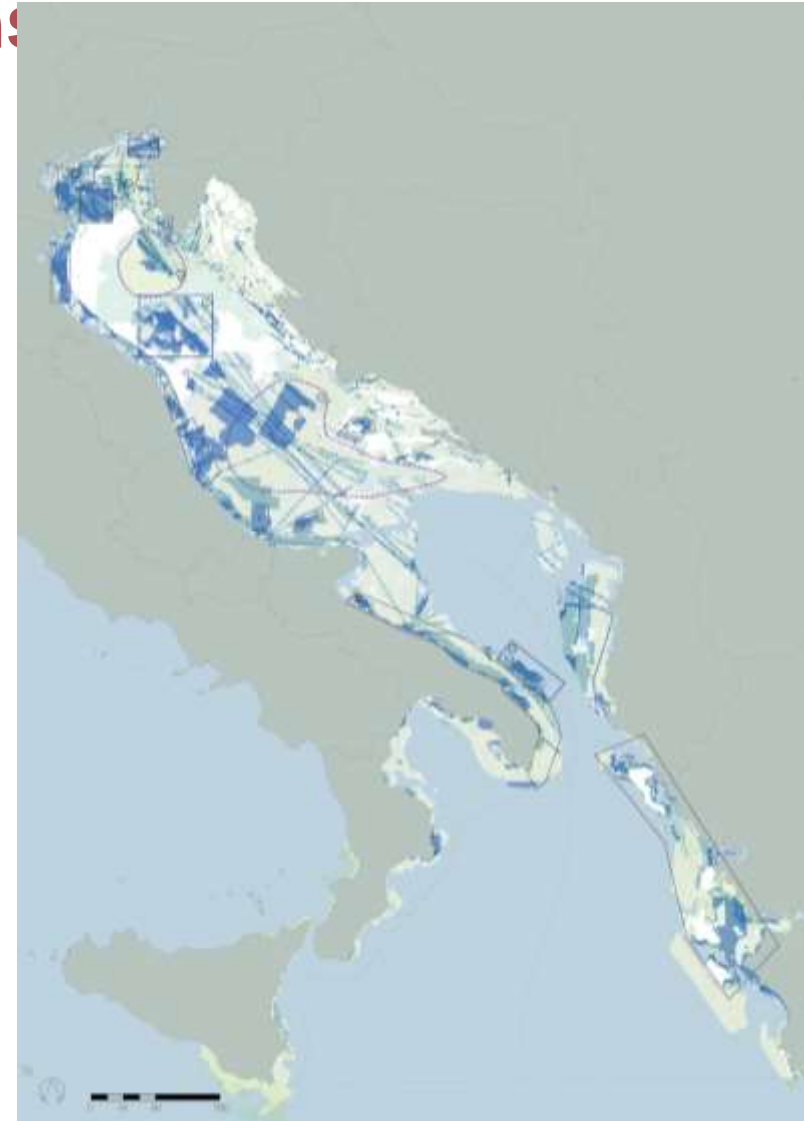
This schematic typology map shows how Europe's coastal and maritime regions may be classified based on the intensity of land-sea interactions (economic activities, flows of goods, people and information and environmental pressures). These interactions are greatest in the European Core and at their lowest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

Land-Sea and Sea-Land Interactions

Size and Scale Matter



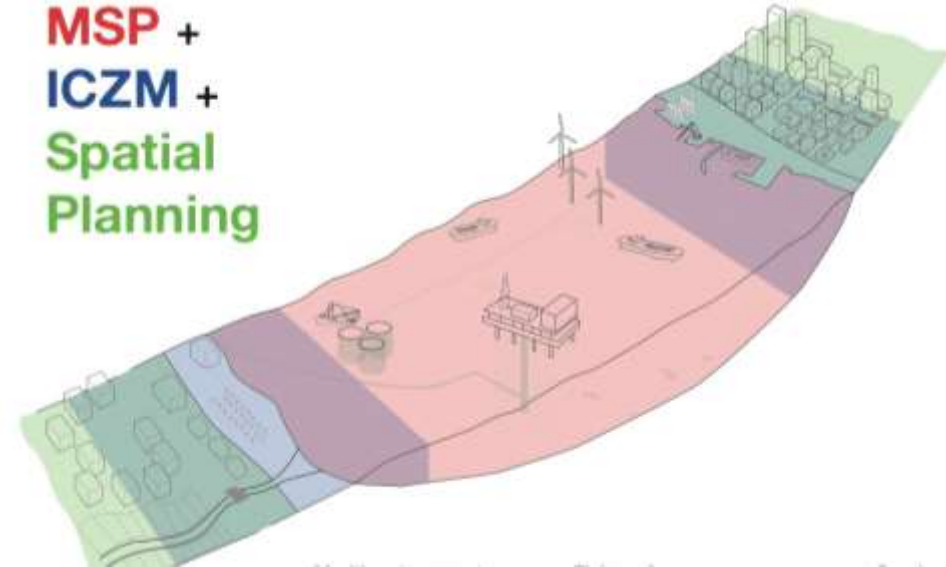
Which is the proper buffer for LSI?



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Transect planning approach (TPA)

- 1) Derives from the environmental & sustainable planning approach;
- 2) Supports spatial interaction in the *hot spots* issues of LS interface and related planning realms;
- 3) In the public participatory process can favour comprehension of local interactions in terms of uses, impacts, synergies ... in the different plans;

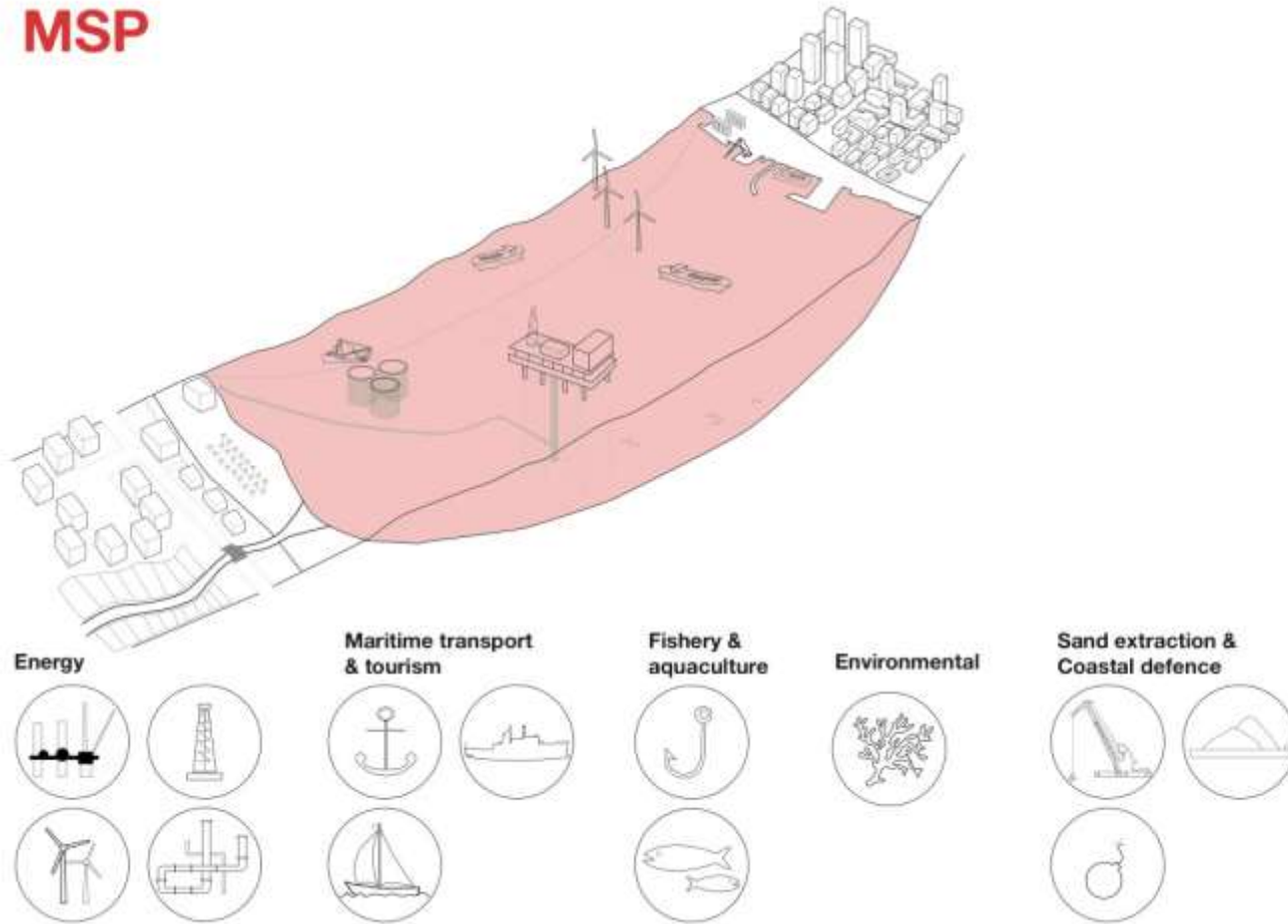


- Pointing out **spatial interaction**
- Linking *actions portfolios* included in different planning tools/realms
- Usable despite the “borders” of competences and jurisdictions



Land-Sea and Sea-Land Interactions

MSP



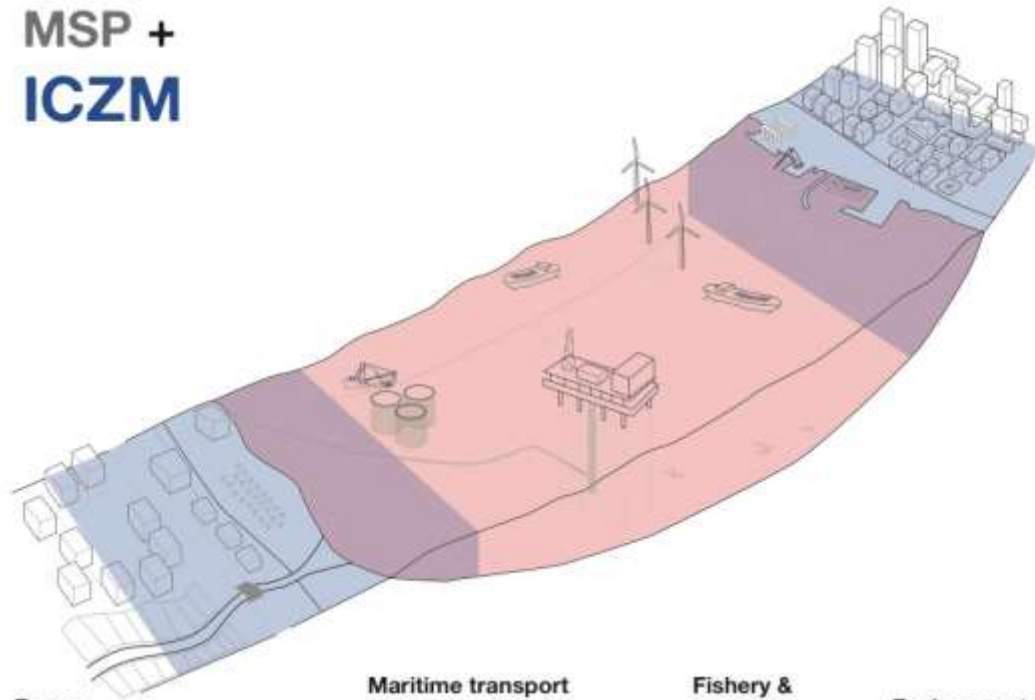
→ **LSI buffer** can vary accordingly the kinds of interactions/uses taken into consideration



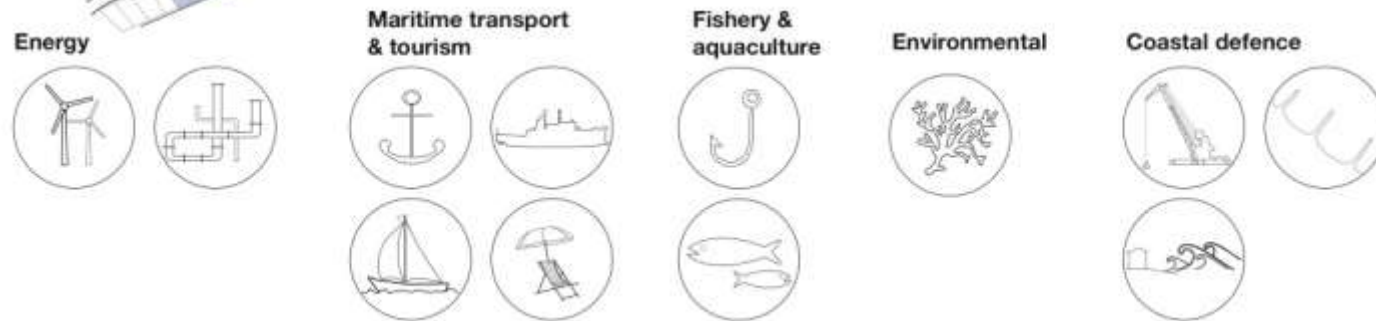
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Land-Sea and Sea-Land Interactions

MSP +
ICZM



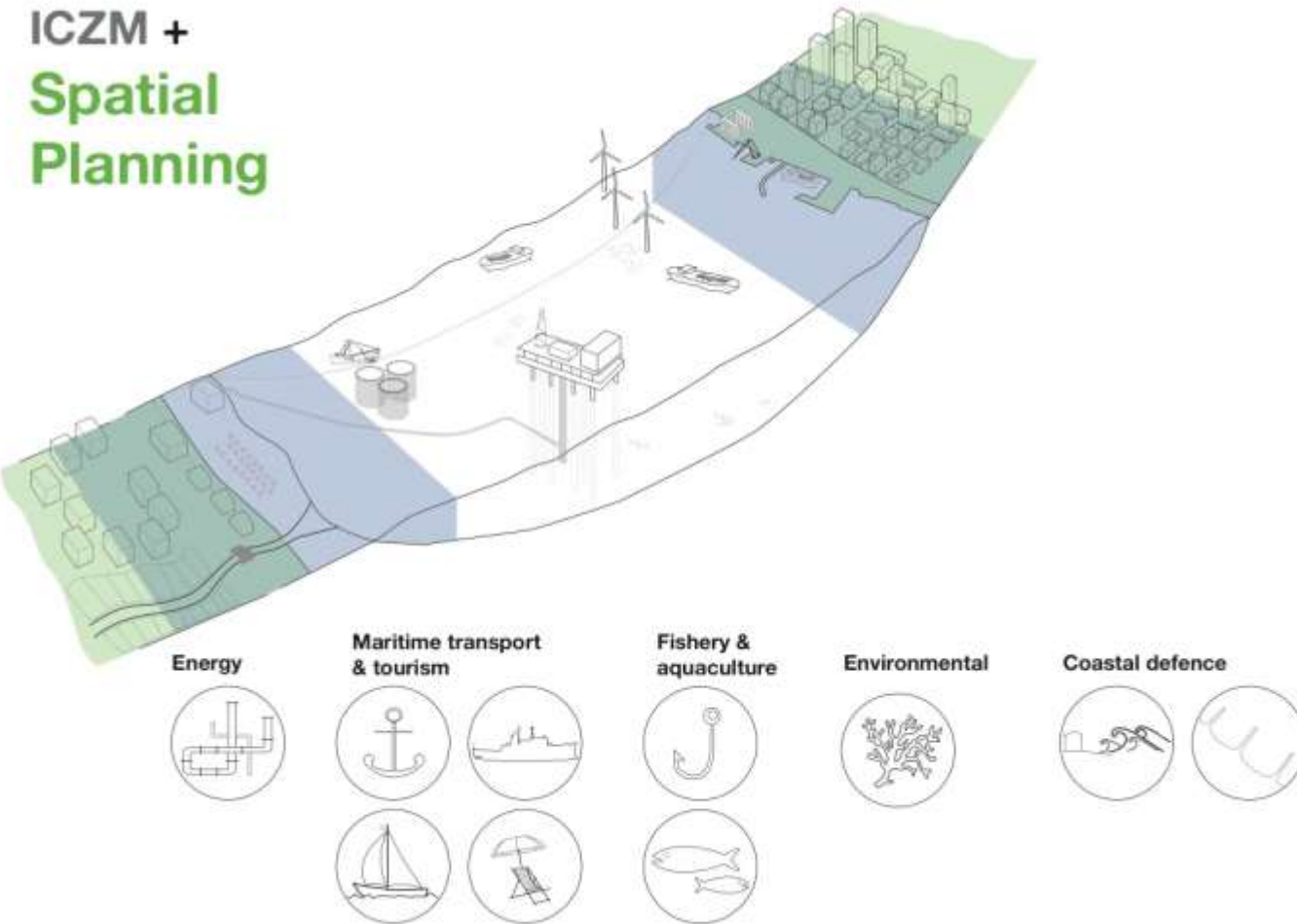
→ **ICM/CZM** plans are not compulsory everywhere (voluntary based in different EU countries)



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Land-Sea and Sea-Land Interactions

ICZM + Spatial Planning



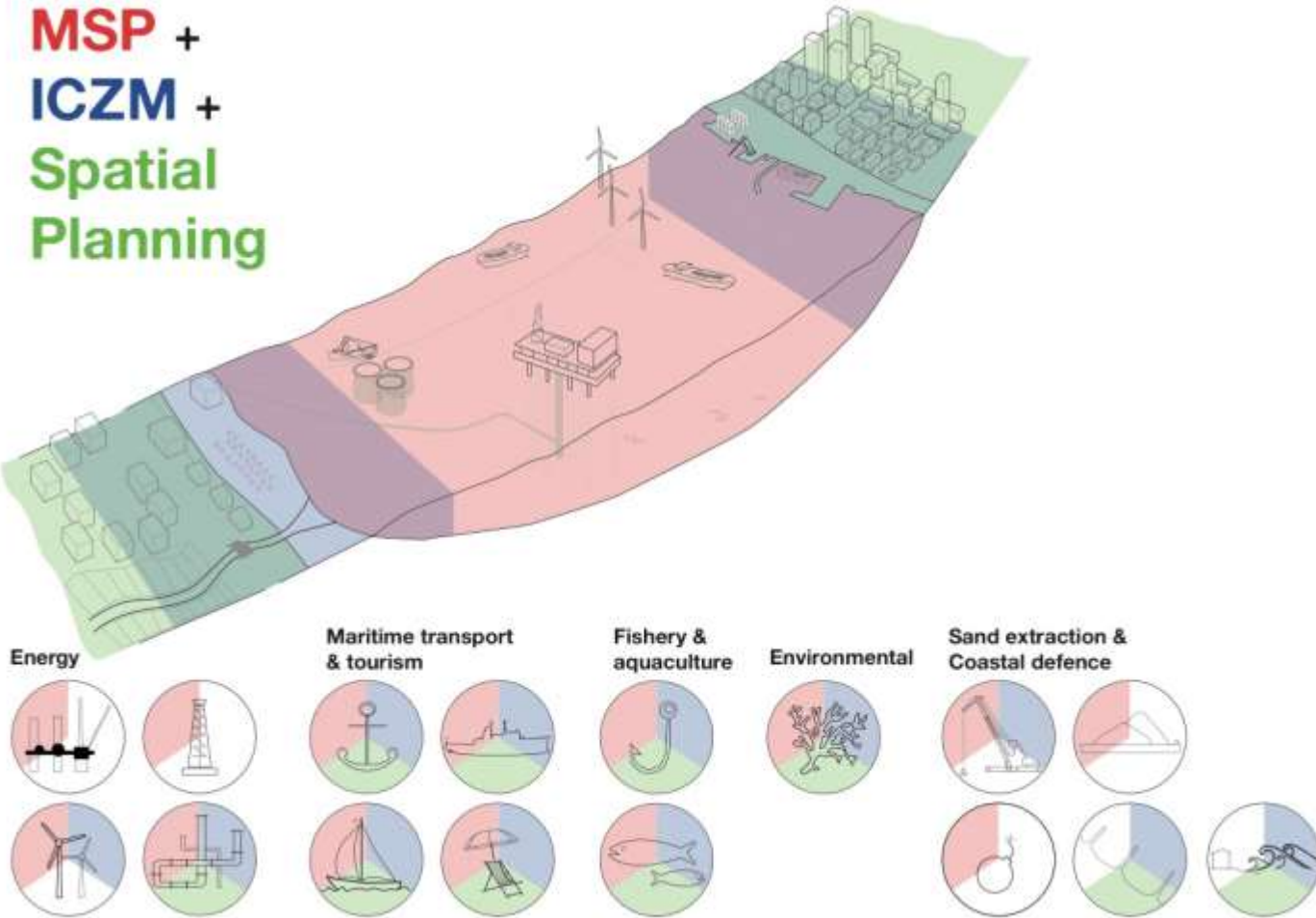
→ Instead a kind of coastal planning (mainly regional) is operating in all Mediterranean countries: linking MSP to local compulsory planning



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Land-Sea and Sea-Land Interactions

**MSP +
ICZM +
Spatial
Planning**

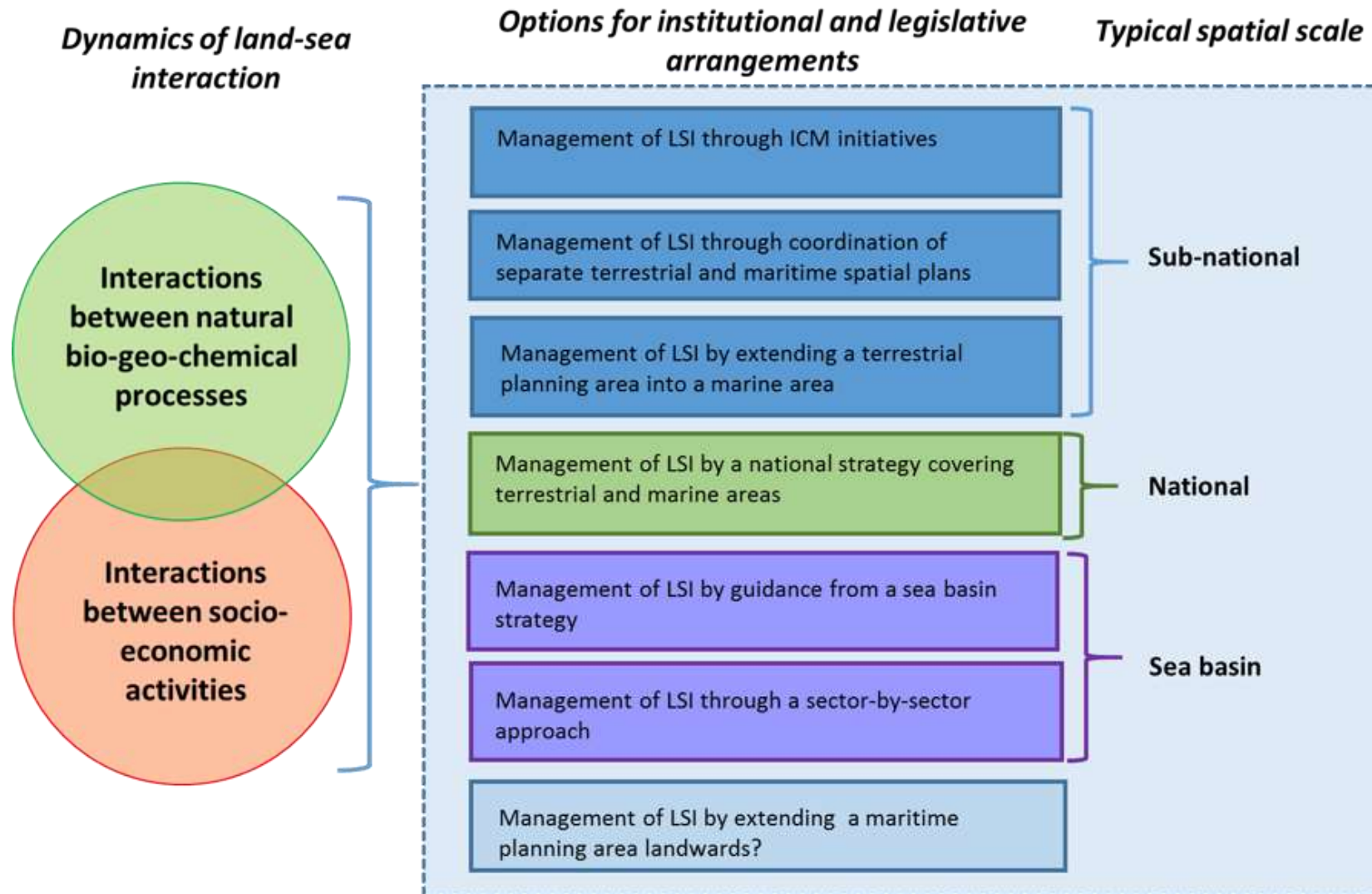


→ At least a three level interaction is expected in LSI accordingly the TPA for proper managing of uses-functions/environmental impacts



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Land-Sea and Sea-Land Interactions





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