

The European Commission's science and knowledge service

Joint Research Centre



Insights from scenario comparison

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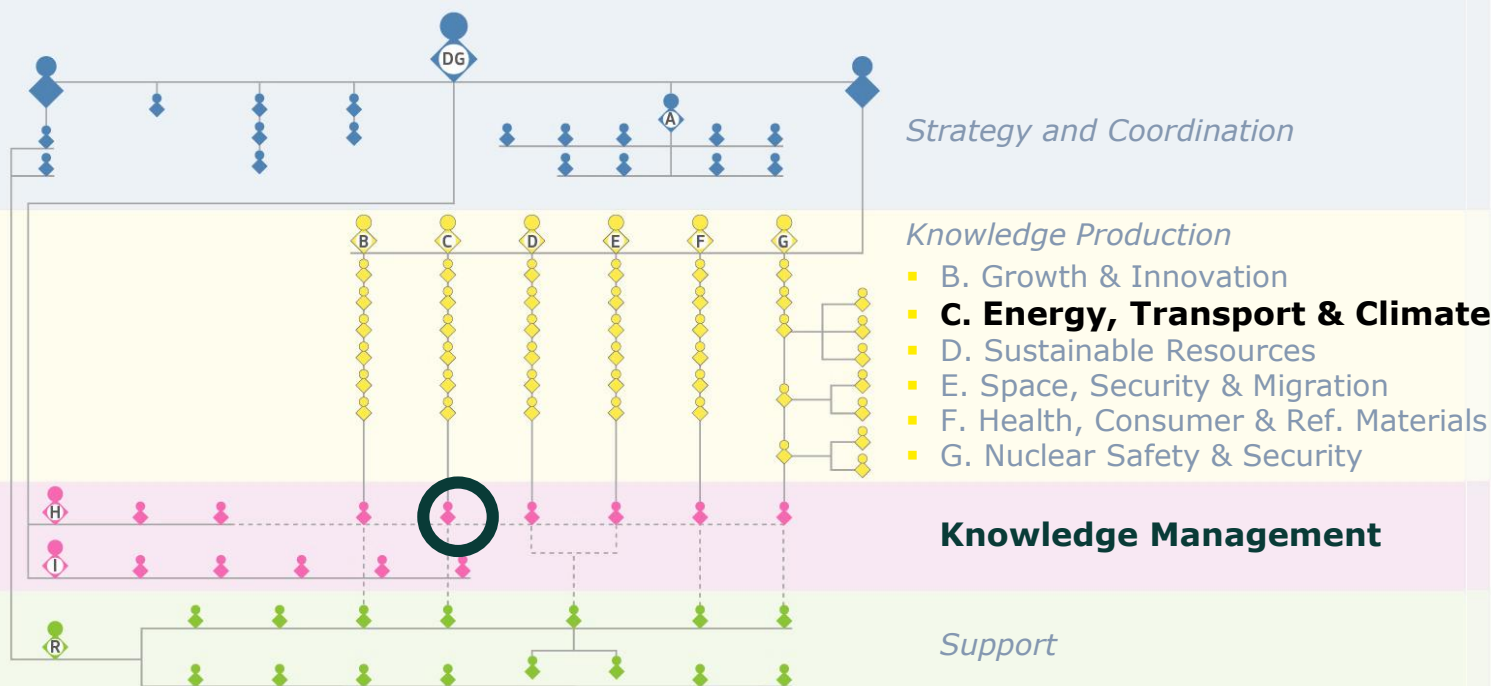
Theme 1: Using scenarios for decision making in the in a specific context of the clean energy transition
Long Term Energy Scenarios – Clean Energy Ministerial Campaign, 24 January 2019

Knowledge for the Energy Union Unit

European Commission

Joint Research Centre

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To **support policies** related to the **Energy Union**, by anticipating, mapping, collating, analysing, quality checking and communicating all **relevant data/knowledge**, including knowledge gaps, in a systematic and digestible way

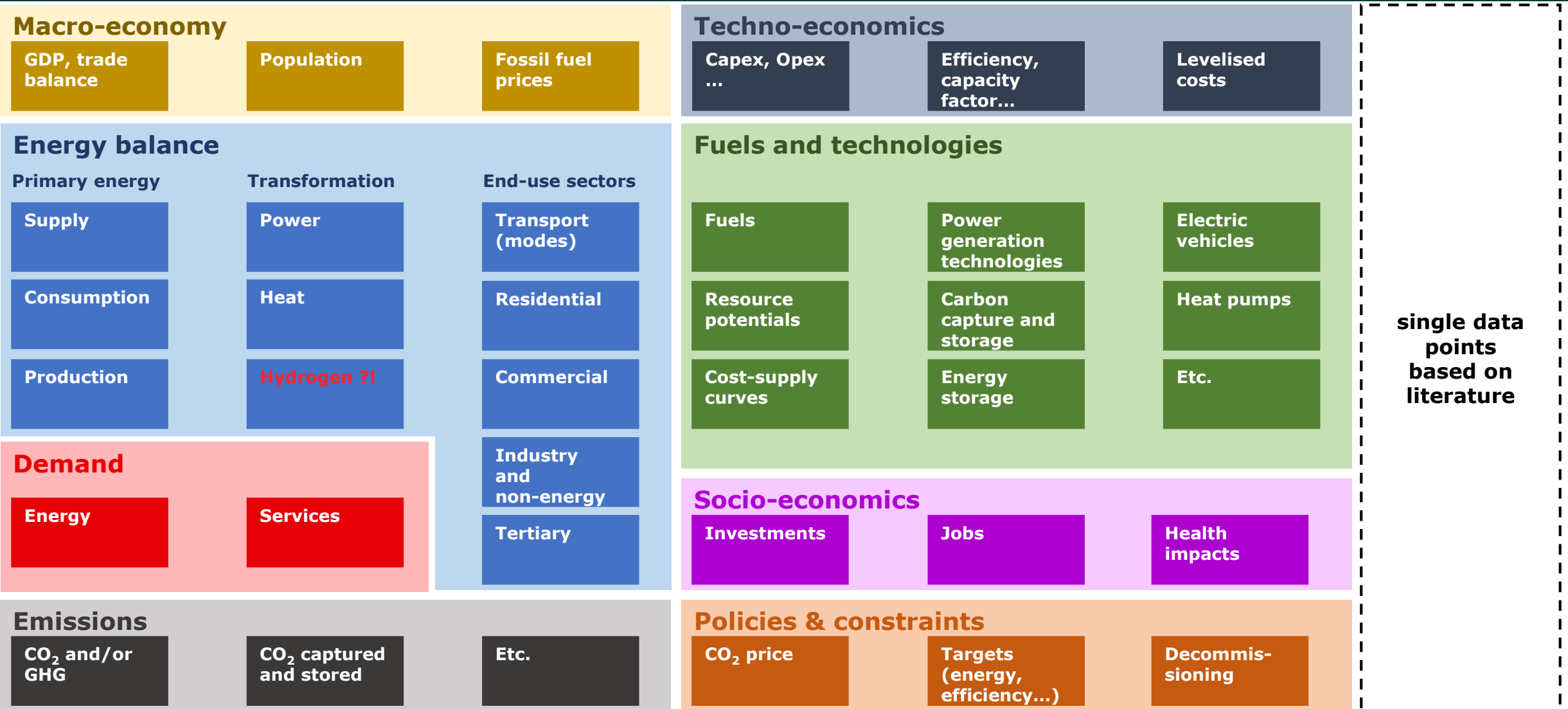
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Energy scenario publications

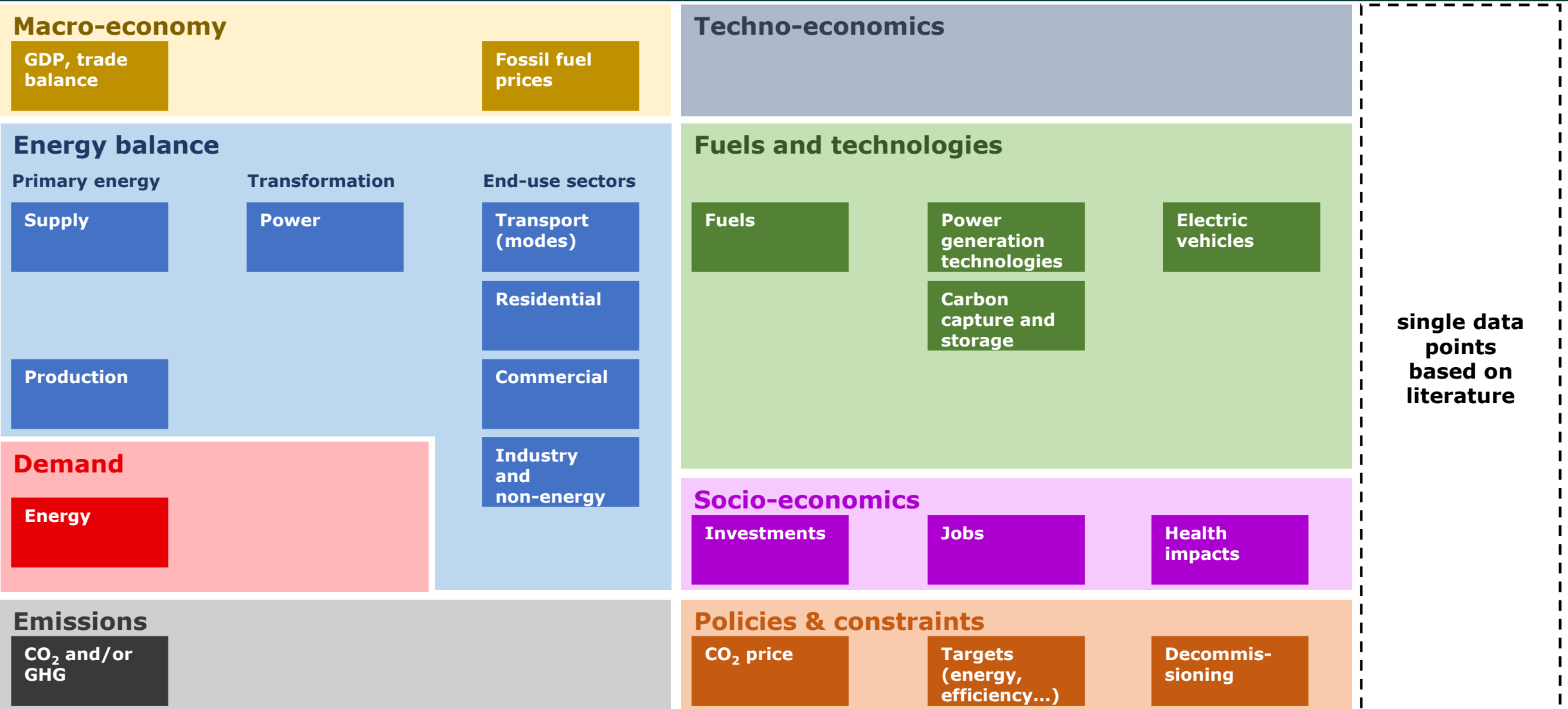


Title: Global warming of 1.5°C

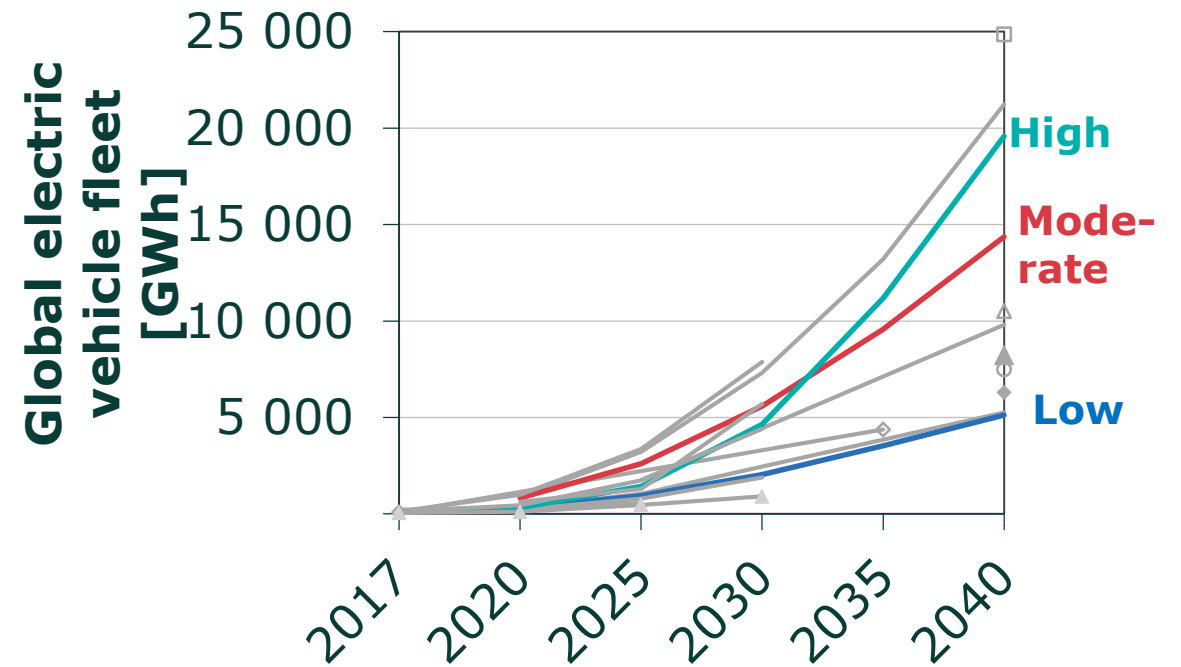
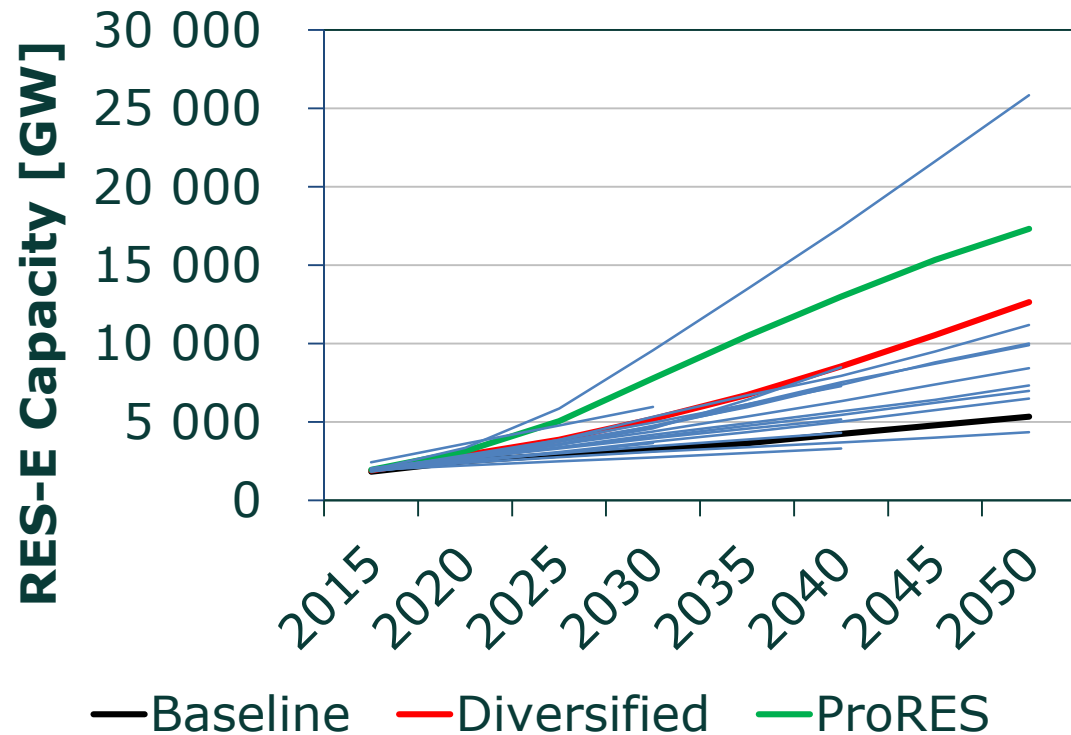
Our approach: Data in energy scenarios



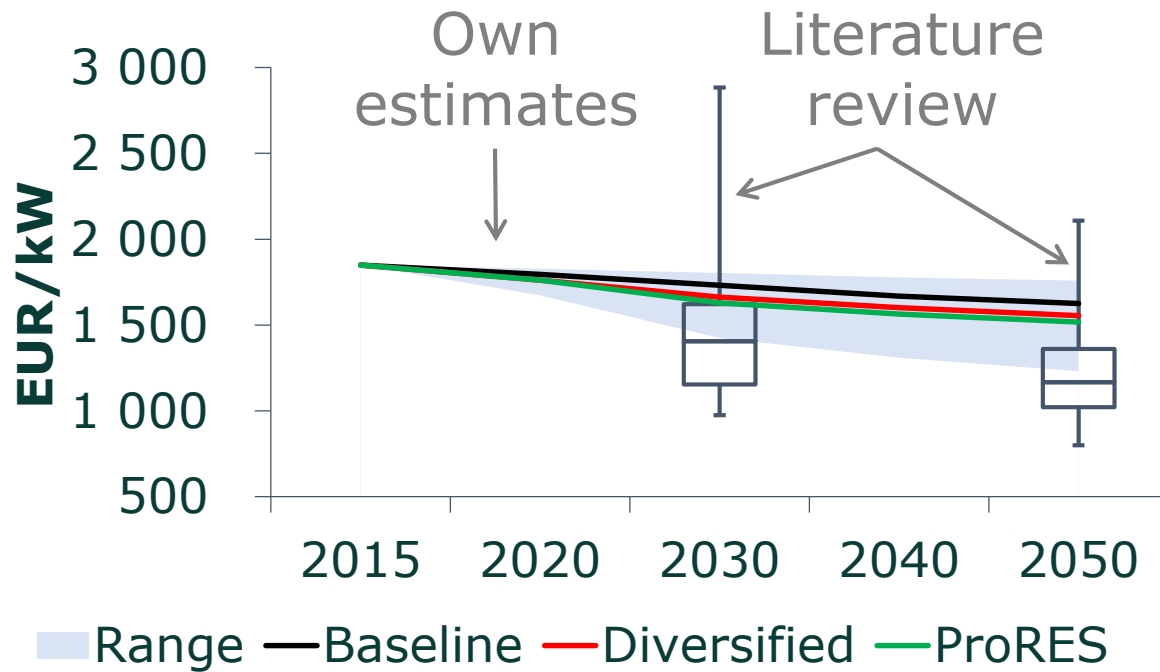
Our approach: Data in energy scenarios



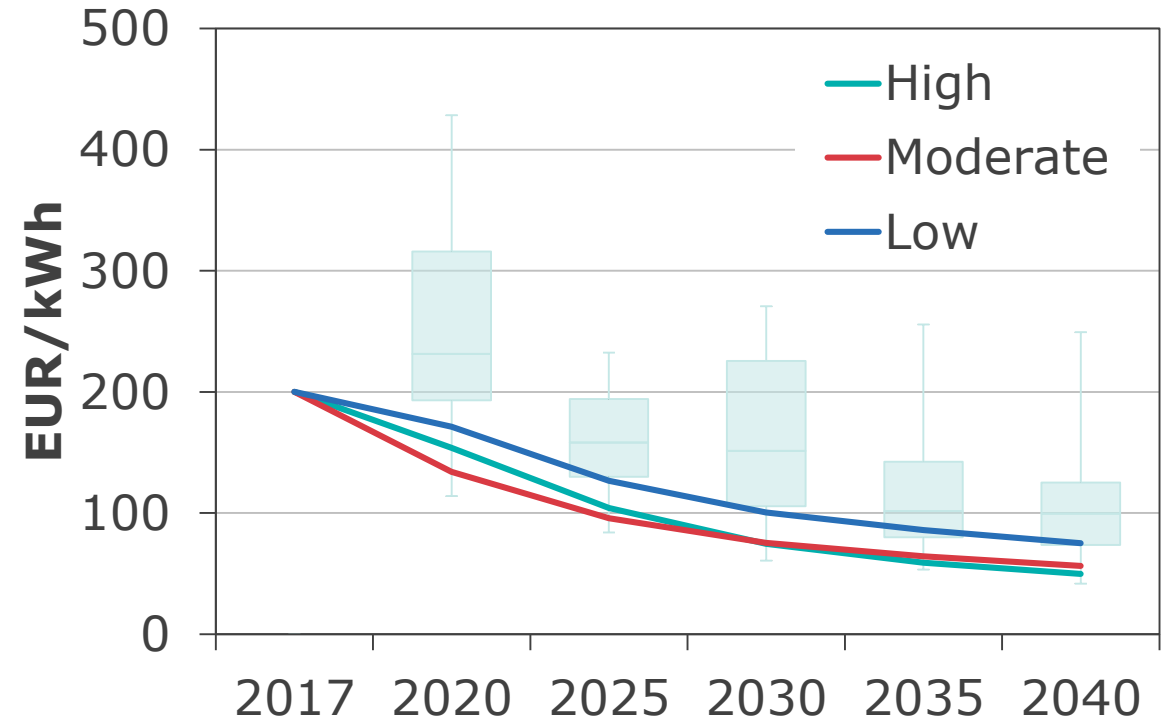
Scenario selection and application: Market growth



Scenario selection and application: Technology investment costs



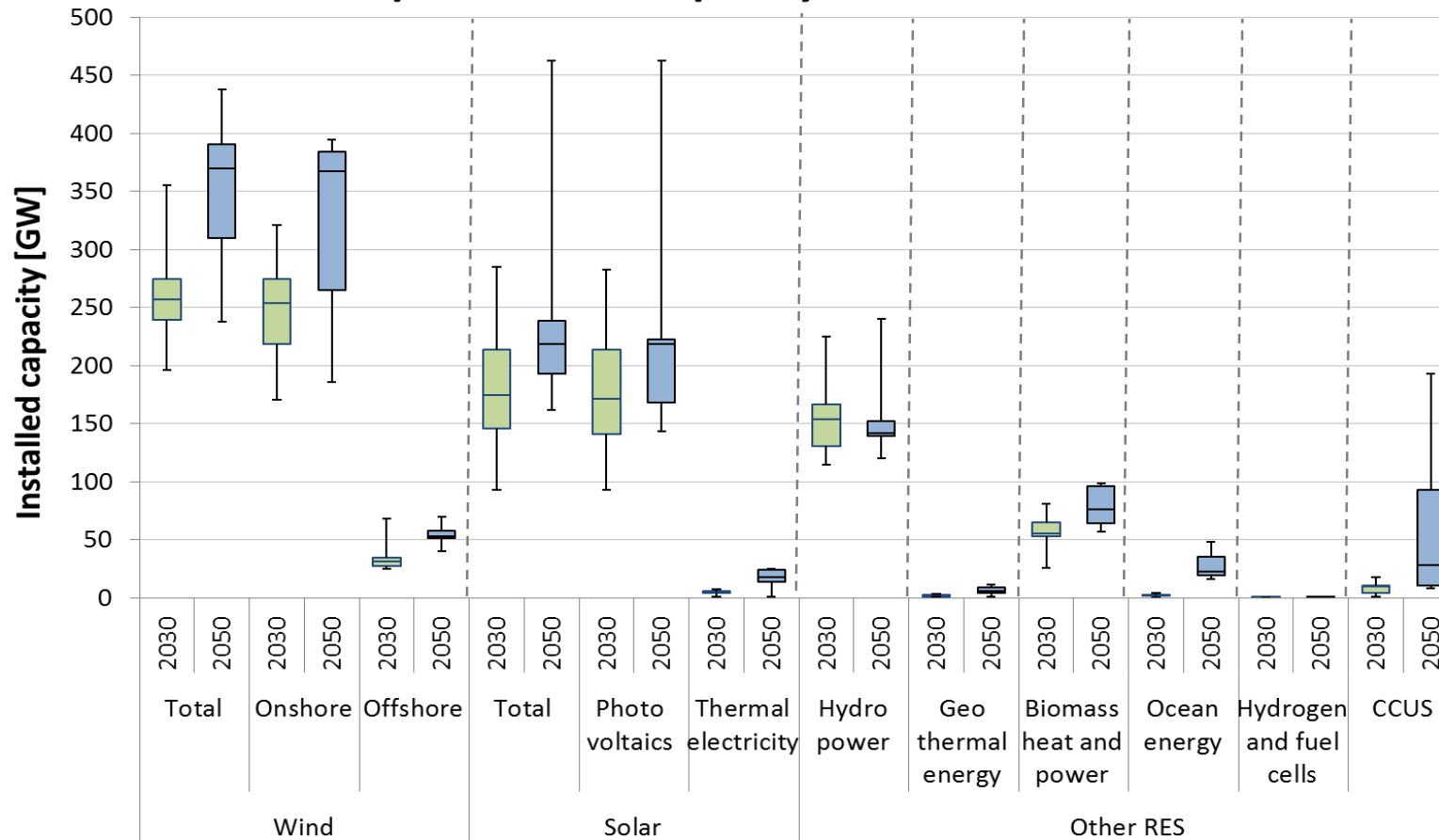
Wind onshore, low specific capacity, high hub height



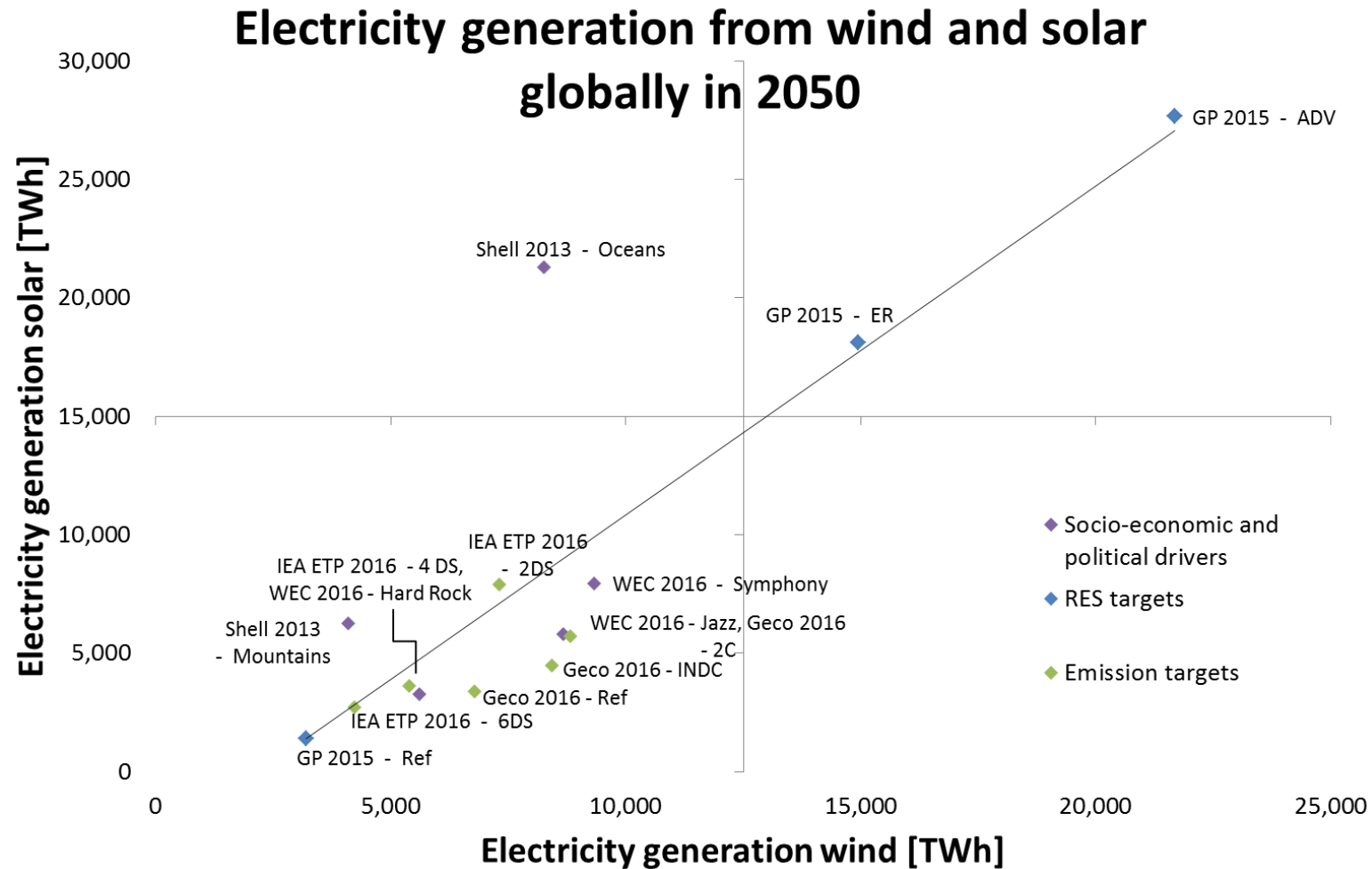
Li-ion electric vehicle battery pack cost

Meta-analysis

Europe installed capacity in 2030 and 2050



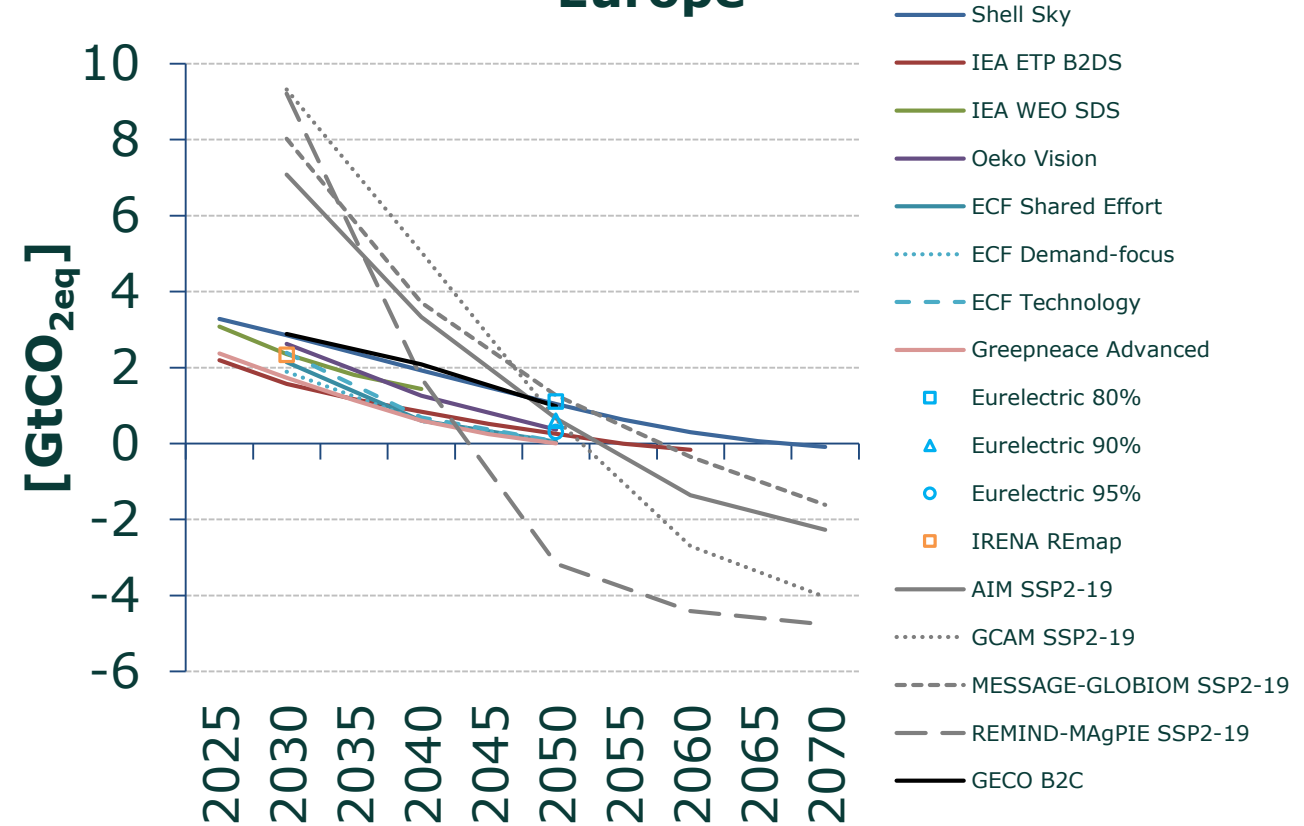
Meta-analysis



Other application of scenario analysis

- In-depth comparison / benchmarking of studies
- Support scenario design
- Contribution to open debate

Towards 1.5 C Emission trajectories: Europe



Scenario selection and application: Outputs

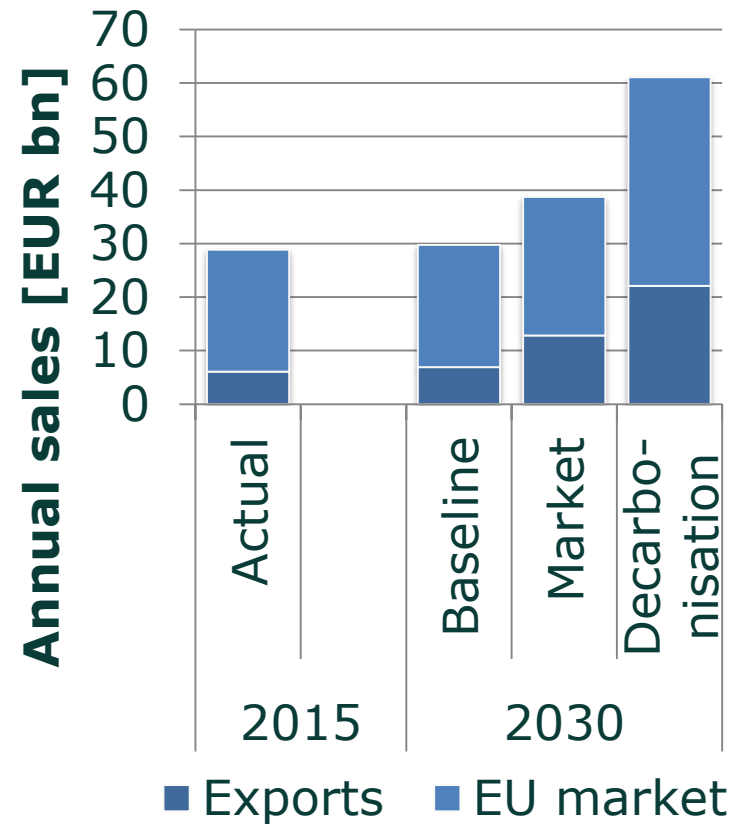
Publications



[JRC109894](#)

[JRC113360](#)

Internal Datasets



Contribute to open debate



Implications: shadow play in Plato's Cave

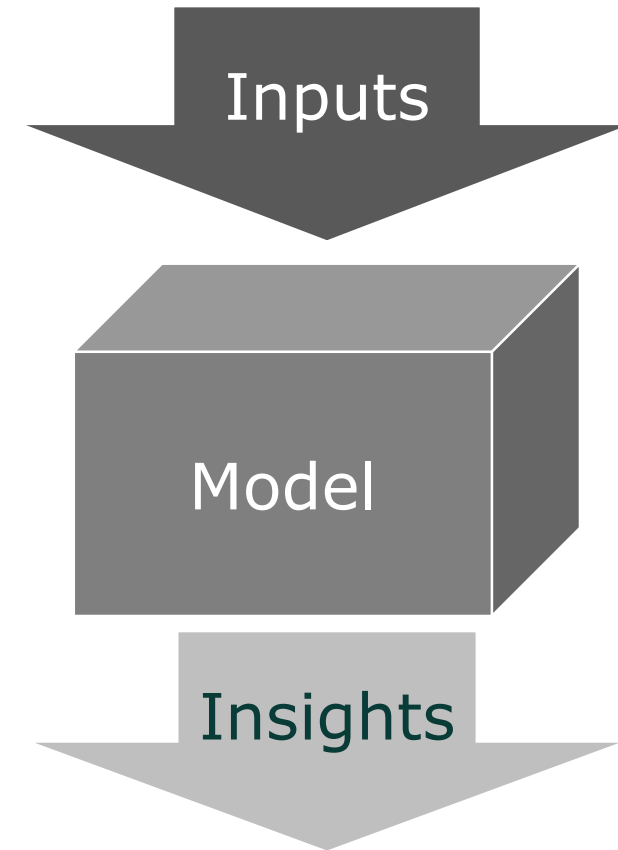
In many studies we lack transparency

Assumptions (Inputs):

- Nondisclosed investment costs
- Unspecified discount rate
- Widely varying socio-economics factors
- Unknown population and GDP assumptions

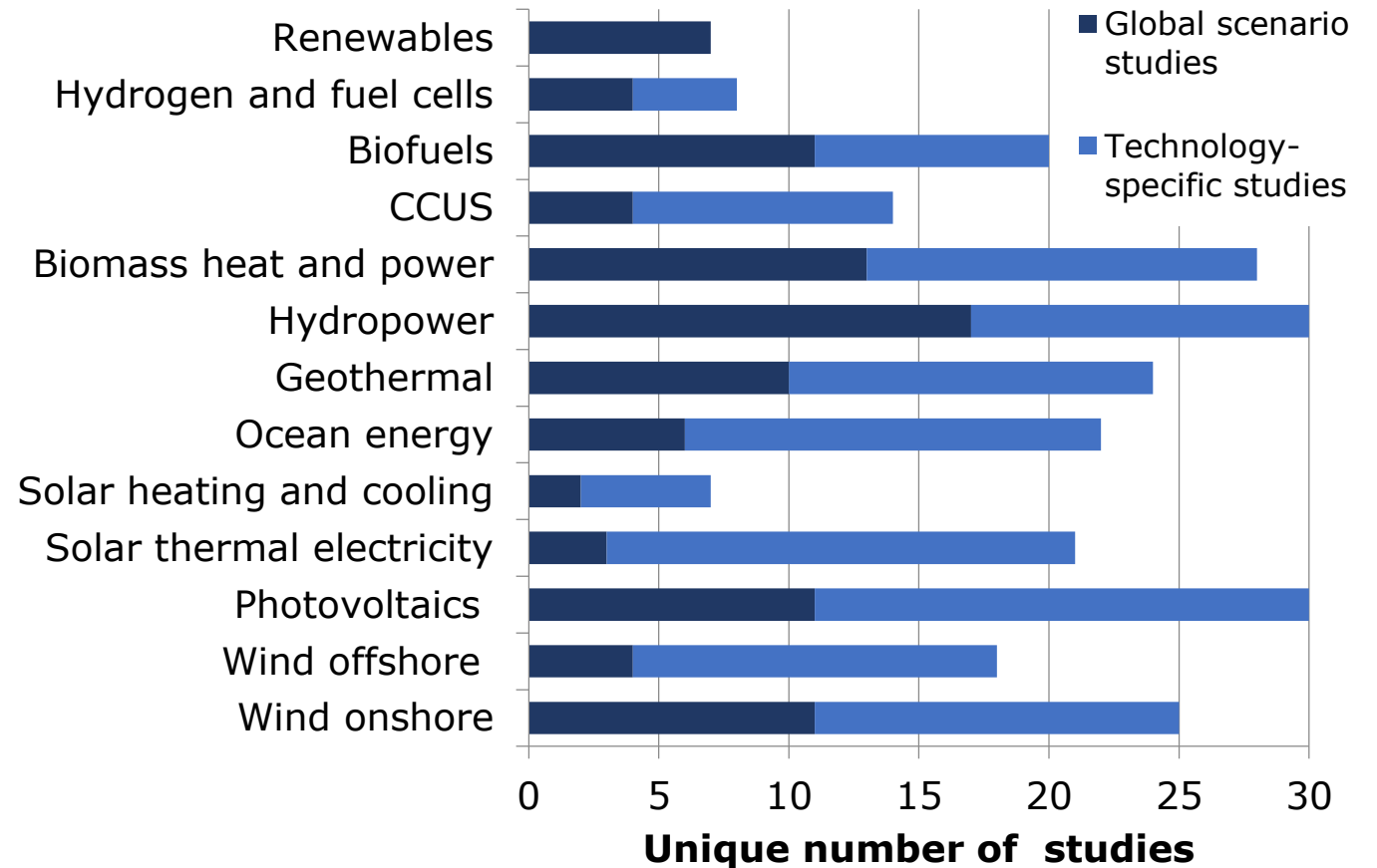
Outputs

- Vague definitions
- Noncomparable indicators



Implications: comparing apples with pears

- Technology coverage
- Technology boundaries
 - Biomass, waste
 - Electric vehicles
- Sectoral coverage
 - Heating and cooling
 - Residential, Transport, etc.
- Regional coverage
 - Europe vs. EU vs. OECD Europe
- Temporal coverage



Take-away messages

Comparative scenario analysis is useful tool for decision making

- Identify common trends
- Analyse differences
- Understand transition
- Support analysis and decision making

However, insights are based heterogeneous datasets supplemented by qualitative\semi-quantitative assumptions

More transparency is needed !

Stay in touch!



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