



CLEAN AIR  
TASK FORCE

# Carbon management developments in the European Union

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# Clean Air Task Force

Mission: Create an affordable, zero carbon energy system by advocating for pragmatic policies, new business strategies, and advanced technologies.



Clean Energy  
Infrastructure  
Deployment



Energy Systems  
Analysis



Advanced Nuclear  
+ Fusion



Carbon Capture  
and Storage



Land  
Systems



Super Pollutants



Superhot Rock  
Energy

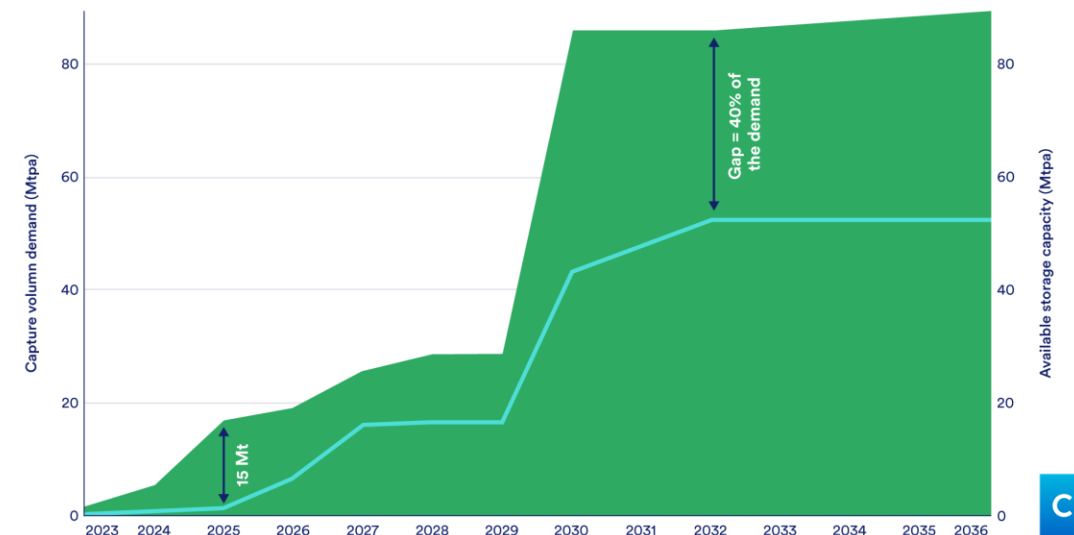


Hydrogen

# Our work on CCS in the EU

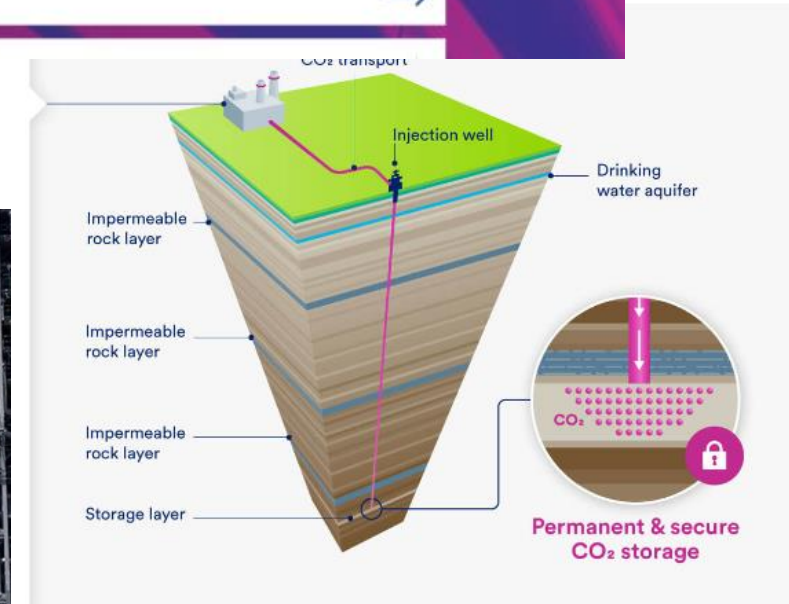
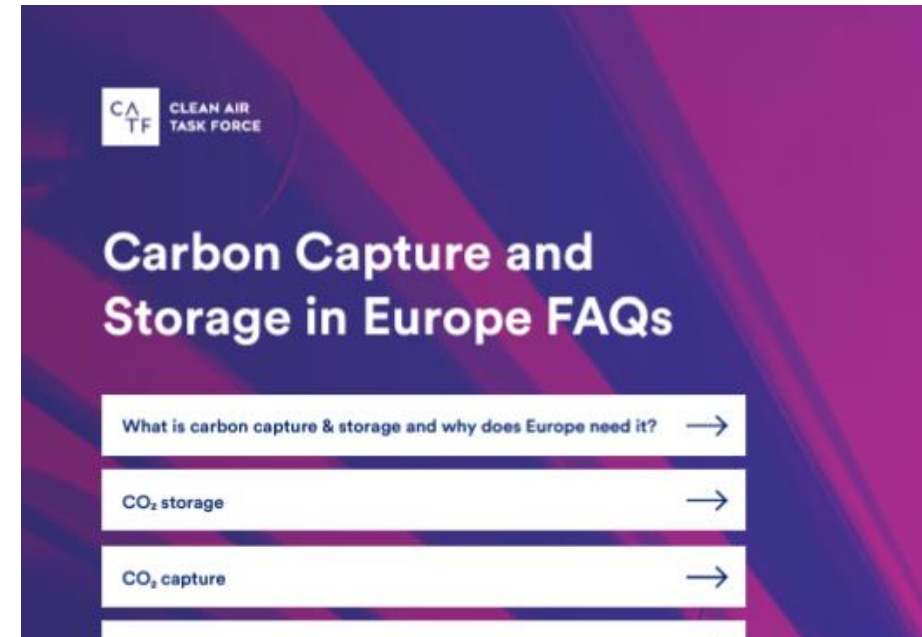
- **Priorities:** Coordinated infrastructure build-out and ‘beyond demonstration’ policy.
- Campaigned for inclusion of CO<sub>2</sub> storage in the TEN-E regulation
- Published ‘A European Strategy for CCS’ (2022)
- Co-chaired the Commission’s Working Group on ‘CCS Vision’ - Issue paper released Jan 2023
- CDR policy through CRCF Expert Group
- Active in key Member States

[https://cdn.catf.us/wp-content/uploads/2022/05/10050419/CATF\\_CCSEuropeStrategy\\_Report\\_final.pdf](https://cdn.catf.us/wp-content/uploads/2022/05/10050419/CATF_CCSEuropeStrategy_Report_final.pdf)  
[https://energy.ec.europa.eu/topics/oil-gas-and-coal/carbon-capture-storage-and-utilisation/ccus-forum\\_en](https://energy.ec.europa.eu/topics/oil-gas-and-coal/carbon-capture-storage-and-utilisation/ccus-forum_en)



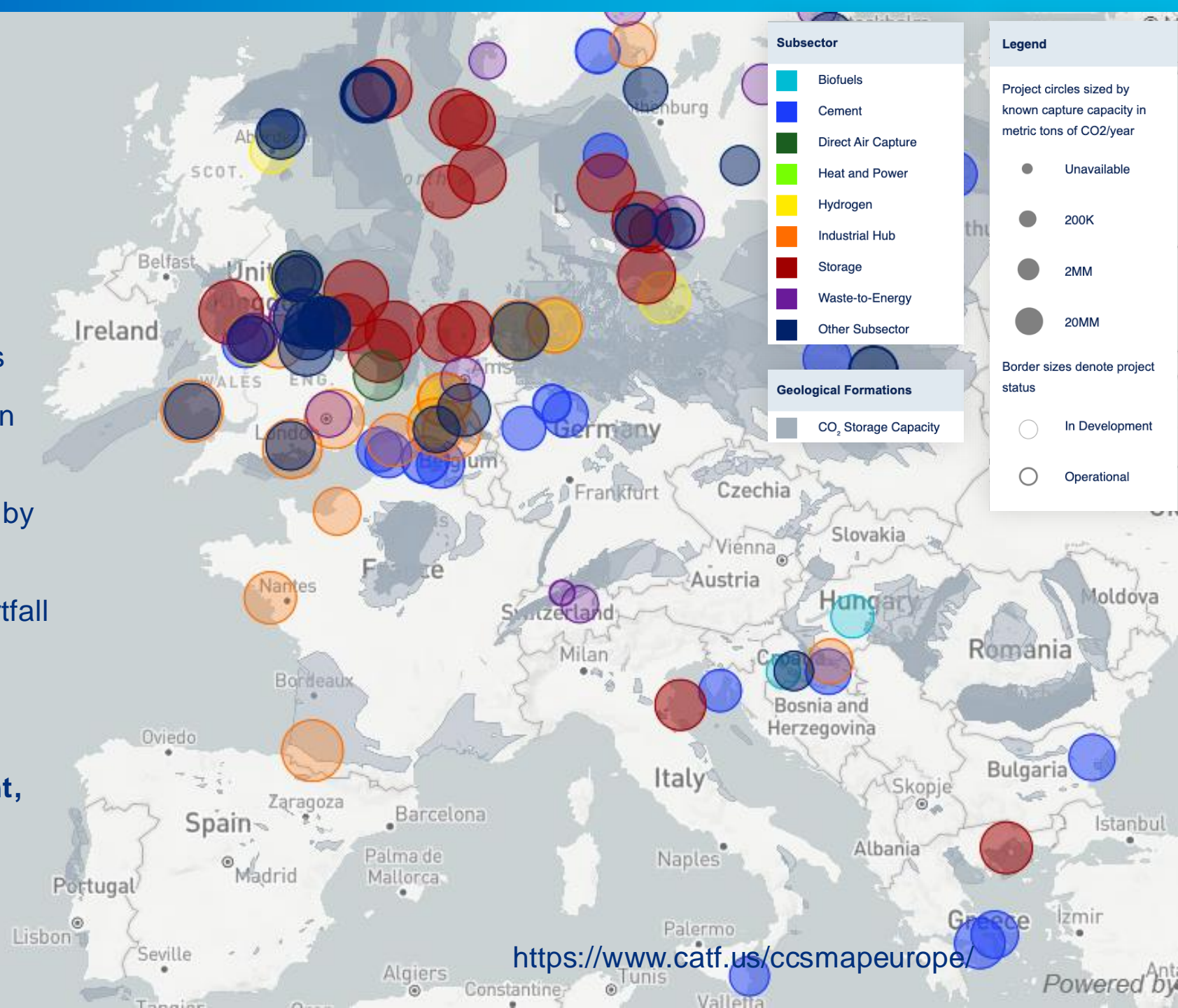
# Communicating CCS

- FAQs and explainer videos
- Carbon capture and storage: What can we learn from the project track record?
- ‘CCS Initiative’ – 2023 CCS explainer event aimed at NGOs and media
- Regular engagement with media

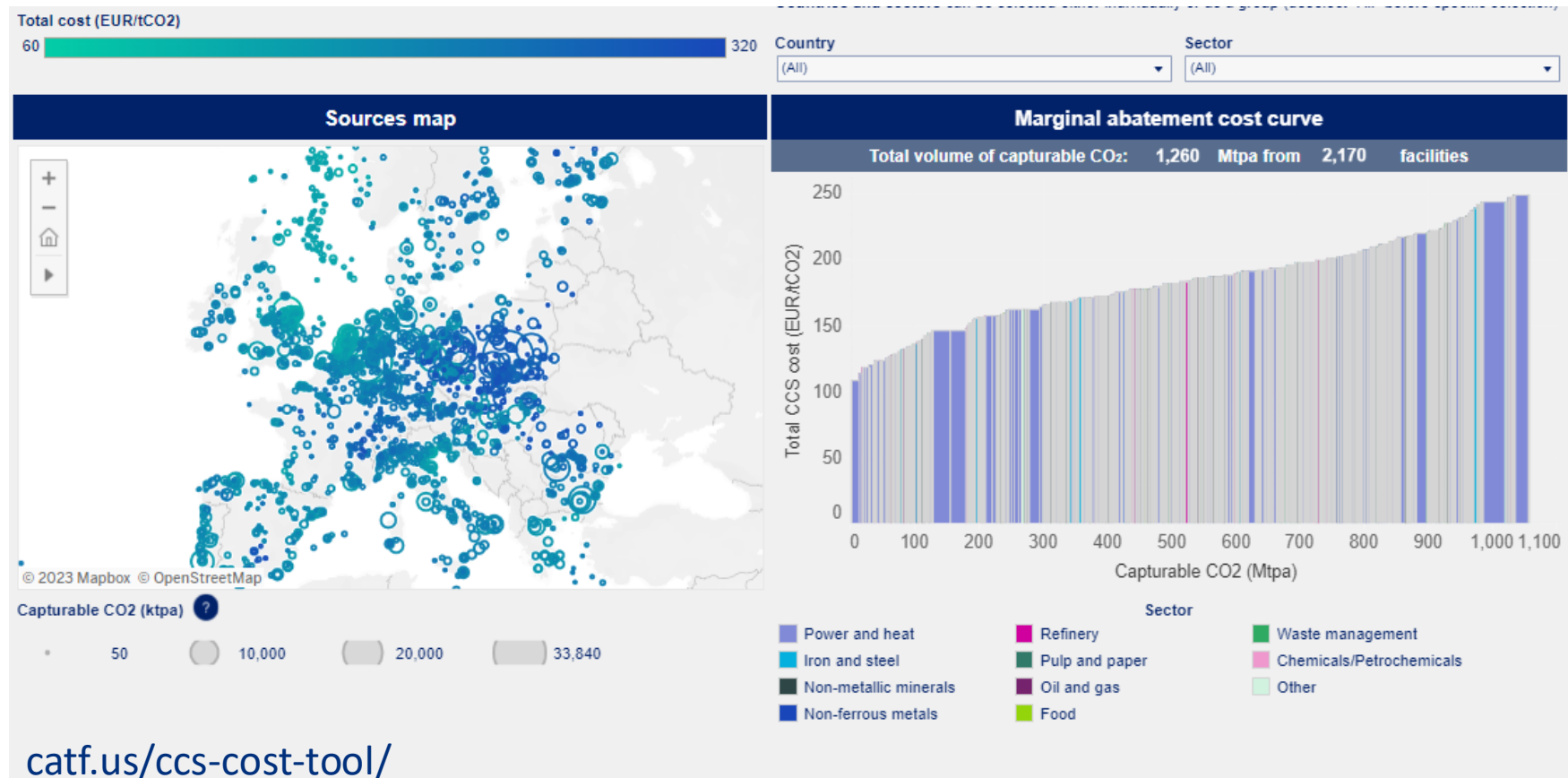


# What is the current state of CCS in Europe?

- Tracking roughly 100 proposed projects
- Largely based around storage options in the North Sea
- 21 large-scale CCS projects supported by the EU's Innovation Fund
- Most projects still facing economic shortfall and inadequate access to storage
- **Only Porthos (NL) and projects associated with Norway's Northern Lights have taken FID (Brevik cement, Yara, Asnaes/Avedøre CHP)**

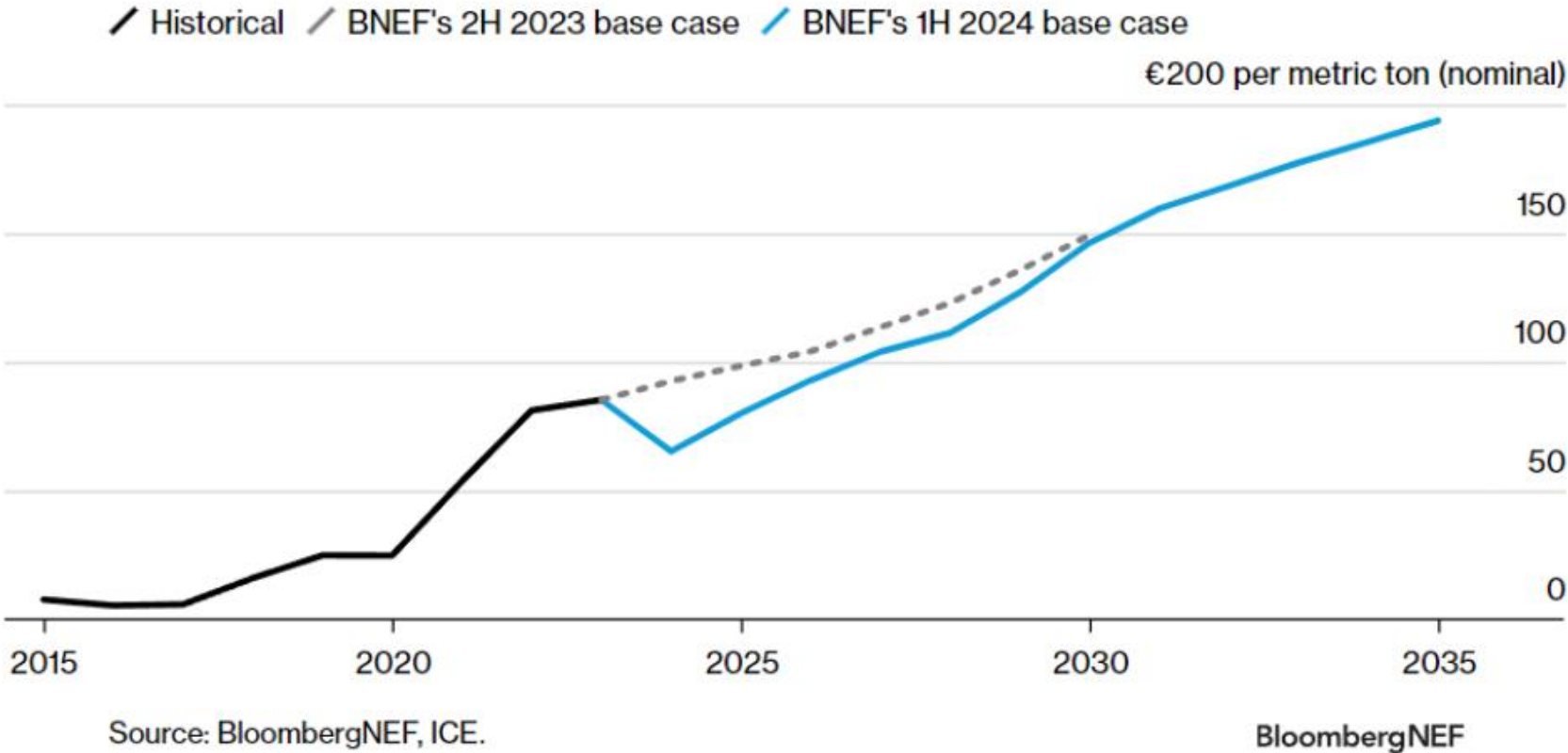


# The cost gap remains



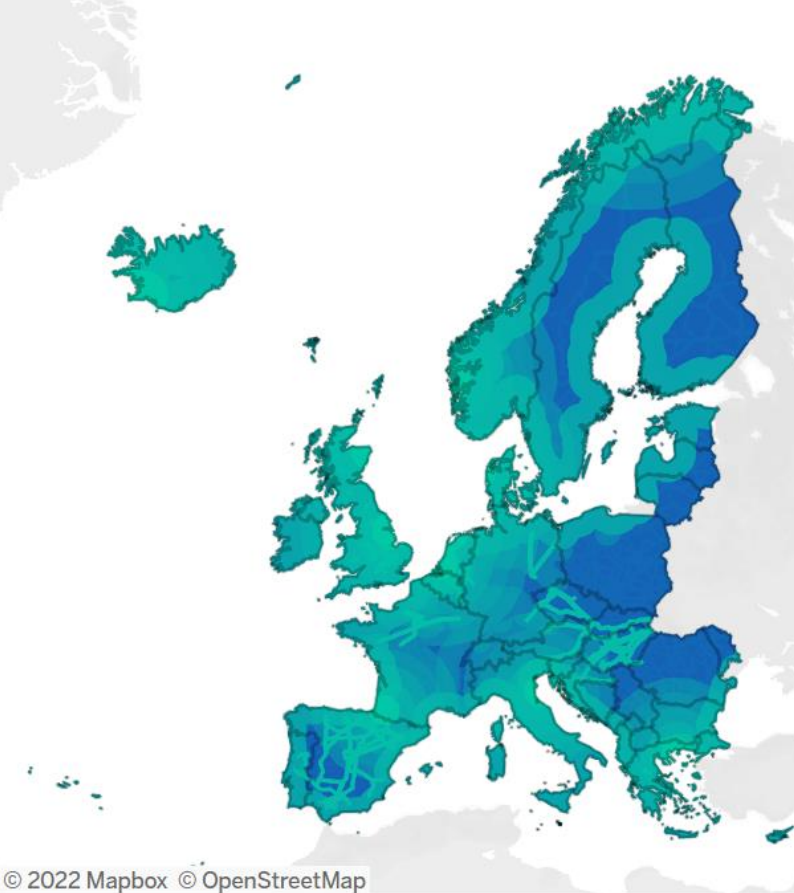
- Many projects still face costs in the range €150-250/t, particularly where access to storage is poor and value chains complex
- Projects moving forward using VCM for CDR credits *and/or* state-backed storage infrastructure
- Even with Innovation Fund or national funds, coordinating FID with privately developed storage is complex and risky

# Will the ETS be enough of an incentive?



Even with prices close to the cost of abatement, the ETS may not be seen as sufficiently bankable by project investors

Cost of T&S, €/t



Announced sites, no new pipelines

Existing sites, new pipelines

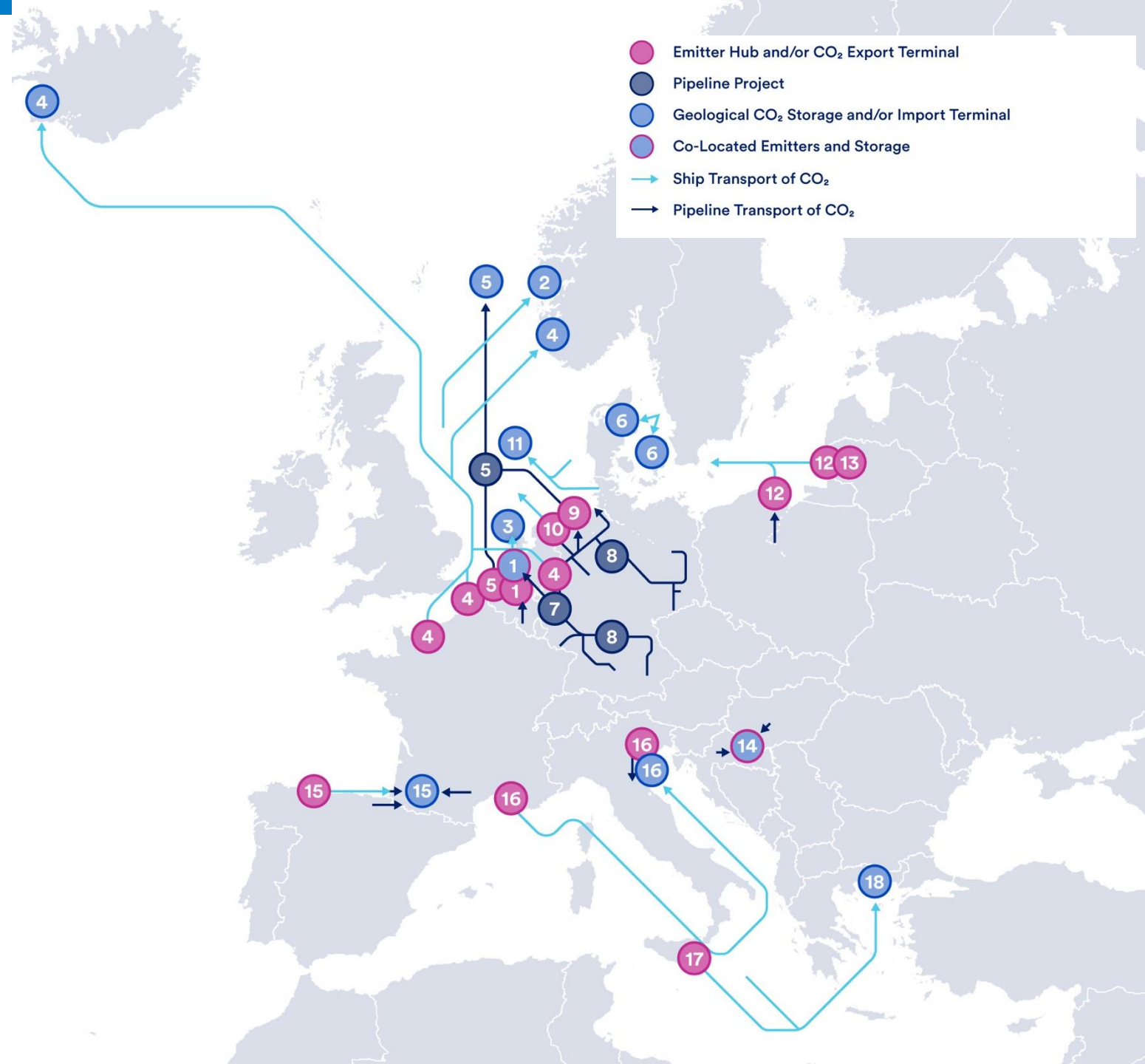
New storage, no new pipelines

Driving down costs in Europe needs a flexible, cross-border CO<sub>2</sub> network and more distributed storage sites



# TEN-E and Projects of Common/Mutual Interest

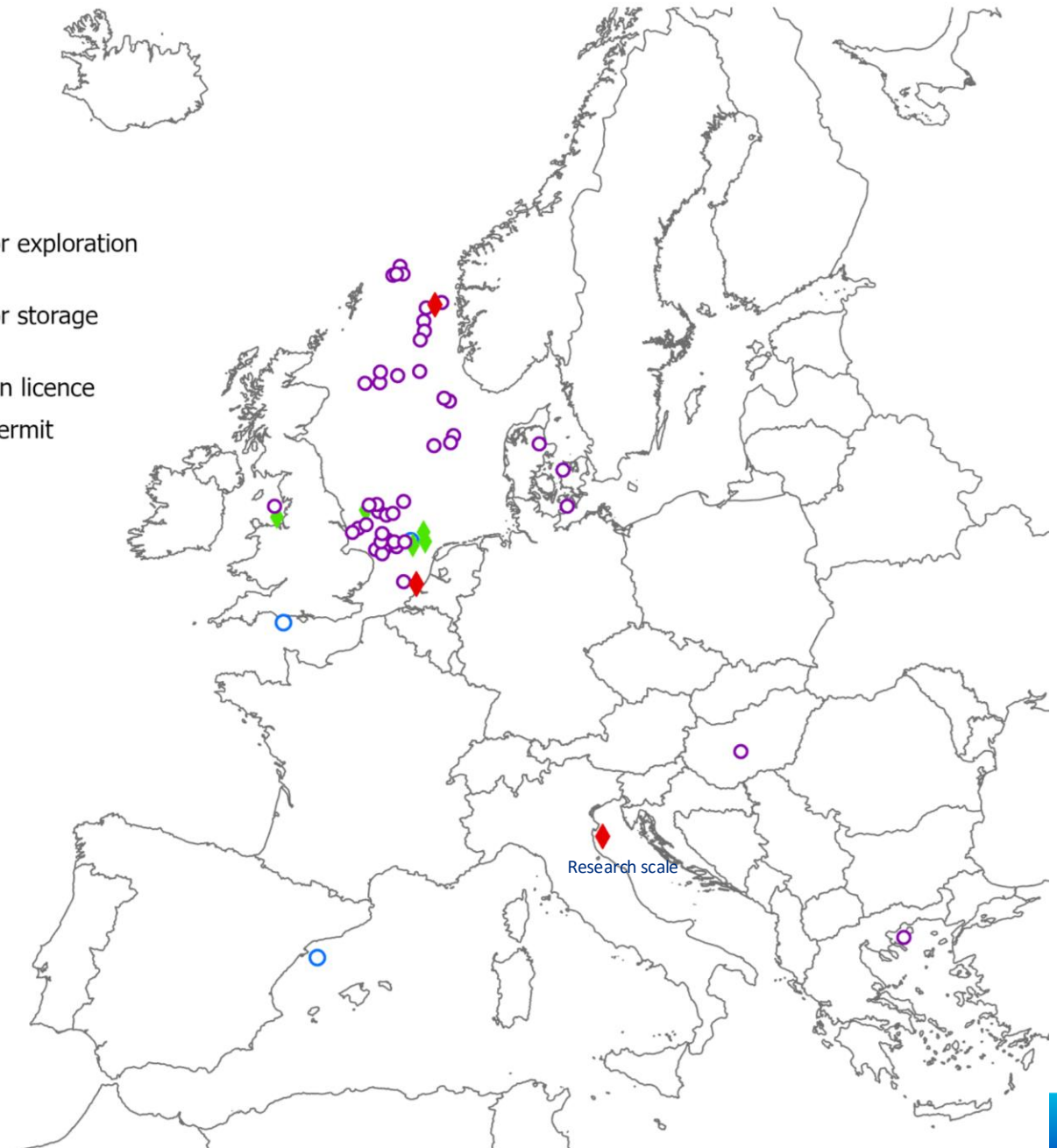
- Cross-border CO<sub>2</sub> networks are eligible for PCI/PMI status
- 18 proposal to the 6<sup>th</sup> list, of which 14 were selected
- Projects are eligible for accelerated permitting and access to funds under the Connecting Europe Facility
- Previous CO<sub>2</sub> PCIs have received nearly €900 million in CEF funding



# CO<sub>2</sub> storage permitting

- Storage heavily concentrated in the North Sea
- Only 3 storage permits awarded (Northern Lights and Porthos) and 6 pending (UK and Netherlands)
- 27 active licences in the UK, 7 in Norway, 3 in Denmark
- Many Member States have inadequate implementation of CCS Directive and lack capacity for permitting
- UK storage sites not currently usable by EU emitters

- Applied for exploration licence
- ◆ Applied for storage permit
- Exploration licence
- ◆ Storage permit



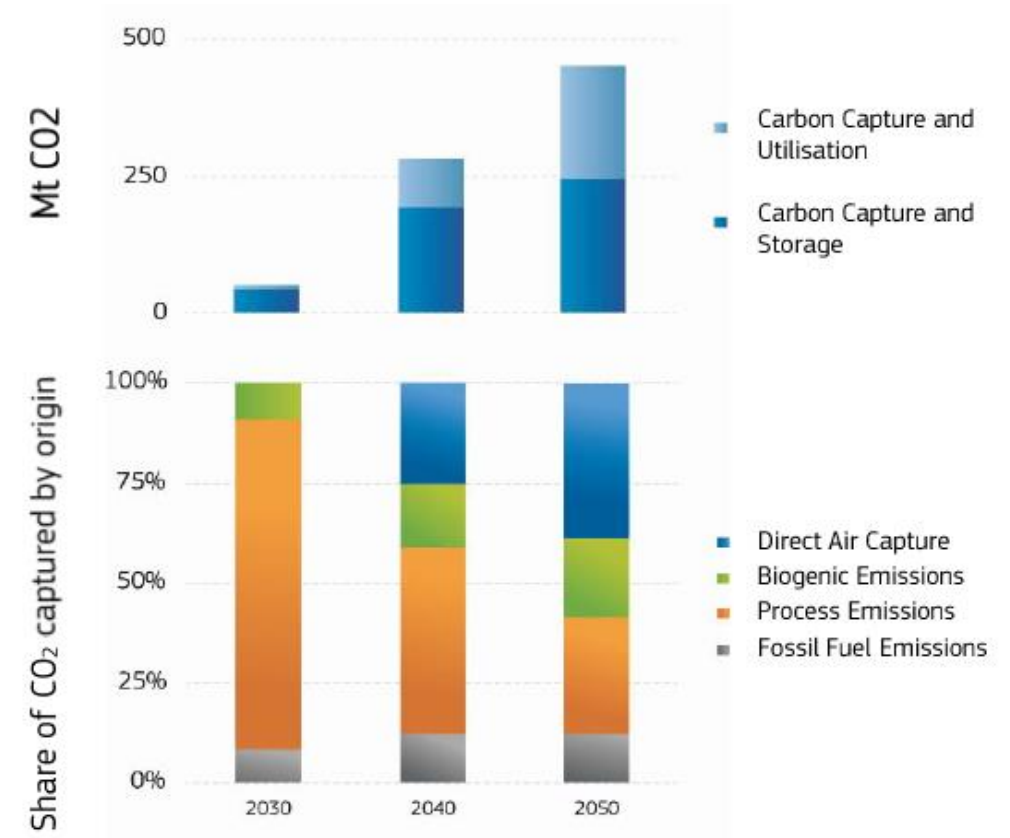
# 2024 brings game-changing EU policies for carbon management

## Industrial carbon management strategy

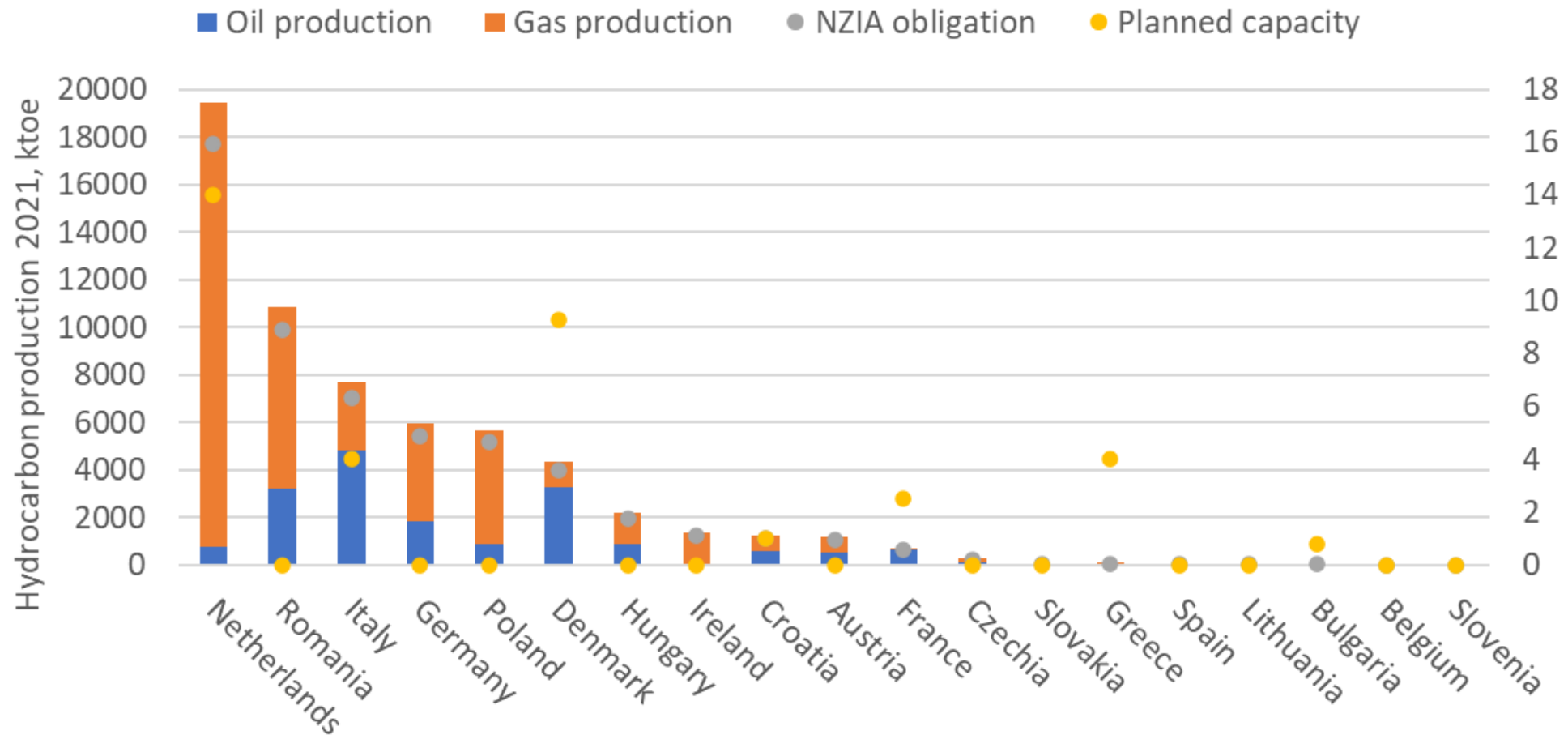
- Indicates need for 250 Mtpa by 2040
- Investment atlas for CO<sub>2</sub> storage
- An aggregation platform for CO<sub>2</sub>
- A regulatory package for CO<sub>2</sub> transport
- An EU-wide planning mechanism

## Net-zero Industry Act

- Obligation on EU oil and gas producers to deploy 50 Mtpa of storage by 2030
- Member States to support storage projects as 'Strategic Net Zero Technology Projects', share storage data and report CCS plans – 'all reasonable effort' to develop transport infrastructure



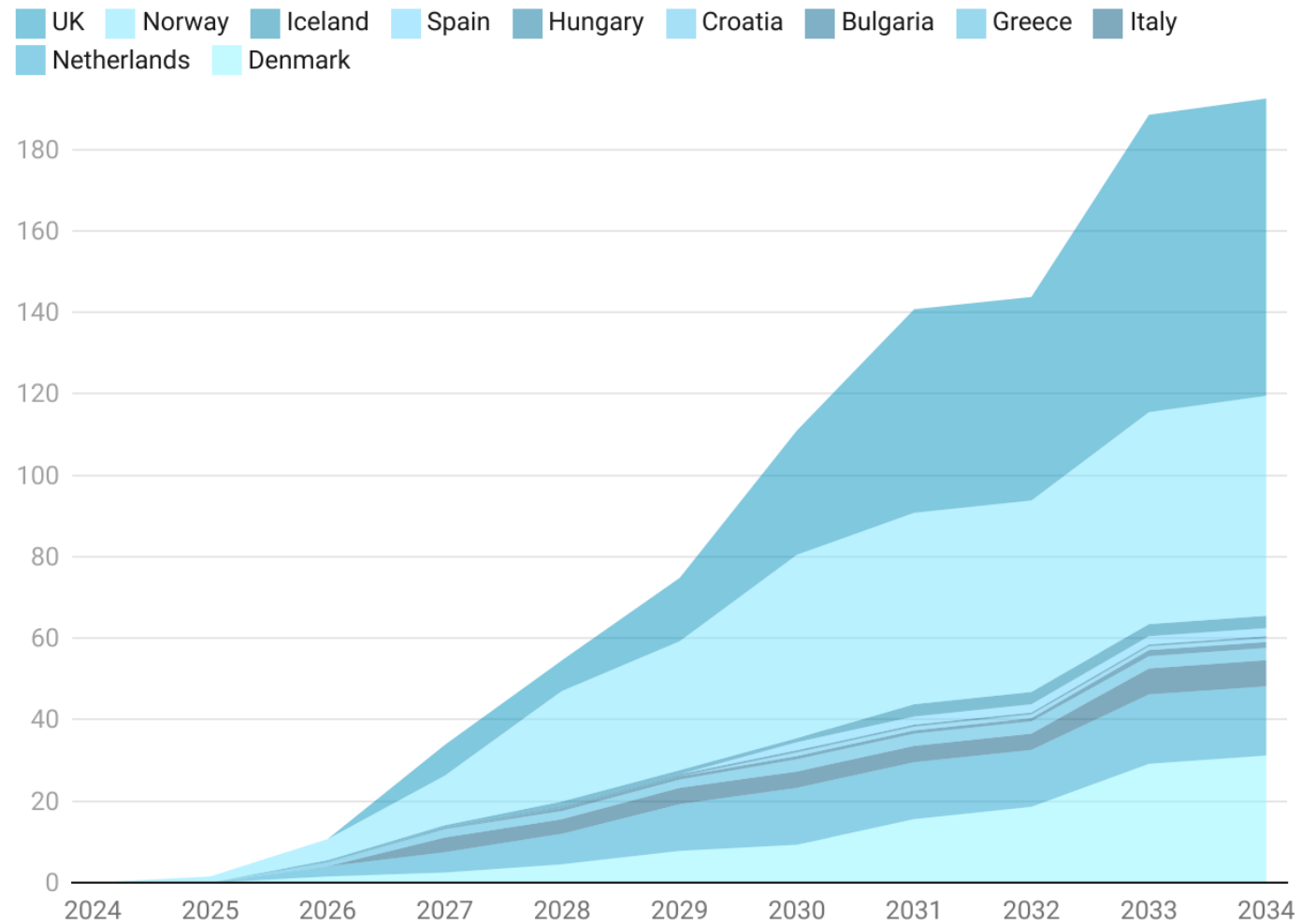
# The Net-Zero Industry Act: Getting storage on track?



- Obligation on EU oil and gas producers to deploy 50 Mtpa of CO<sub>2</sub> storage by 2030
- CCS projects can gain benefits of 'net zero strategic project' status

# A storage gap returns

- Currently projecting a 15 Mtpa shortfall from the EU's 2030 target
- Much more storage in the pipeline in UK and Norway
- New projects in Southern and Central Europe
- 58 Mtpa from planned projects in EEA



Created with Datawrapper

<https://www.catf.us/carbon-capture/storage-project-capacity-europe/>

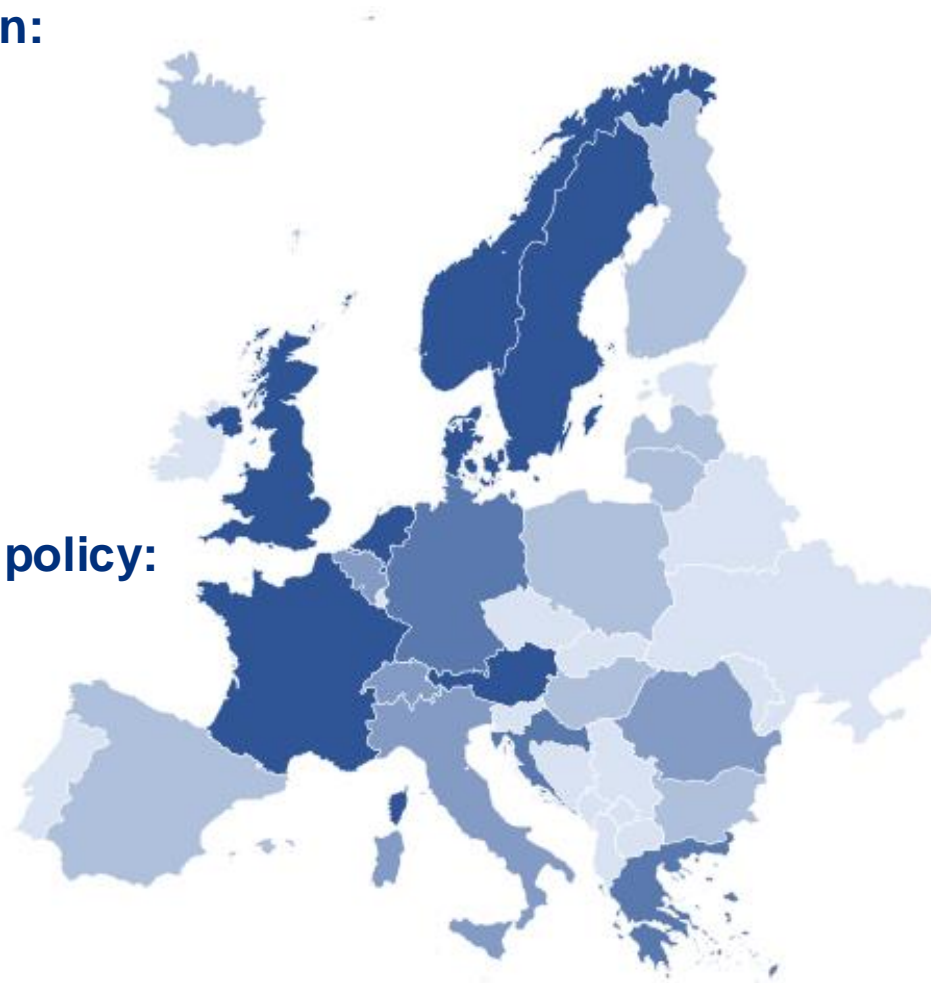
# Member State policies filling the gaps?

## CCS strategies and funding in:

Denmark  
 Netherlands  
 Norway  
 UK  
 France  
 Austria  
 Sweden (*BECCS only*)

## Projects but little supportive policy:

Spain  
 Bulgaria  
 Poland  
 Hungary  
 Lithuania  
 Latvia



## CCS strategies expected in:

Germany (industry CCfDs in place)  
 Croatia  
 Greece

## Projects and NECP targets or other policy support:

Italy  
 Romania  
 Belgium

Funding mechanisms (CCfD-based) and T&S frameworks emerging at the Member State level

# Key messages

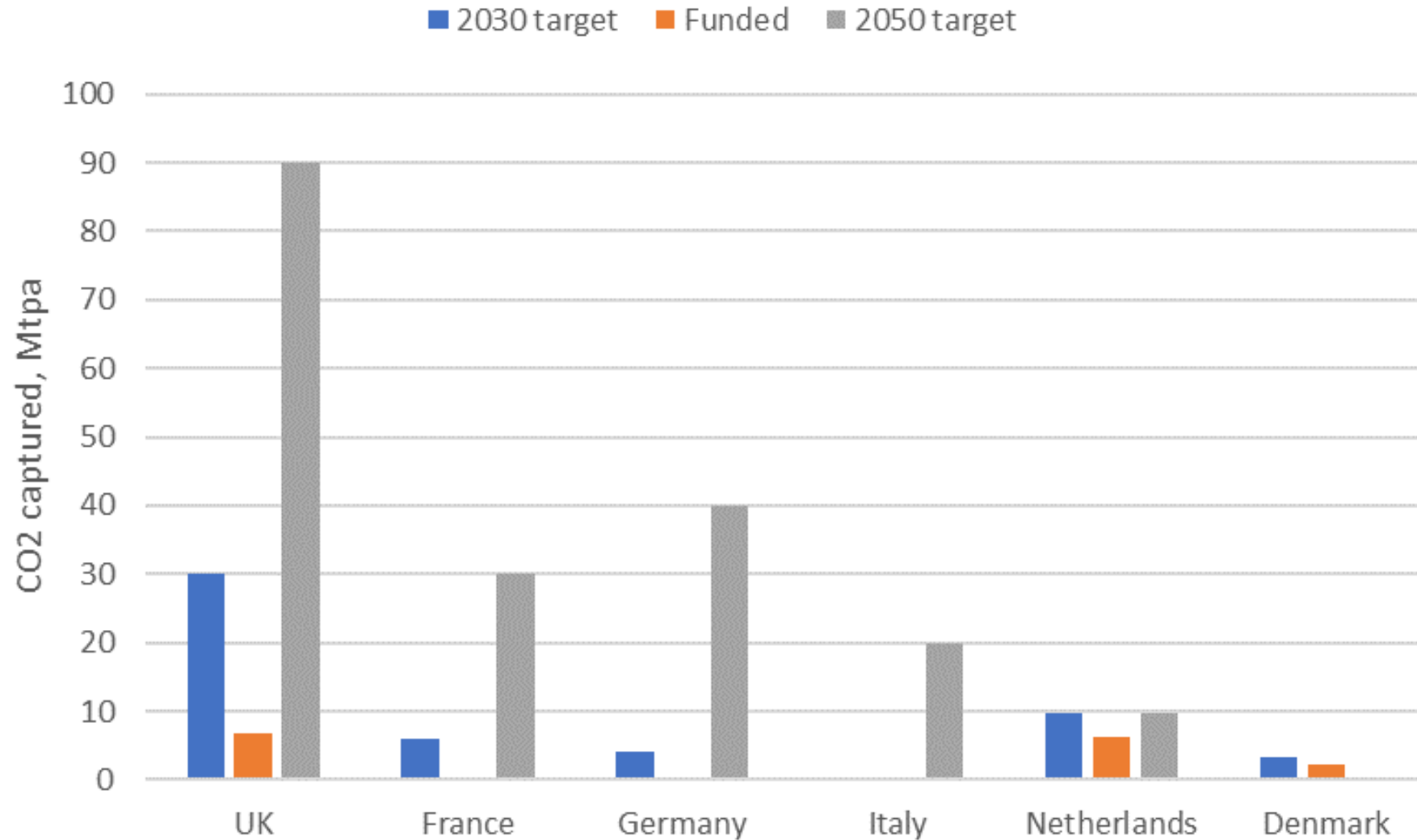
- **2024 is a sea change year for CCS policy at the EU and national level:** broad political recognition of the importance of rapid deployment
- However, FIDs and funding not on track to support the targeted scale up
- NZIA can help address the storage bottleneck – but needs scrutiny on plans and adequate penalties
- **Challenges:** project coordination, risk allocation, insufficient budget for CCfDs
- Transport networks likely to be a major barrier, with many projects relying on pipelines, terminals and ships that have not taken FID, and infrastructure investment highly dependent on emitter-targeted funding
- ICMS measures need to be implemented in full and in a timely manner: particularly for transport
- **Additional drivers needed to close the funding gap:** A ‘deployment fund’ to build from the Innovation Fund, green premiums, demand-side mandates and further storage mandates?



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# National targets and funding



UK, France and Italy 2050 numbers are minimum of an announced range