

# SET-Nav

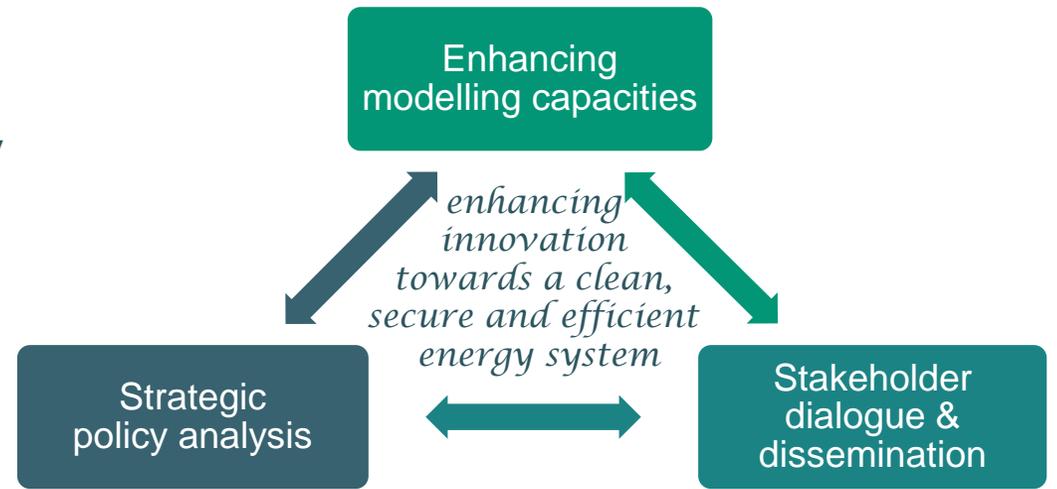
## Strategic Energy Roadmap

Navigating the Roadmap for Clean,  
Secure and Efficient Energy Innovation



### THE PROJECT AT A GLANCE

The overarching goal of SET-Nav is to **support strategic decision making in Europe's energy sector, enhancing innovation towards a clean, secure and efficient energy system.**



### STRATEGIC POLICY ANALYSIS

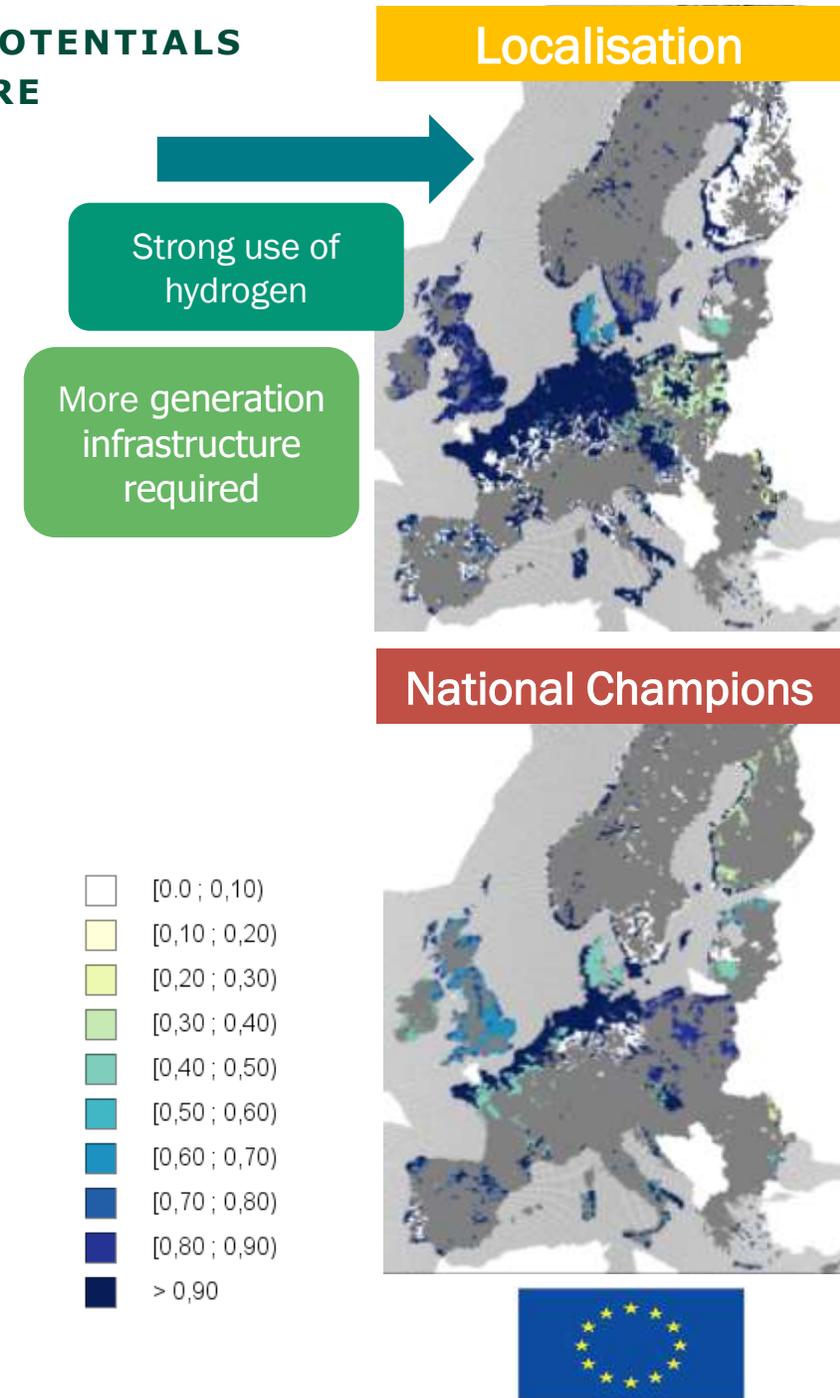


## SET-NAV: RESULTS (EXAMPLES)

### Main Findings from the Supply Perspective (Electricity & Heat)

- A stable electricity & heat grid system with 96% decarbonisation is possible
  - Foreseeable CO<sub>2</sub> prices well above 100 €/t are needed in the end
- There are different technology pathways to reach the target
  - Renewables and especially wind energy will be an important factor
  - Heat grids are an important option to adopt to different developments in technology
- If you want to keep cost as low as possible
  - Strengthen the electricity grid
  - Create a competitive market environment for the direct use of electricity in other sectors such as heat grids
- If you want to keep requirements for generation infrastructure low
  - Prefer direct use of electricity over hydrogen/”synthetic hydrocarbons” wherever possible and economically feasible

## UTILISATION OF POTENTIALS FOR WIND ONSHORE



## SET-NAV: SUMMARY OF KEY FINDINGS FOR THE DIFFERENT PATHWAYS

We identified a variety of actions to achieve a decarbonised future taking different pathways. Depending on political realities, different key research questions & elements will come into focus.

... Below, a few examples show how they might play out

### Diversification

- innovation research with **strong RD&I activity**
- developing a **variety of new technologies**
- strong use of **local renewable resources** combined with **very high hydrogen demand**

### Localization

- **innovative solutions** for decentralized energy and the distribution grid
- **radical changes in industrial processes**, strong switch to biomass, power-to-heat, power-to-gas
- wide-spread use of **local renewable resources** combined with **very high hydrogen demand**

### Directed Vision

- **top-down decision-making favors conservative approach** with known technologies and processes (e.g. fossil power generation)
- more likely to **call for ideas on how to expand the grid**
- **cost-efficient use and management of cross-border flows** of electricity

### National Champions

- **hard to find cost-efficient decarbonisation solutions** for an incumbent energy sector focused on national solutions
- lack of pan-European R&D efforts and, hence, **little cost decreases in new technologies**
- little interconnection with neighboring countries, so **peak load must be covered at higher costs domestically**
- **prominent role for (green) gas solutions**
- **no radical changes in industrial processes** and continued use of the internal combustion engine



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