WORKSHOP

ENERGY & SPACE

Overcoming the challenge of limited space to achieve a decarbonised energy system

Renewables Grid Initiative

Co-funded by the European Union

Learn more about the Workshop on our webpage

PANEL 2

Panel Discussion

Applying a holistic system approach to spatial planning – on land and at sea

Cristina Simioli
Programme Manager – Offshore Energy and Nature
RGI

MODERATOR

Francesco Celozzi
LTP Senior Specialist and ONDP Project Manager
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Salvador Bayarri
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Stefania Charisiadou
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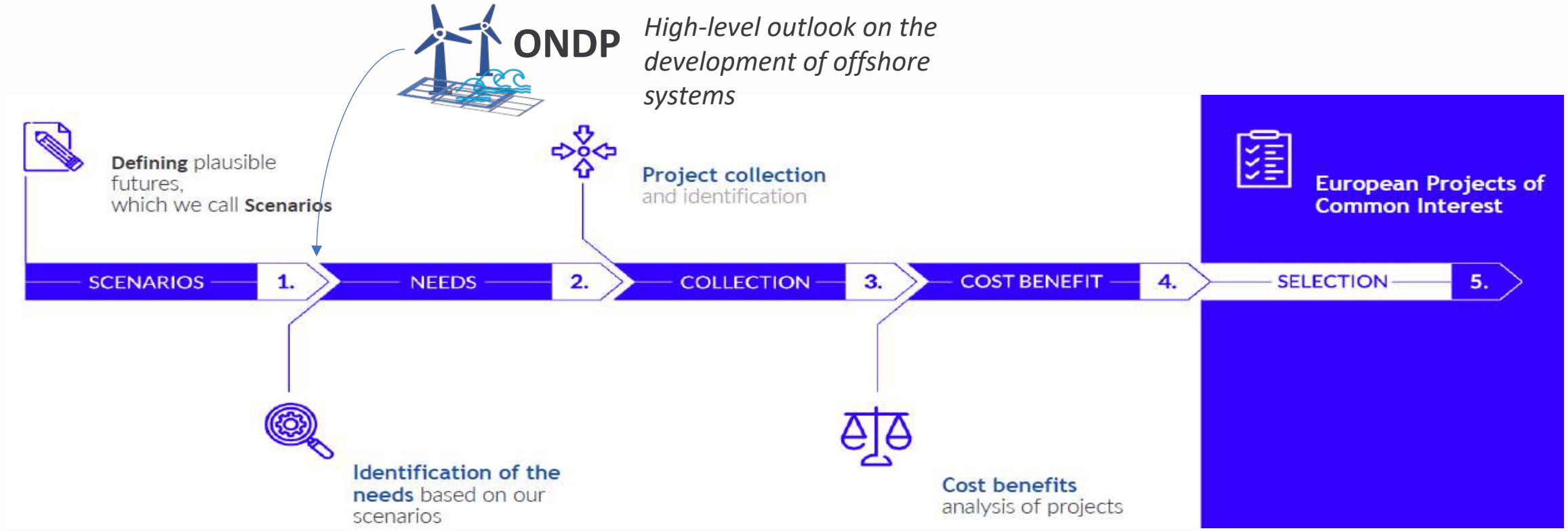
Offshore Network Development Plans and the TYNDP

The ONDP are a separate product, but still part of the TYNDP. Therefore, the offshore plans will be developed in coherency with the TYNDP 2024 package.



The ONDP will be further integrated in the TYNDP development in the future editions

How is it done?

Data gathering

1

- Data gathering at national level
- Comparison of generation data with MS targets and adaption if needed
- Maritime Spatial Plans
- Offshore modelling nodes and potential transmission links
- TYNDP 2022 model preparation

Modelling

2

- Expansion modelling 2040 and 2050
- Internal feedback loop with national experts
- Adaptation of the inputs based on feedback

Post processing & drafting

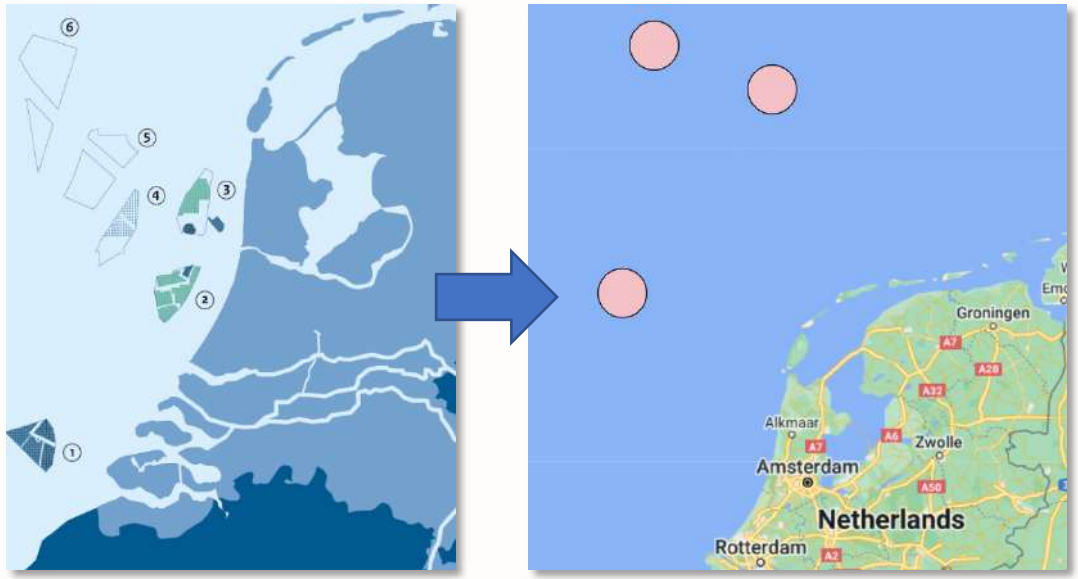
3

- Definition of 2030 system based on databases
- Definition of transmission corridors based on modelling results for 2040 and 2050
- Verification of environmental constraints and potential conflicts with other sectors (MSP)
- Drafting of Sea Basin reports

ONDP and Maritime Spatial Planning

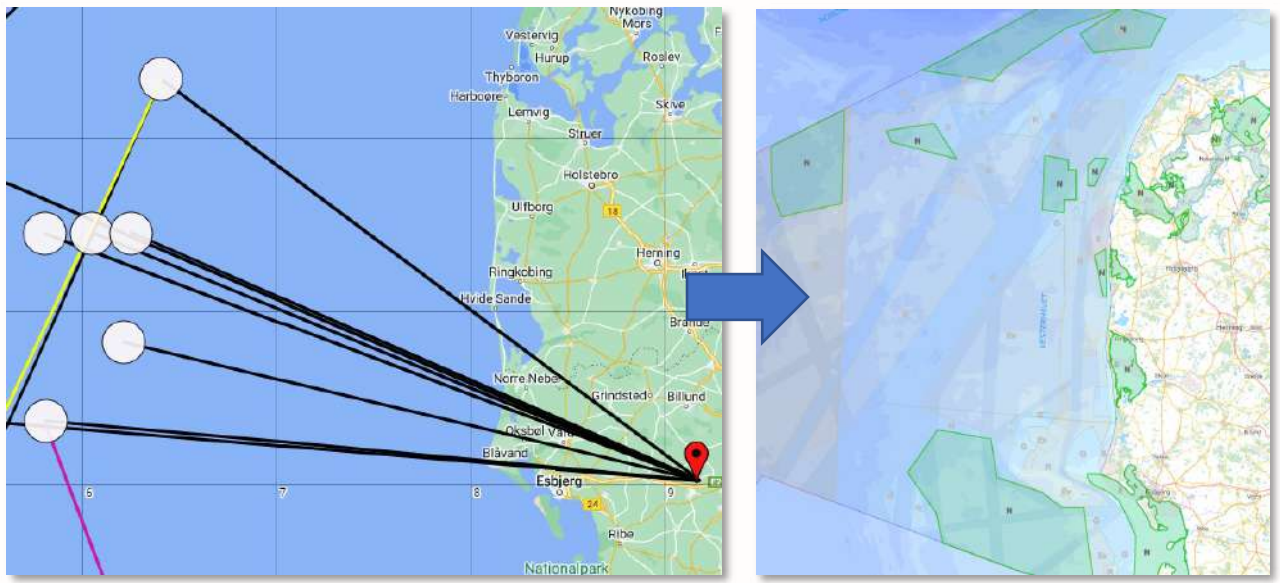
MSP is the first source for spatial information in the ONDP. Based on MSP location of offshore nodes are defined and results of the modelling post processed.

MSP in the step 1



Example of how Netherlands MSP info has been translated into the locations of the aggregated capacities (to be connected through hybrid) to be modelled in ONDP, for the Dutch waters.

MSP in the step 3



MSP is the first source of info to protect the maritime environment and avoid clashes with other interested sectors. Transmission corridors will be assessed and potentially adapted to consider MSP data on environment and other sectors

High level reports require high level communication

- Reports will not go into details, any existing plans/ projects will not be questioned.
- This is a non-binding high level exercise based on non-binding targets.
- Visual representation of the results, per sea basin, and information on e. g. ranges of
- Line lengths per cable type; number of offshore substations, onshore substations, other transmission assets
- Above information translated into CAPEX per asset type
- Relevant input assumptions will be included as well.
- Along with the ONDPs, a methodology document will be published, describing what you have seen today, and what is further developed until then.

Thank you!

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entsoe
Reliable Sustainable Connected

Find also our position papers at our dedicated offshore page:
ENTSO-E's views on offshore development (entsoe.eu)

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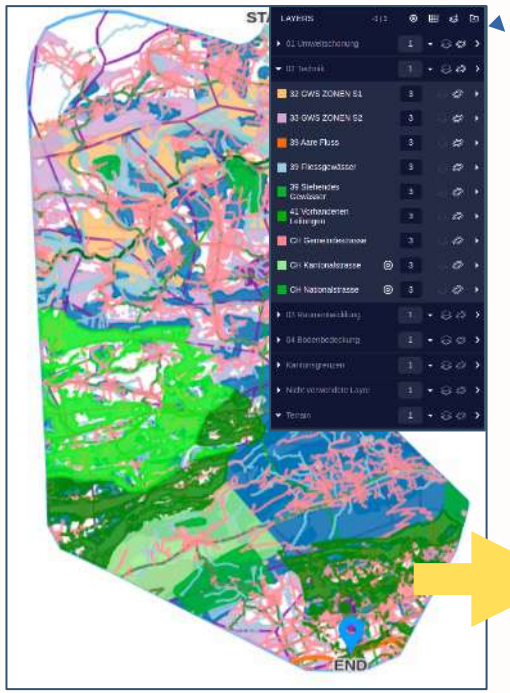
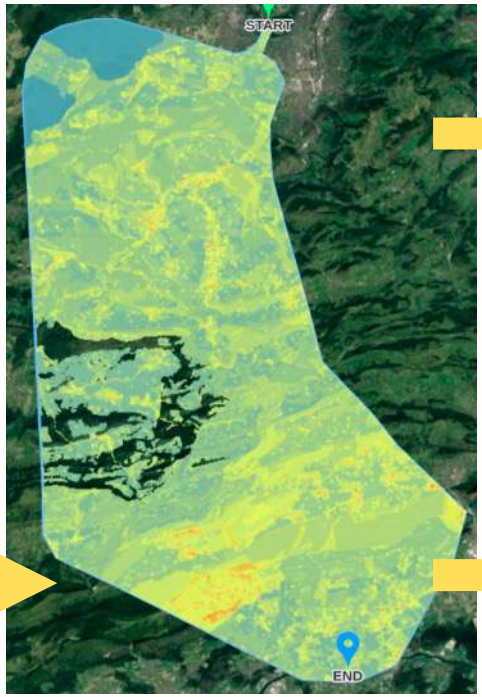
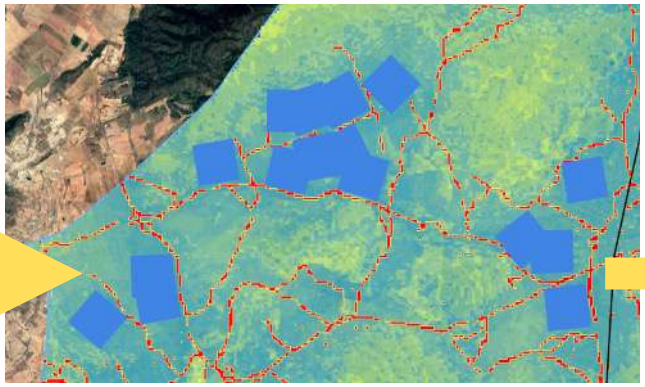
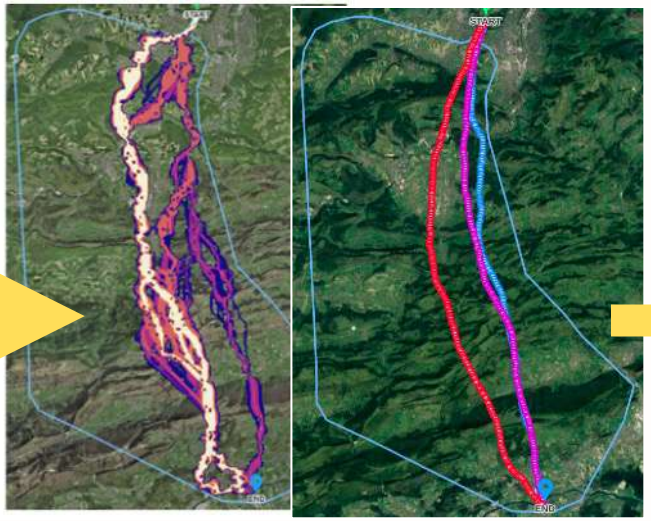
Pathfinder for holistic spatial planning

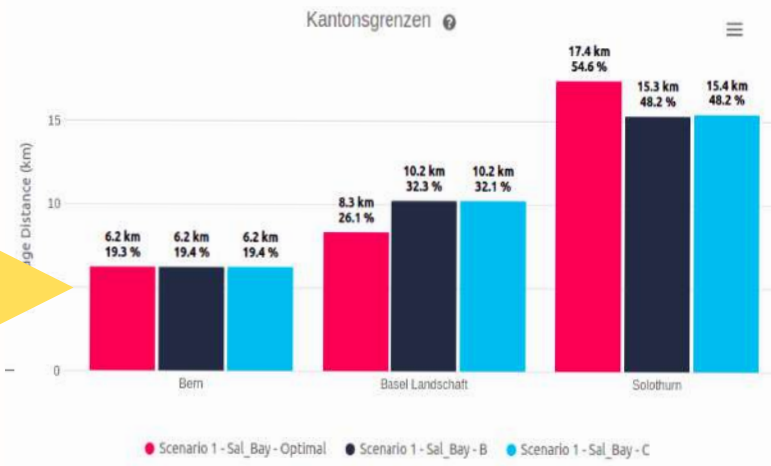
GILYTICS











Environmental, social, technical and cost constraints

1

Total resistance map

2

Siting / Routing

3

Analyze impact & stakeholder engagement

5

Current bottlenecks

GILYTICS

Data availability, especially at the local scale

- Land use, urban planning, social value, ownership type...
- Lack of local knowledge causes backslashes, delays

Public acceptance (*not in my backyard*)

- Social equity policies (balance generation and consumption areas, promote local generation)
- Public consultation and transparency are essential

Crowded corridors, no coordination between transmission projects & other infrastructures

- Maybe solved with underground cables / tunnels, more expensive than overhead
- Need infrastructure coordination policies, already at the proposal stage

Slow evaluation and approval of proposals

- Need automation and transparency of administrative procedures
- European harmonization

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Arnaud Van Dooren

Software Team Lead

WWF EPO

Renewables Grid Initiative

Towards a holistic approach to spatial planning

1. Expand wind and solar
2. Significantly decrease energy demand
3. Spatial planning focusing on nature and people
4. In practice, 3 examples:
   a. Expansion of the Kaunertal power plant
   b. WWF Greece: Wind & Biodiversity Atlas
   c. WWF EPO: MSP assessment

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Stefania Charisiadou

Policy Officer - Nature Conservation Unit

European Commission, DG Environment

Renewables Grid Initiative

Renewables Acceleration Areas (RAAs)

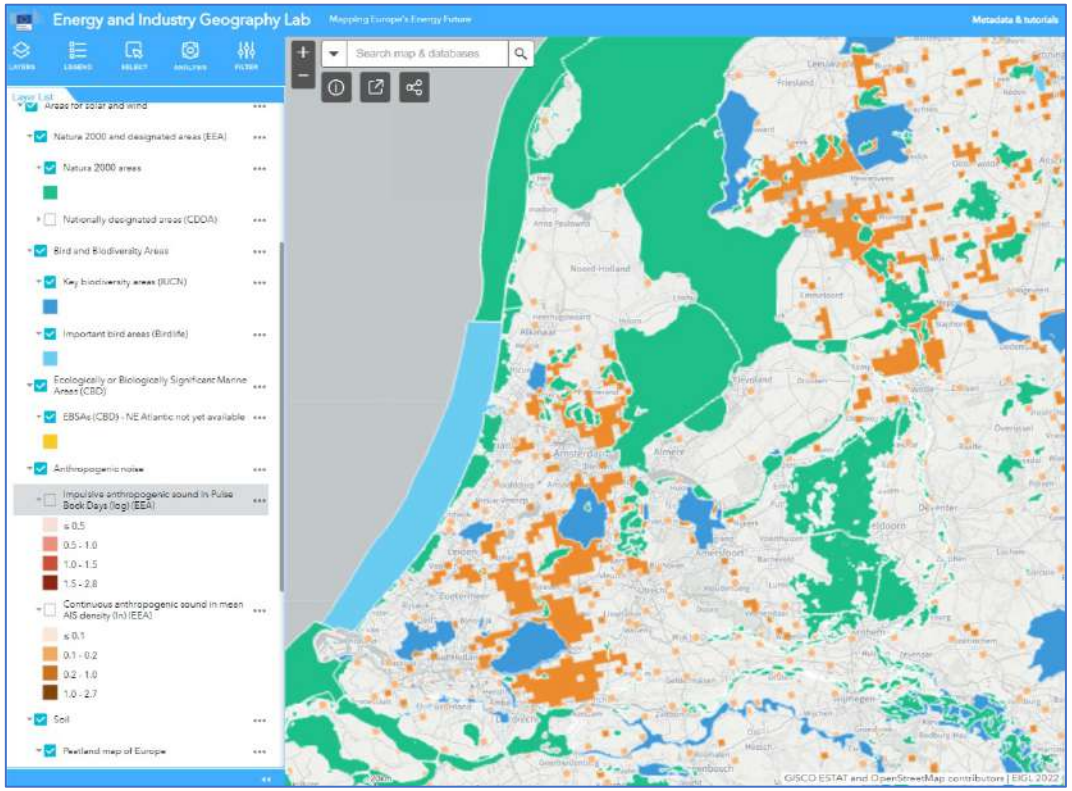
- MSs to adopt **plan(s) designating RAAs for one or more types of RES**, where RES projects are **not expected to have significant environmental impacts:**

  - **give priority to artificial and built surfaces**, such as rooftops and facades, transport infrastructure etc.
  - **exclude Natura 2000 sites** and **areas designated under national protection schemes** for nature and biodiversity conservation, **major bird and marine mammal migratory routes** as well as **other areas identified based on sensitivity maps** and other tools except for artificial and built surfaces located therein
  - **use all appropriate and proportionate tools and datasets to identify the areas** where the renewable energy plants would not have a significant environmental impact, including wildlife sensitivity mapping

- RES projects in RAAs to benefit from **faster and simpler permitting procedures**

Identification of RAAs for wind and solar – EIGL tool

- EIGL tool has been **expanded** and is intended as an **instrument to support planning choices** by competent authorities
- **Datasets included:** Natura 2000 sites and CDDA; Important bird areas & key biodiversity areas; Ecologically or biologically significant marine areas; Underwater noise; Peatlands; Waste water treatment plants
- **More datasets to be included soon:** Seabed habitats; Wetlands; Marine human activities and pressures; Soil erosion; Bird routes and distribution of sensitive species



https://joint-research-centre.ec.europa.eu/energy-and-industry-geography-lab_en

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