

Pathways to net carbon neutrality for the Nordic countries

ETSAP workshop
17th June, 2018

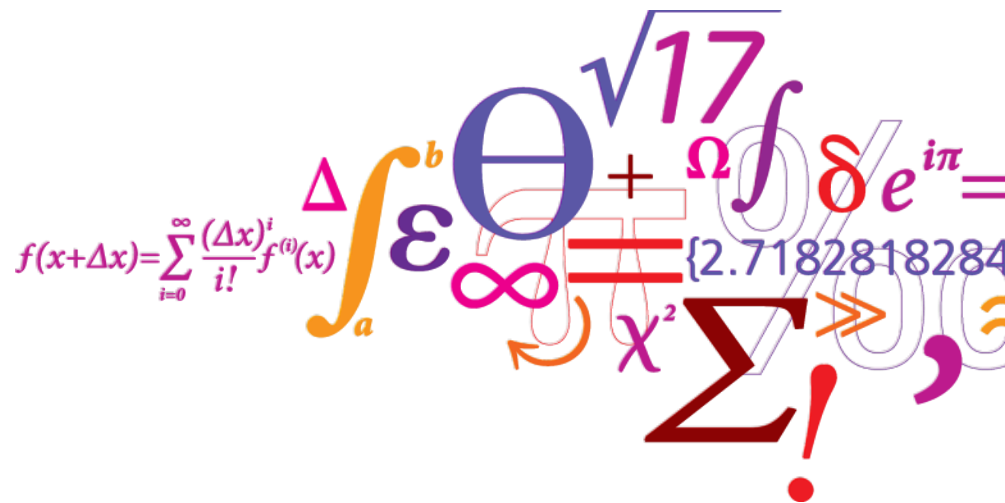
Giada Venturini

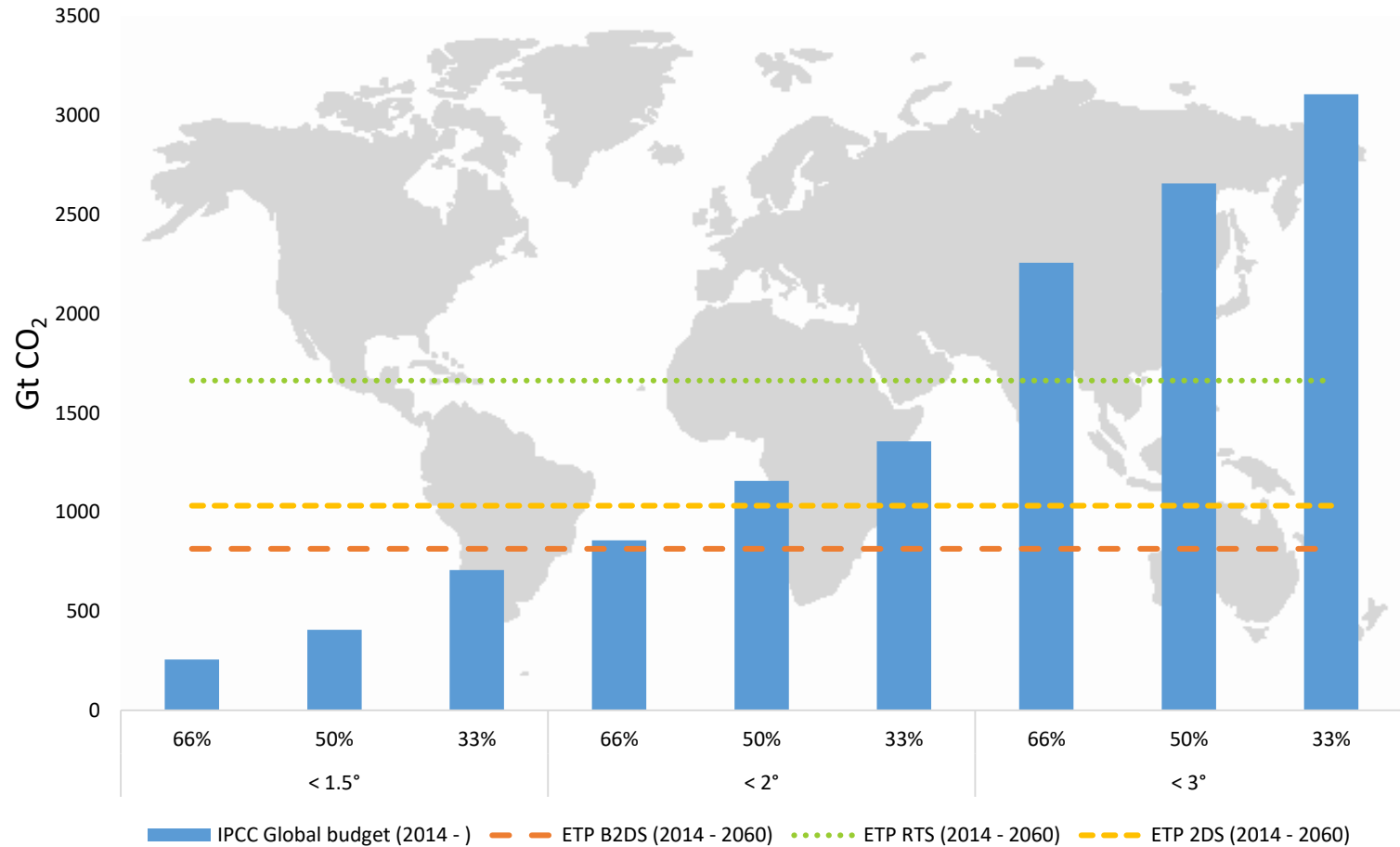
PhD Student

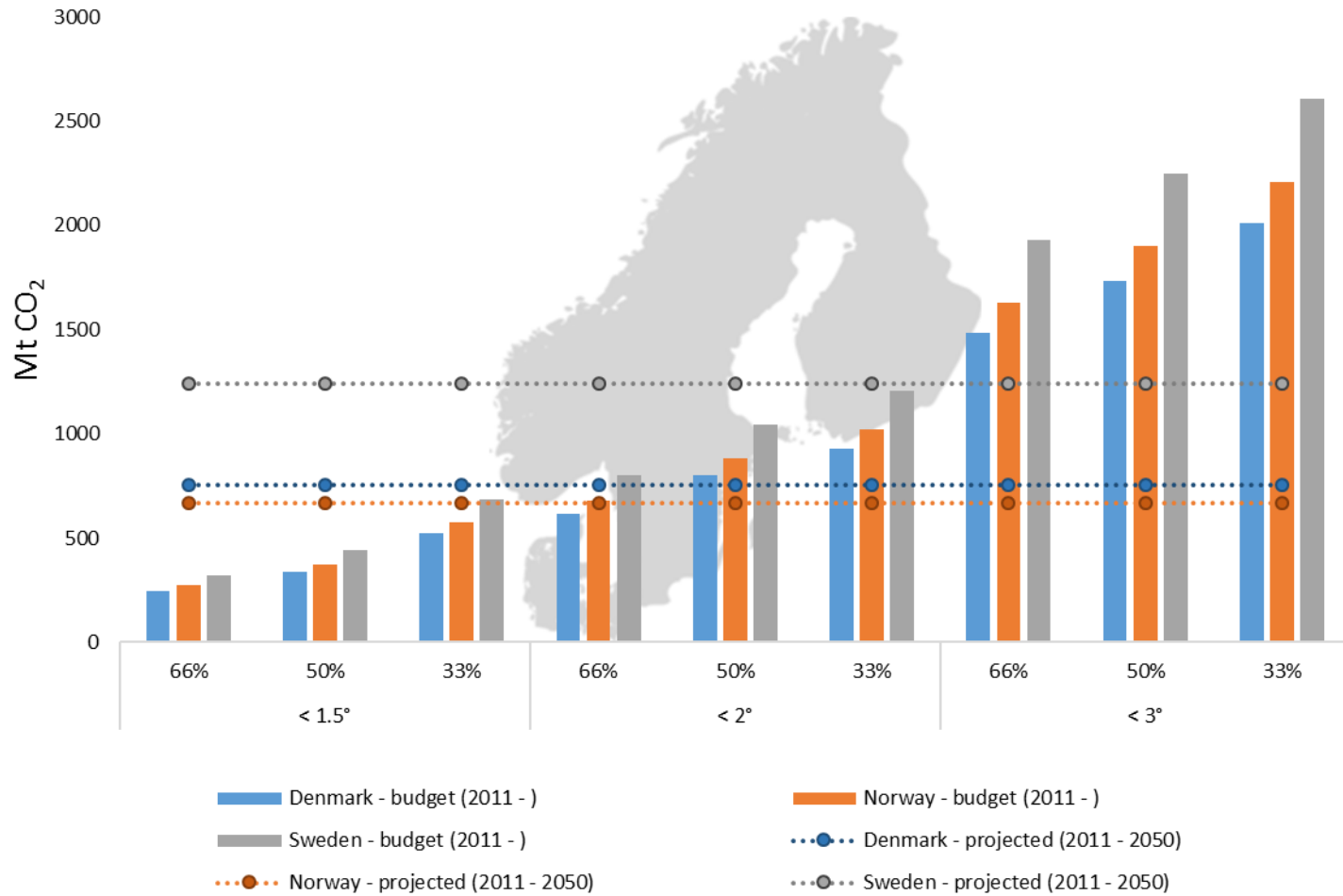
Energy System Analysis

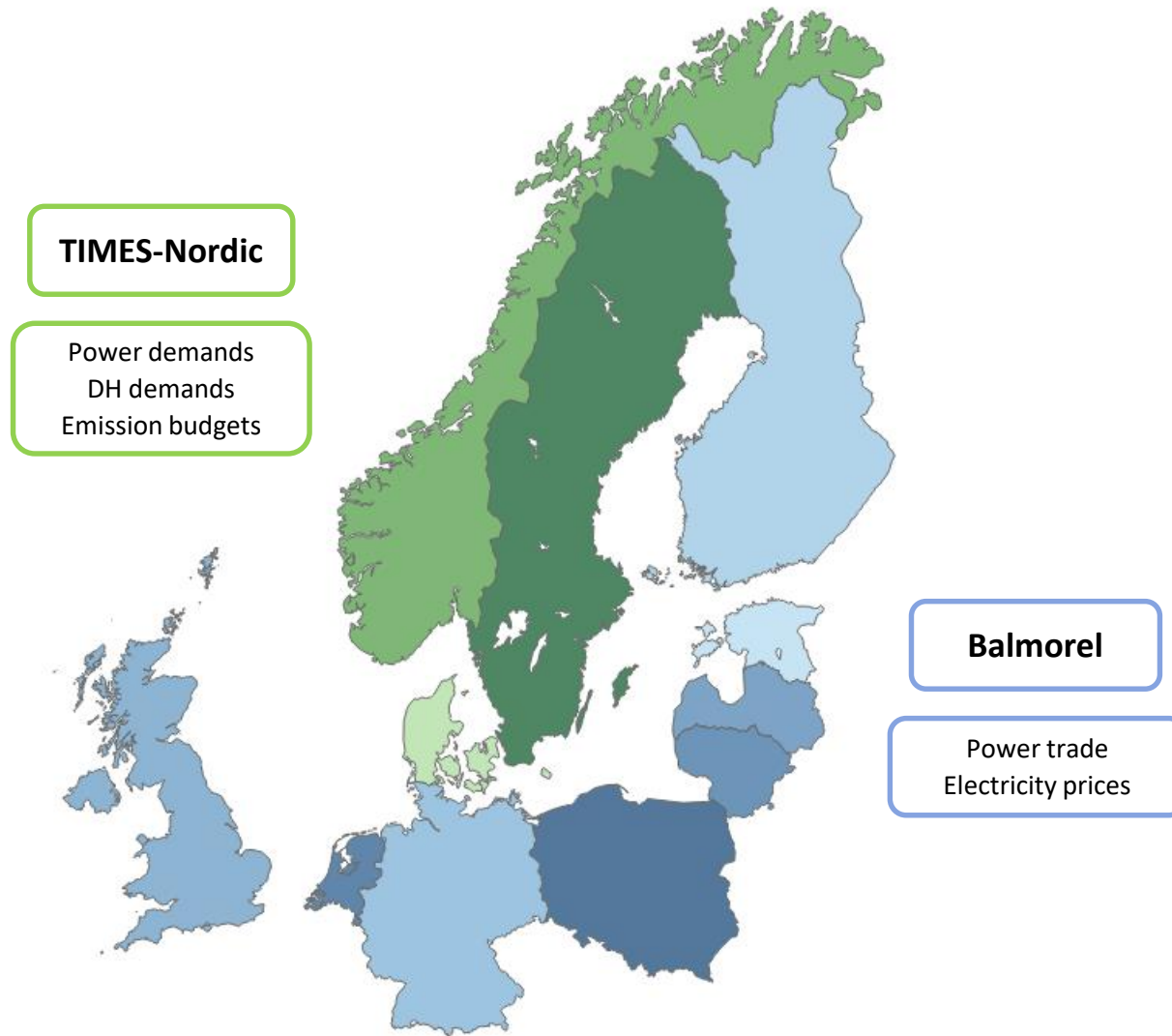
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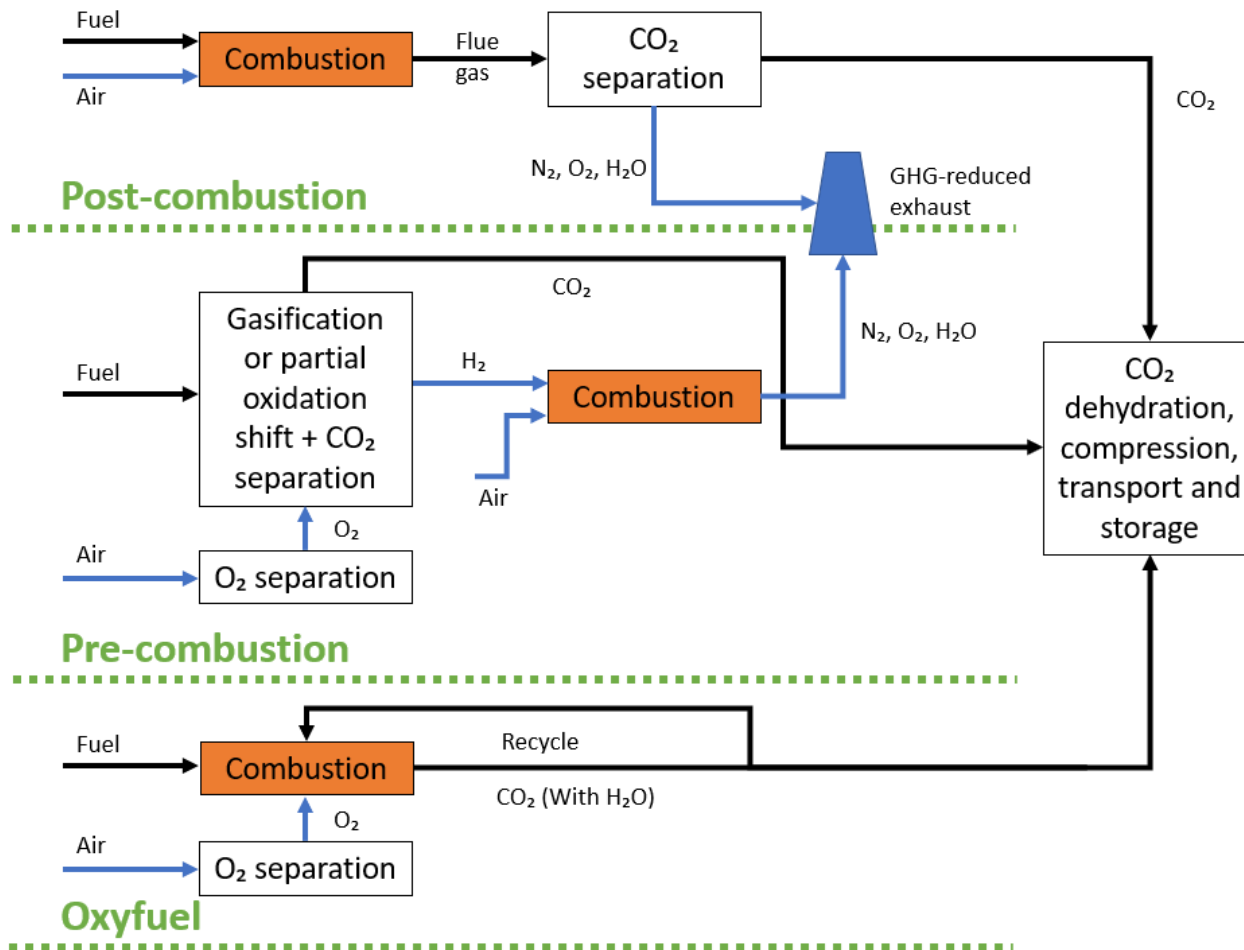




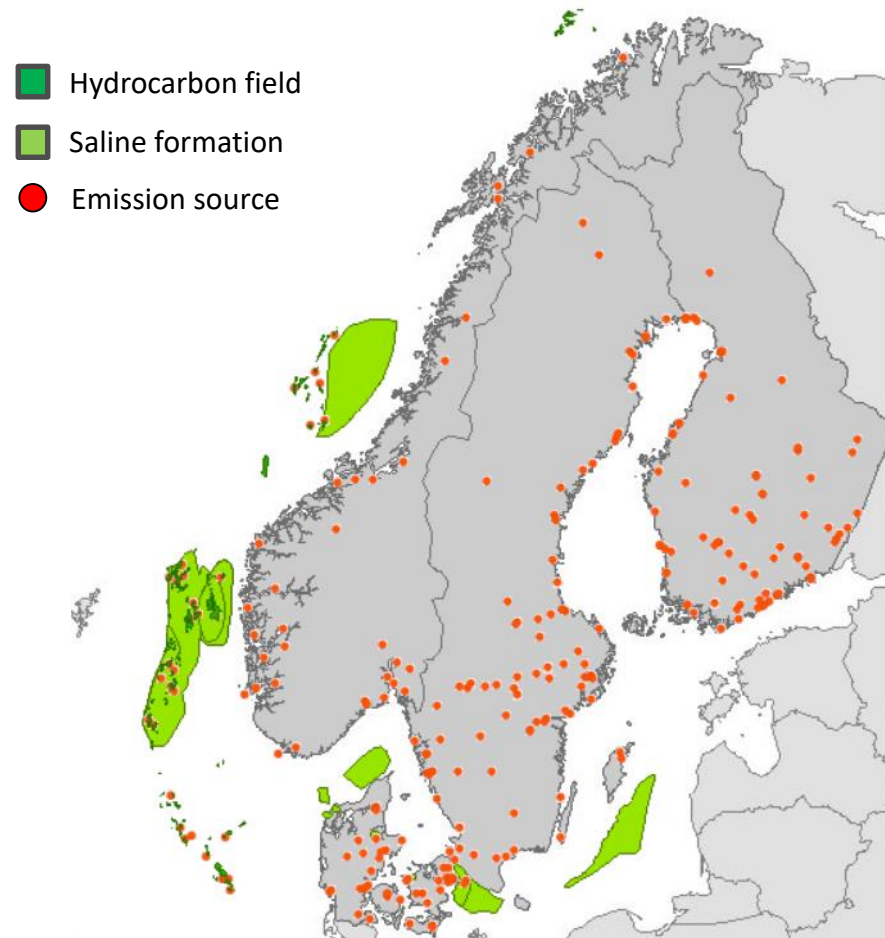




Carbon capture technologies



Carbon transport and storage



From "Nordic CO₂ storage atlas" (Nordic CCS Competence Centre)

Scenarios analysed

Nordic_Base

2DS from NETP (2016):

- CO₂ tax
- End-use demands
- Fossil fuel prices

No energy/climate targets

No taxes/subsidies

Nordic_CO2_2040

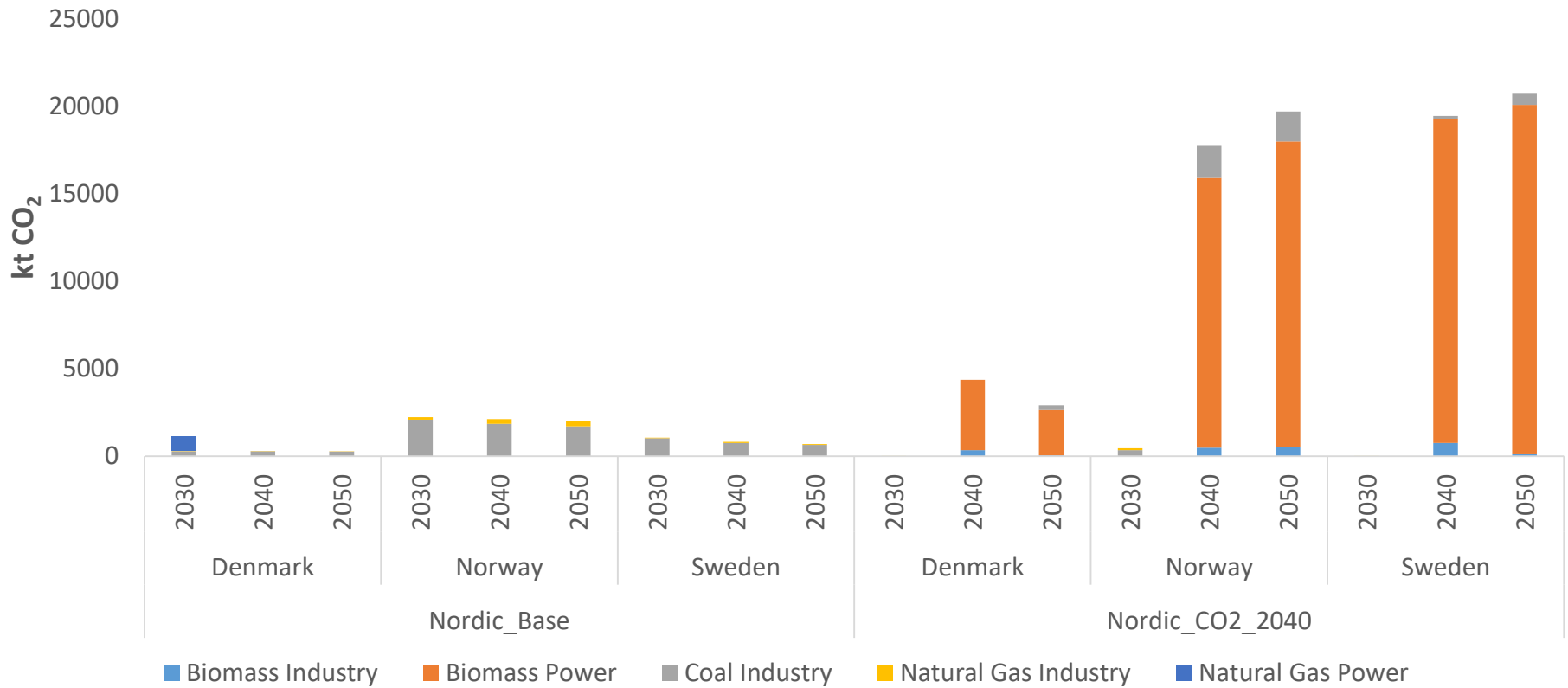
No CO₂ tax in Nordics

CO₂ tax in other countries

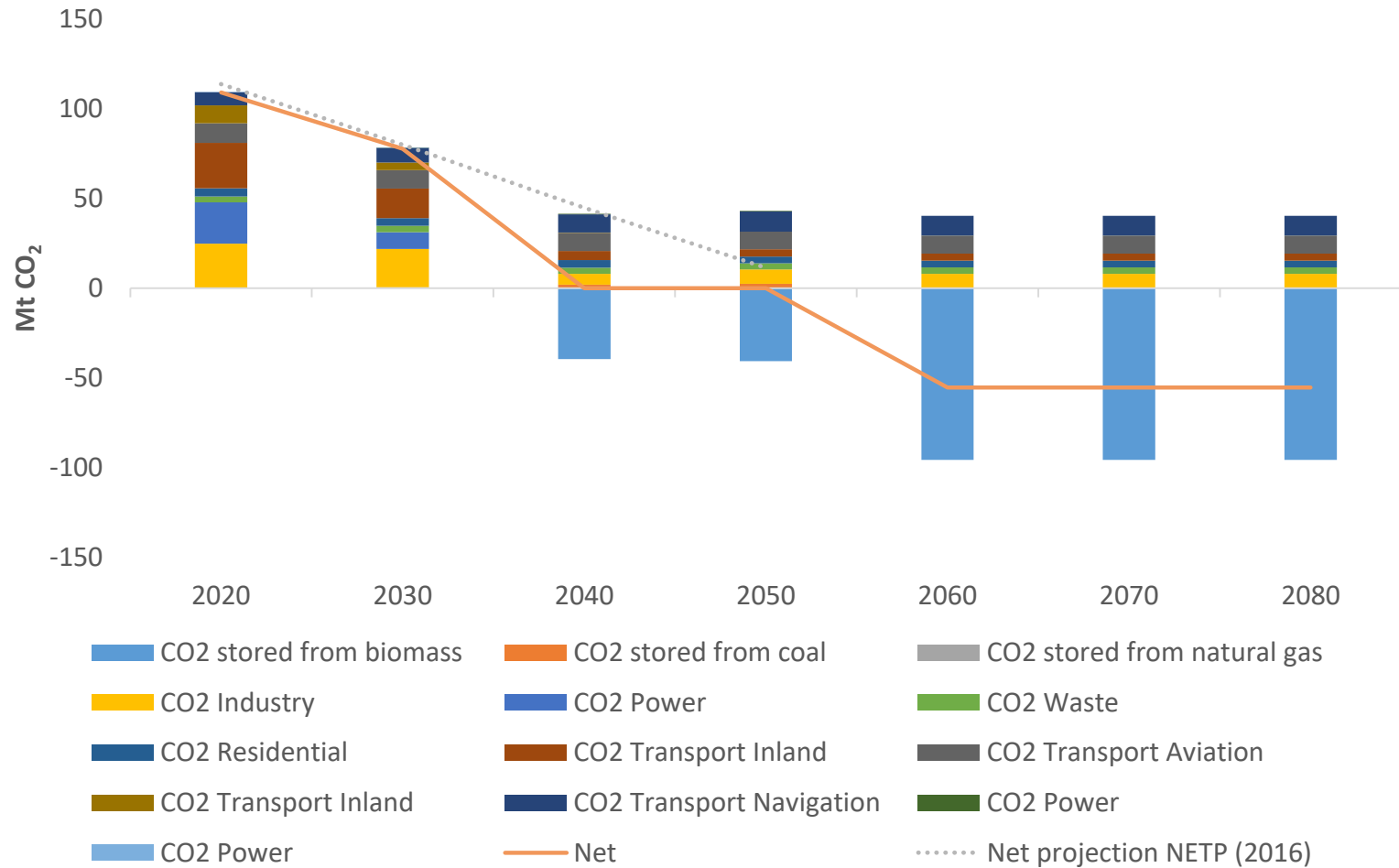
CO₂ neutral by 2040

No taxes/subsidies

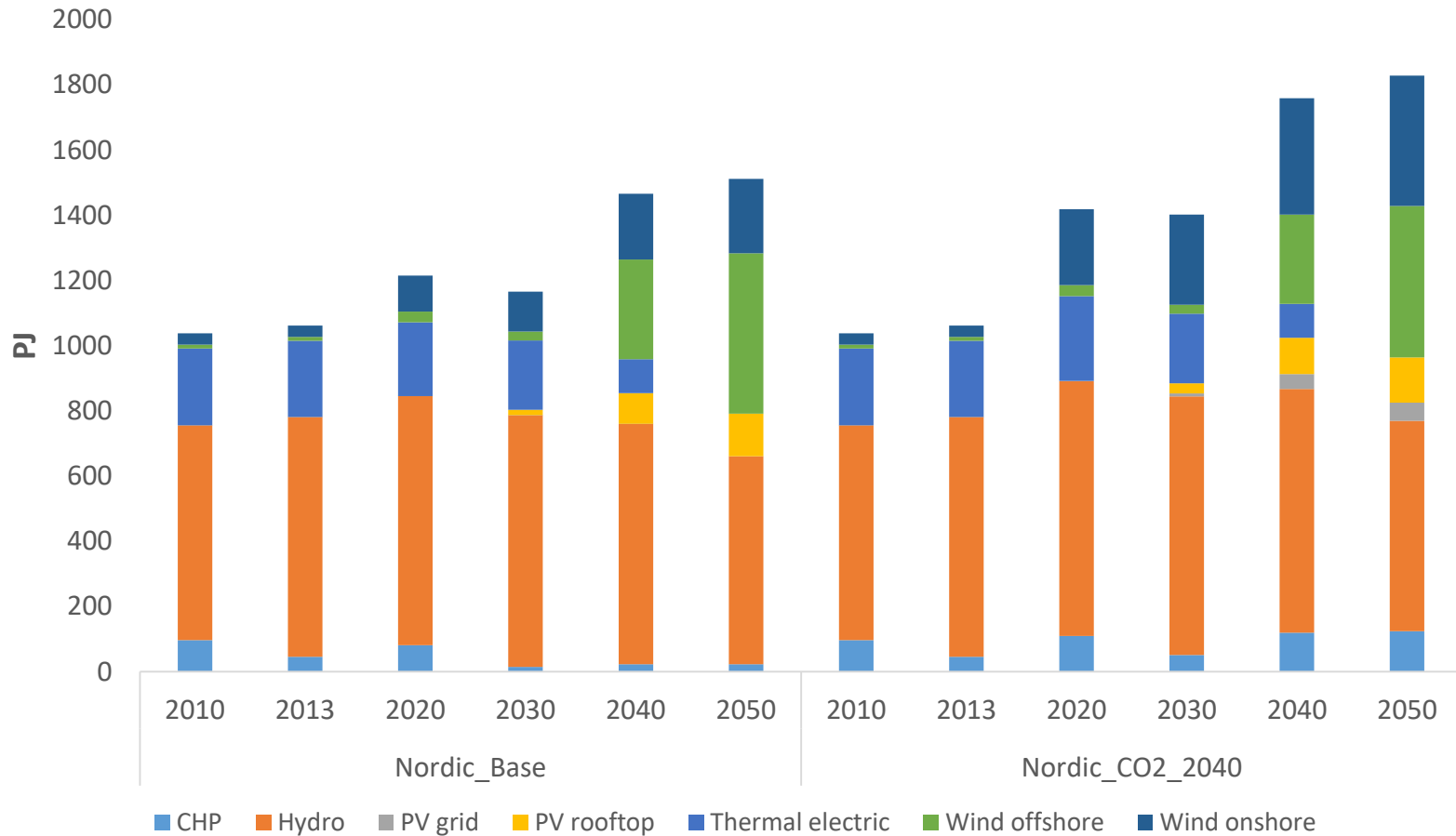
Captured CO₂



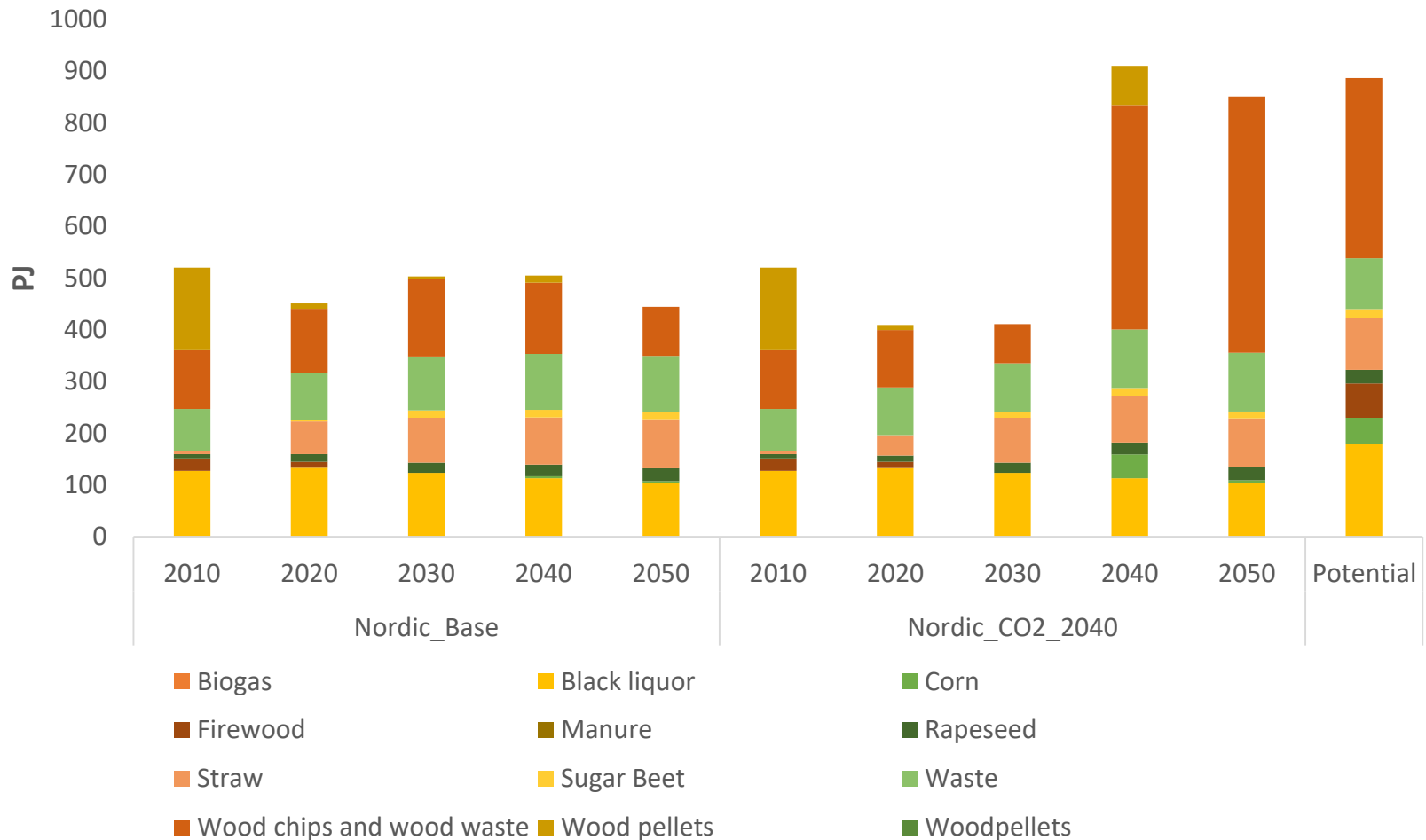
CO₂ emissions



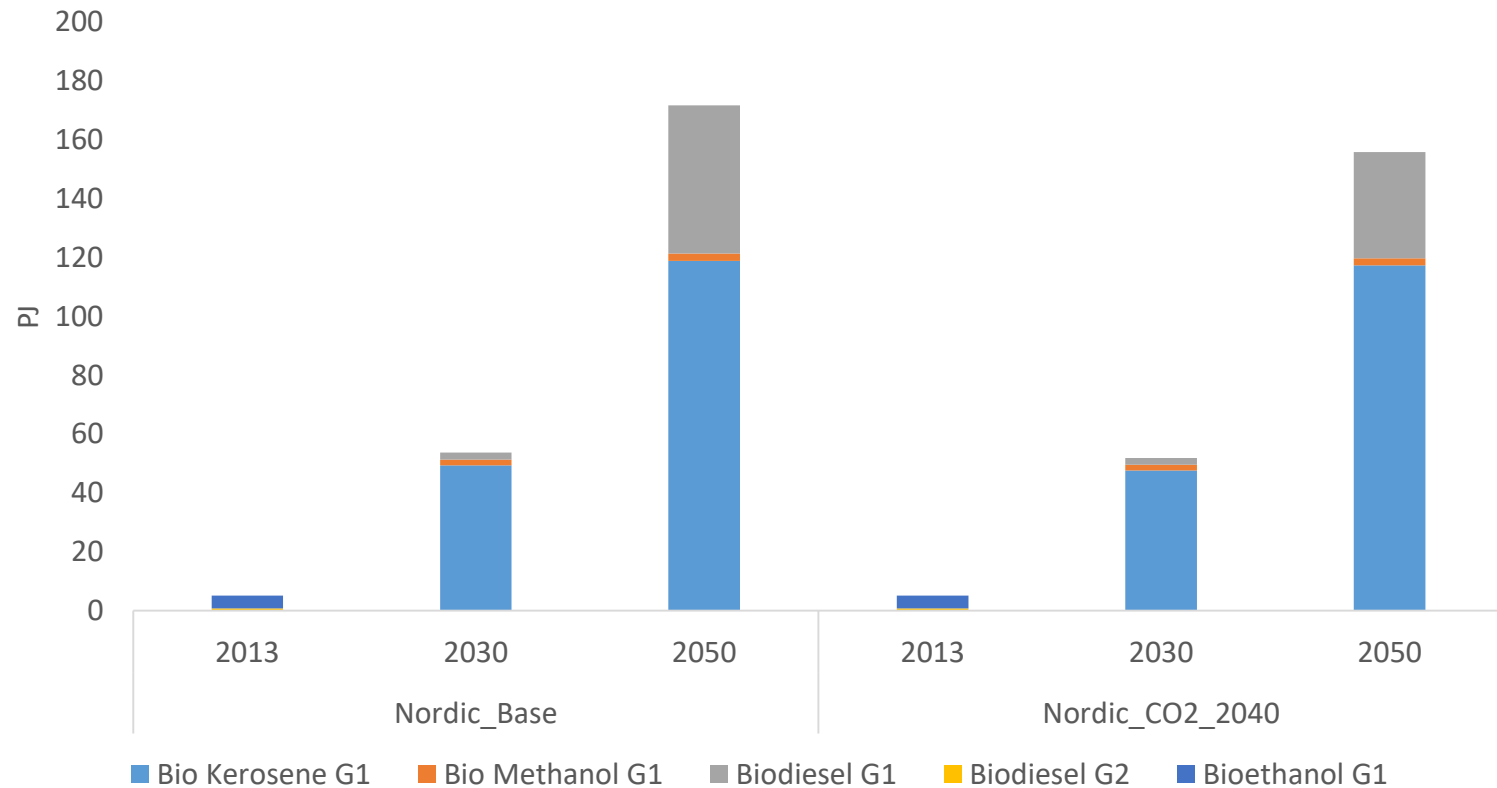
Power generation



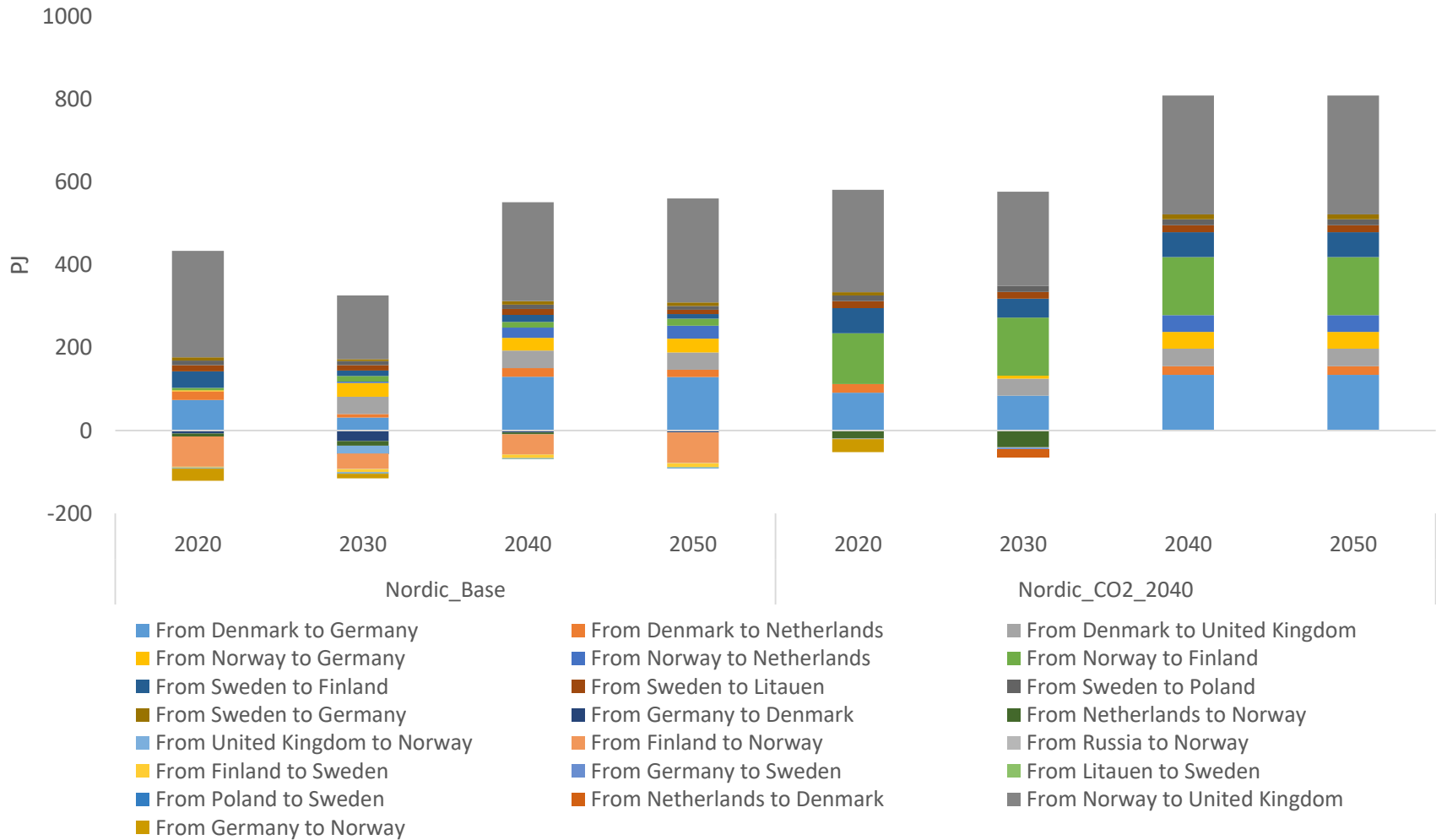
Biomass use



Biofuels imports



Power flows



What is still missing

- Recycling of CO₂
- More fuel options for aviation and shipping
- Simplified (aggregated) representation of CO₂ transport
- CO₂ storage through mineral carbonation
- Complete model convergence
- Constant scenario assumed in the countries outside model scope
- No policy analysed, only technical solutions under a certain carbon target

Thank you for your attention!
Questions, doubts, suggestions?

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