STRATEGIC RESILIENCE INVESTMENTS: CATALYSING PRE-HYDROGEN ECONOMIC GROWTH

Olli Sipilä I CEO I Gasgrid

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Selected past initiatives to increase energy and resources resilience

Japan Resource diplomacy
1970-1980s

China Belt & Road Initiative
2013

U.S. Energy Dominance Council
2025


EUROPE'S ENERGY RESILIENCE –
SELECTED HARD-TO-ABATE SECTORS

EU-27 energy imports and spend

- EU-27 has been importing 50-60 % of its energy
- Largely fossil fuels
- Total annual spend 375 bn €
  - (~ 2 % of GDP)

Source: Eurostat (-2024)

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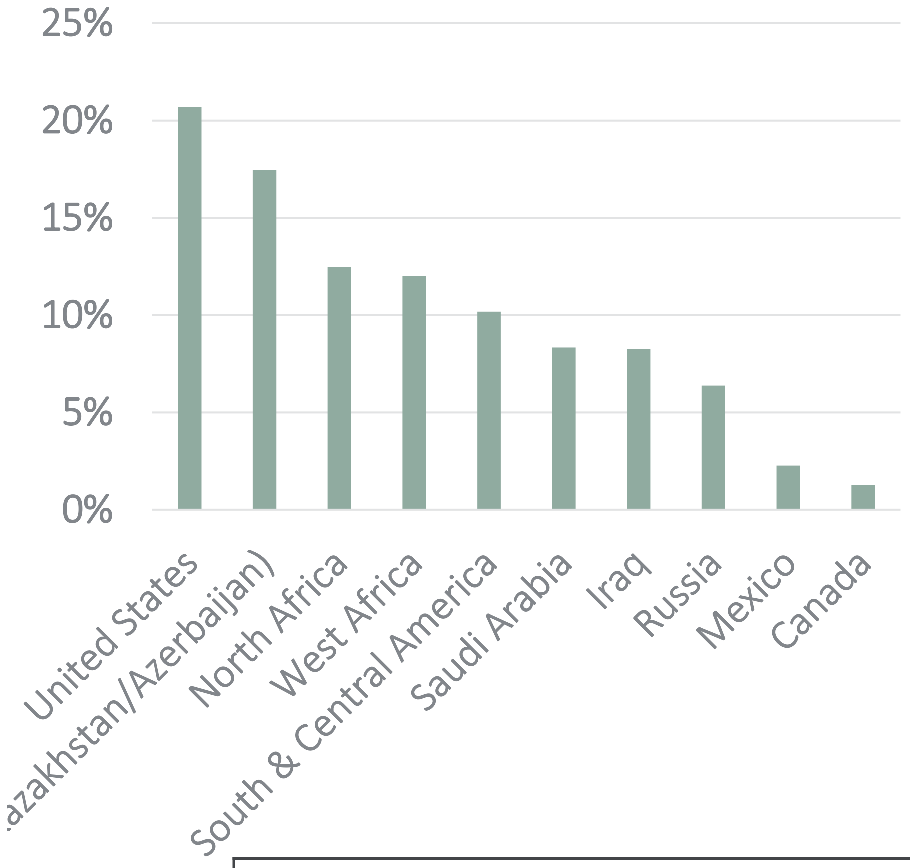
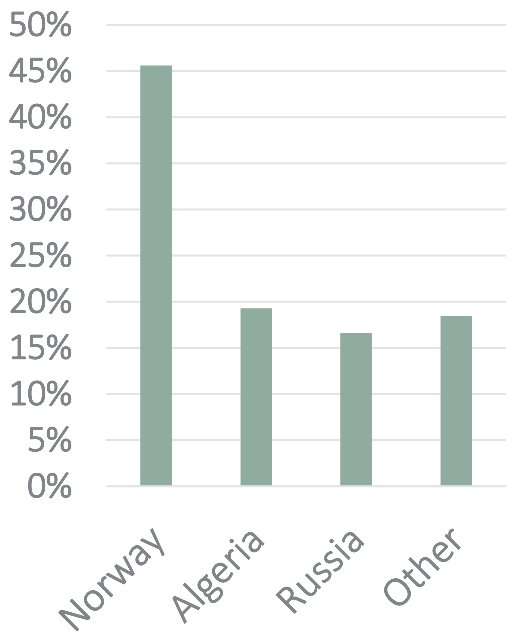
Majority of EU fossil energy imports exposed to long complex supply chains

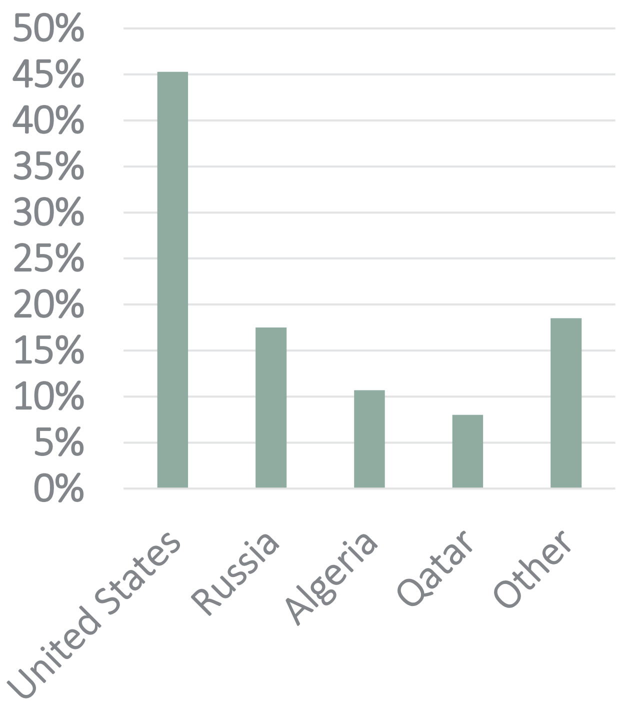
Oil



Natural gas



LNG



Source: Eurostat: Imports of energy products to the EU (2024) and S&P Global approximations

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State of play in decarbonization of hard to abate sectors

Goals and policies are ok,
but bankability is still low

Policies with bankability
are cast in doubt

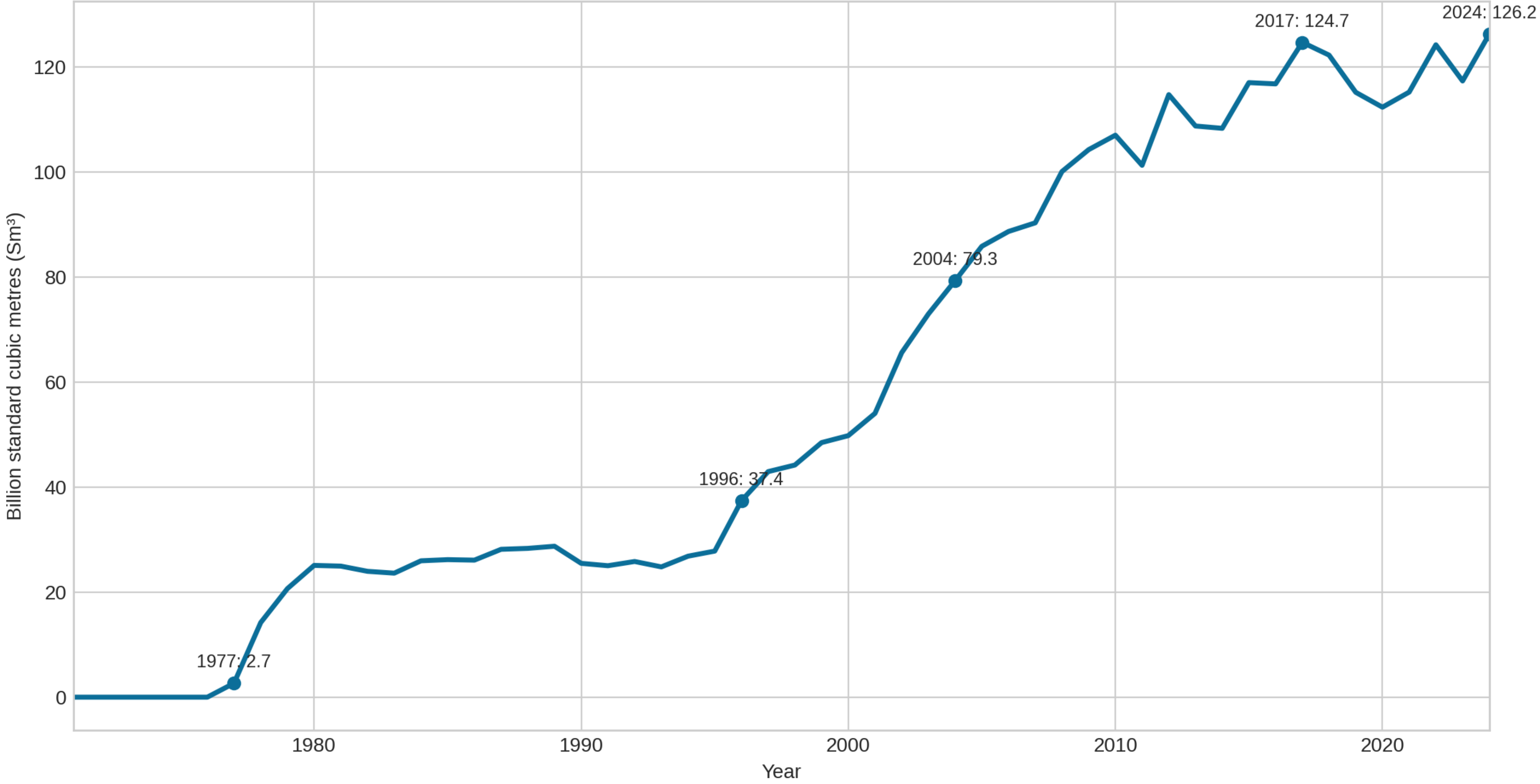
Costs are regarded high
in many places

Costs will go down
through investments

How to break the cycle of aspirations and form a cycle of impacts?


A STRATEGIC SHIFT IS POSSIBLE

Norway natural gas exports 1971-2024

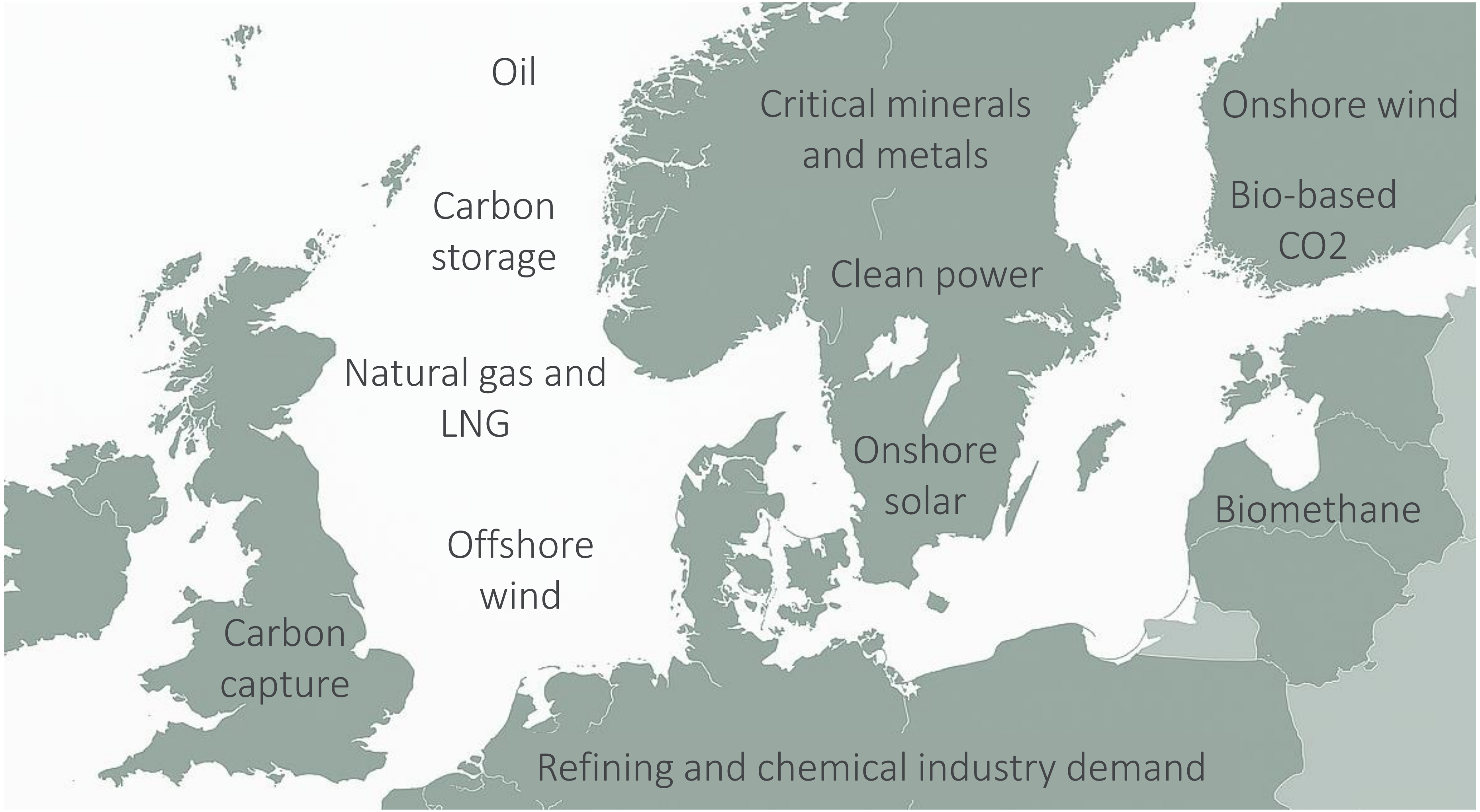


Norway natural gas exports (proxy: annual gas sales), 1971–2024

Source: Norwegian Offshore Directorate FactPages (Net gas, saleable). Nearly all Norwegian gas is exported (≈95% via pipelines, ≈5% as LNG).

HYDROGEN ECONOMY AS A SOURCE OF RESILIENCE

North Sea and Baltic Sea Regions are equipped for resilience



Hydrogen lead markets are key to resiliency

- Defence: fuels, materials, chemicals
- Public procurement: fuels, materials
- Health & safety: chemicals
- Food: chemicals
- Technologies: materials, chemicals

Approximated market sizes of selected EU-27 - examples:

- Defence sector energy demand (peace time): ~50 TWh / 7,5 bn € p.a. with 150 €/MWh
- Defence sector procurement 100-250 bn € p.a.

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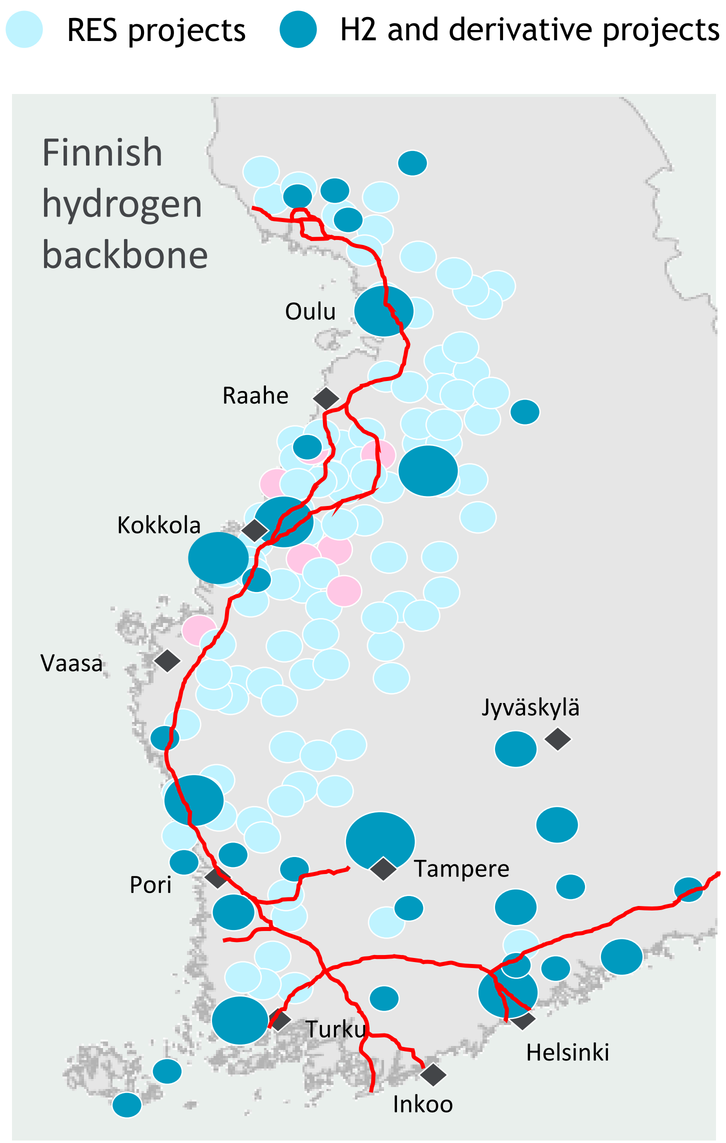


Finland’s Leading Sectors: Seizing New Opportunities

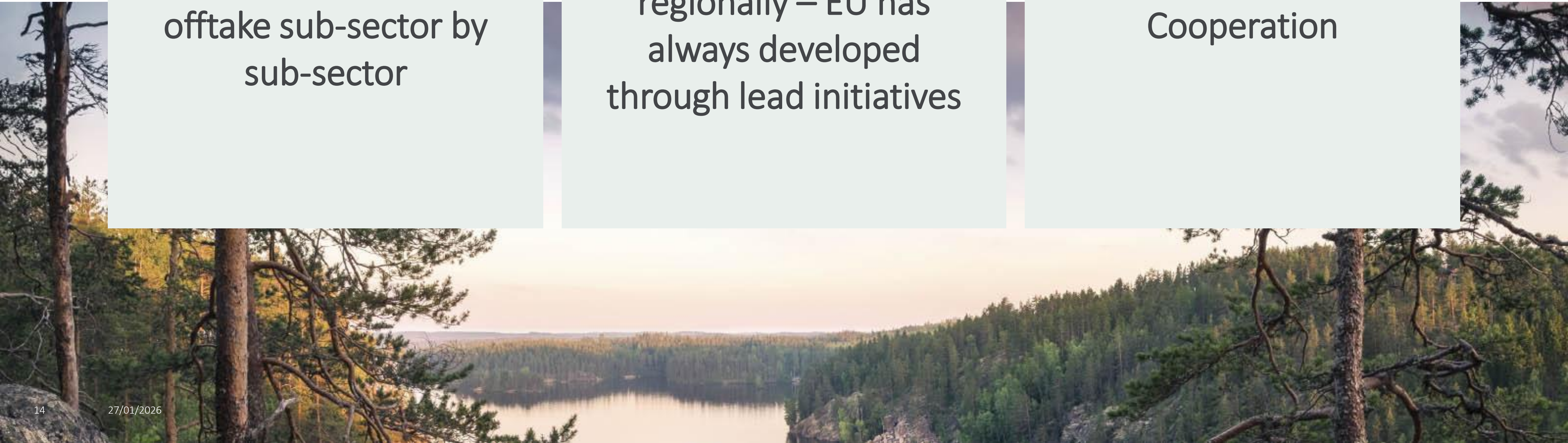
- **1.5 mtpa of H2 production potential** indicated through LoIs
- **Front-runner P2X projects** – fast track to key commodities creating resiliency
- **Favourable** economic and political **environment to create win-win opportunities**
- **Opportunities** for **investments, offtakes, and partnerships** across the ecosystem

Winning the global game

Fast track lead markets offtake sub-sector by sub-sector

Do it locally or regionally – EU has always developed through lead initiatives

Cooperation



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