NORDIC INVESTMENT BANK

FINANCING THE FUTURE

Financing Perspective on CCUS

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AAA/Aaa (**)
S&P / Moody's

MSCI ESG RATINGS AAA
CCC B BB BBB A AA AAA
LAST UPDATE: April 29, 2021

Corporate ESG Performance
Prime
RATED BY ISS ESG

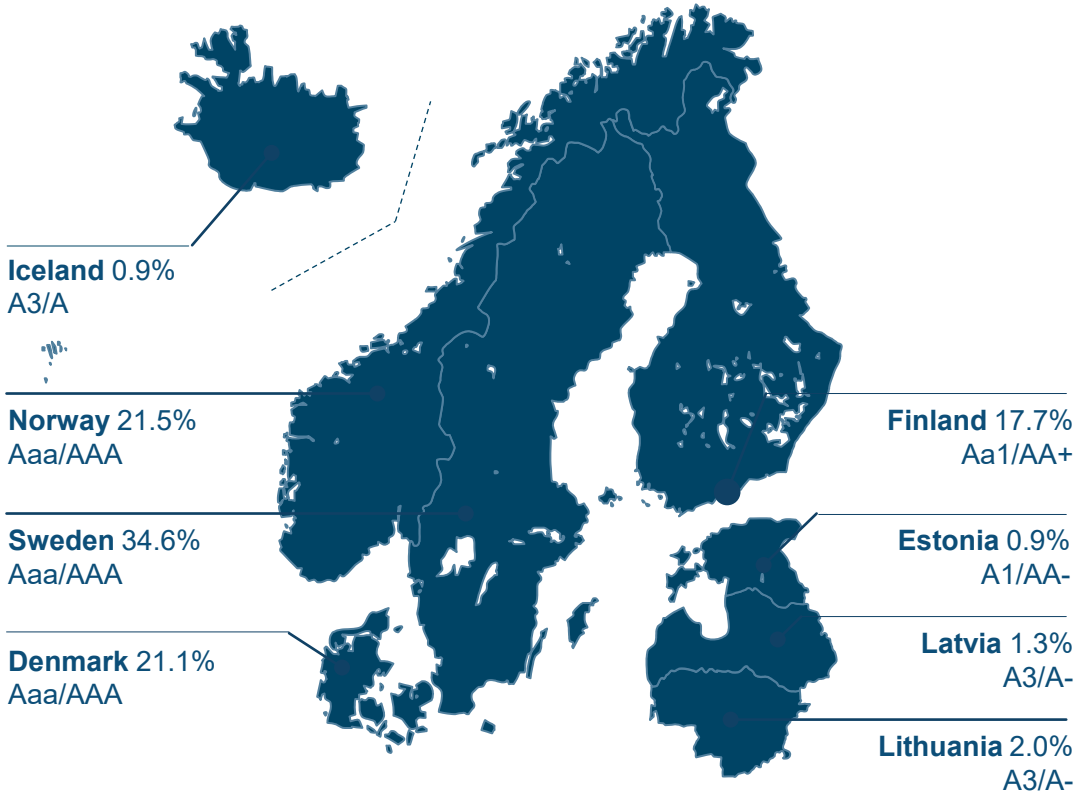
We are committed to a prosperous and sustainable Nordic-Baltic region

NIB - an International Financial Institution founded in 1975

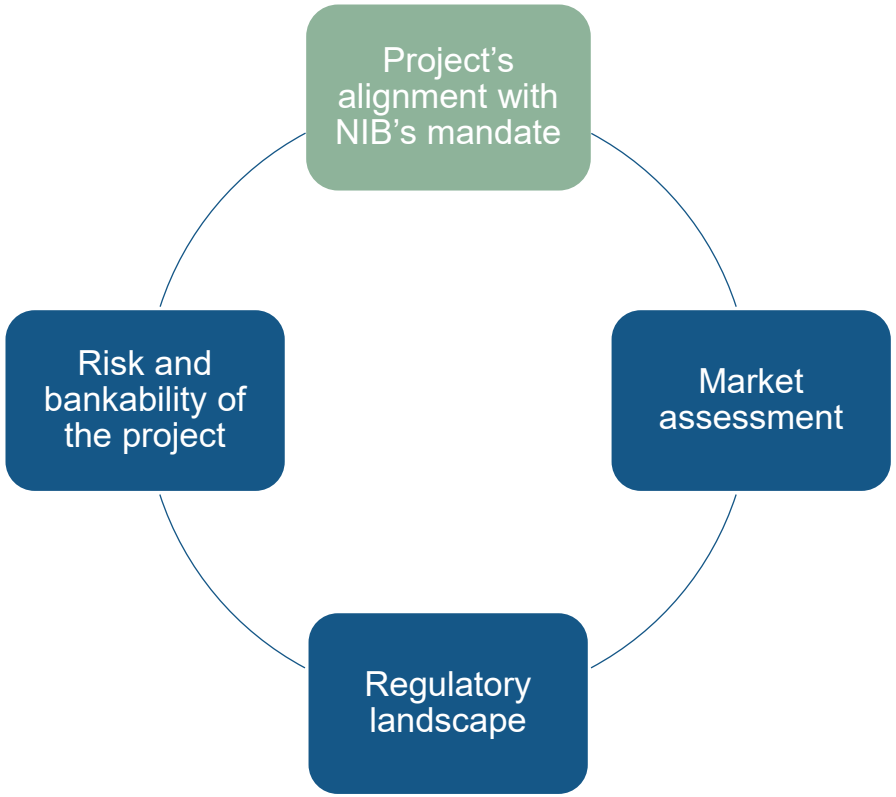
NIB in brief

- Mandate to enable **productivity** gains and facilitate **environmental** benefits
- **Long-term financing**, operate **commercially** based on sound banking principles
- Attractive **financing** terms based on NIB's **AAA/Aaa** rating
- **EUR 3-5 billion** in disbursements, **60 transactions** and **30 new clients** annually
- Leading issuer of **green bonds** in the Nordic-Baltic region

Nordic-Baltic ownership



How NIB would look at a “new” technology and sector



CCUS investment needs

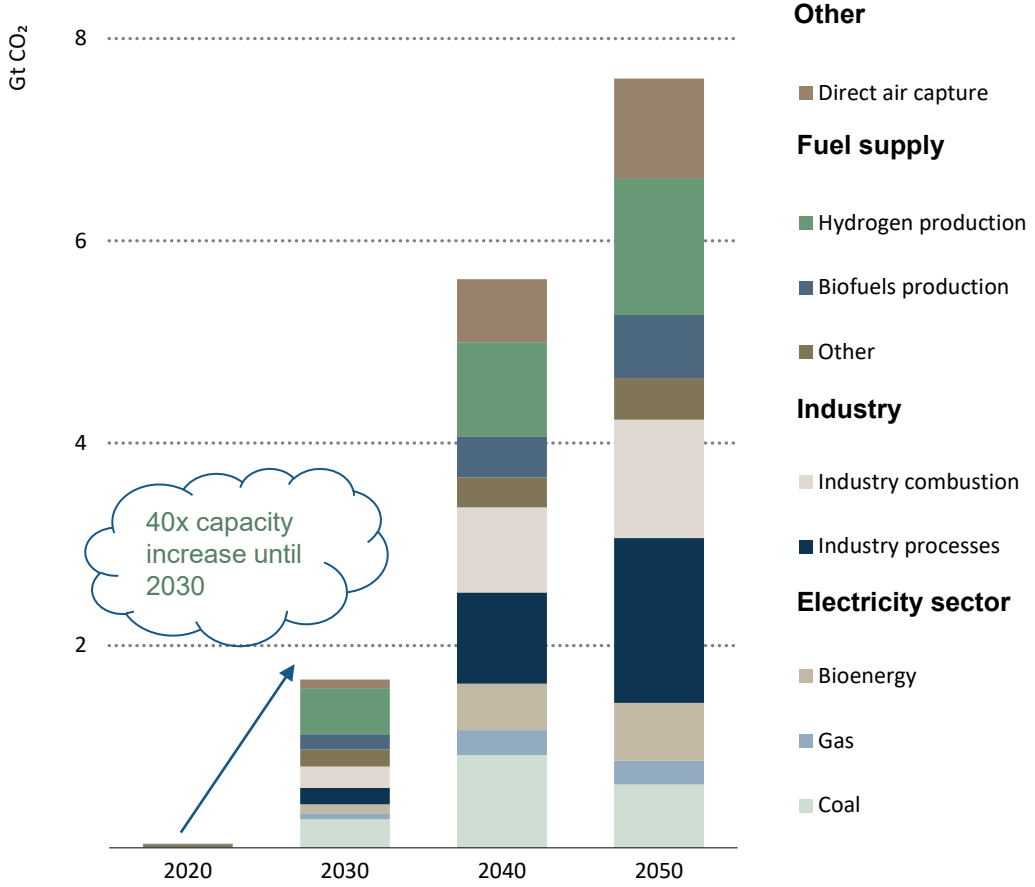
CCUS has so far not lived up to its expectations - its potential to mitigate climate change has been recognized for years, but deployment has been slow

Stronger climate targets and investment incentives are injecting new momentum into CCUS

To stay on track to reach Net Zero Emissions by 2050 **annual investments of 205bn USD are needed** until 2030 in CCUS development *(IEA)*

Huge investment gap to bridge!

Global CO2 capture by source in the Net Zero Emissions scenario



Source: IEA

Drivers for accelerated CCUS development

1. **Net-zero plans make CCUS a necessity, not an option**

2. **New business models have emerged**
   - Shift from large, stand-alone facilities to industrial hubs with shared CO2 transport and storage infrastructure

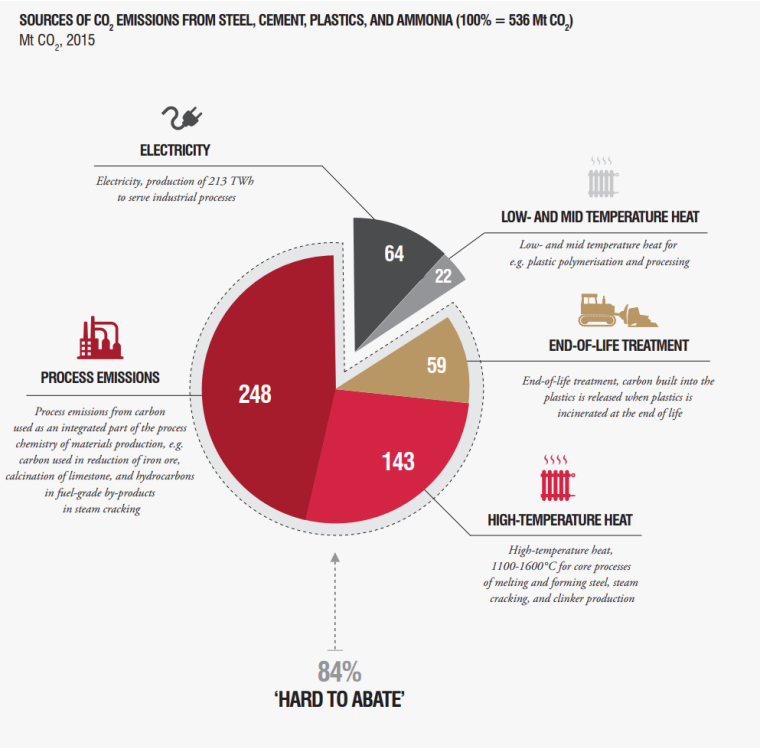
3. **The investment environment has improved**
   - More support for CCUS is available today and policies have also evolved to create durable markets for CCUS investment.
   - EU Taxonomy for sustainable financing sets includes carbon intensity thresholds for "hard-to-abate" sectors, incentivising CCUS

4. **Rising carbon prices have increased viability of CCS**
   - With European ETS prices close to EUR 100, CCUS across different types of both power- and industrial processes have become increasingly viable

5. **Cost curves are slowly decreasing**
   - New and efficient business models (above)
   - Learning by doing
   - Competition between vendors
   - Modularisation to reduce plant capital costs

CO2 emissions from the "hard-to-abate" sectors steel, plastics, ammonia and cement account for 20% of global CO2 emissions

→ CCUS is key to reach net-zero emissions

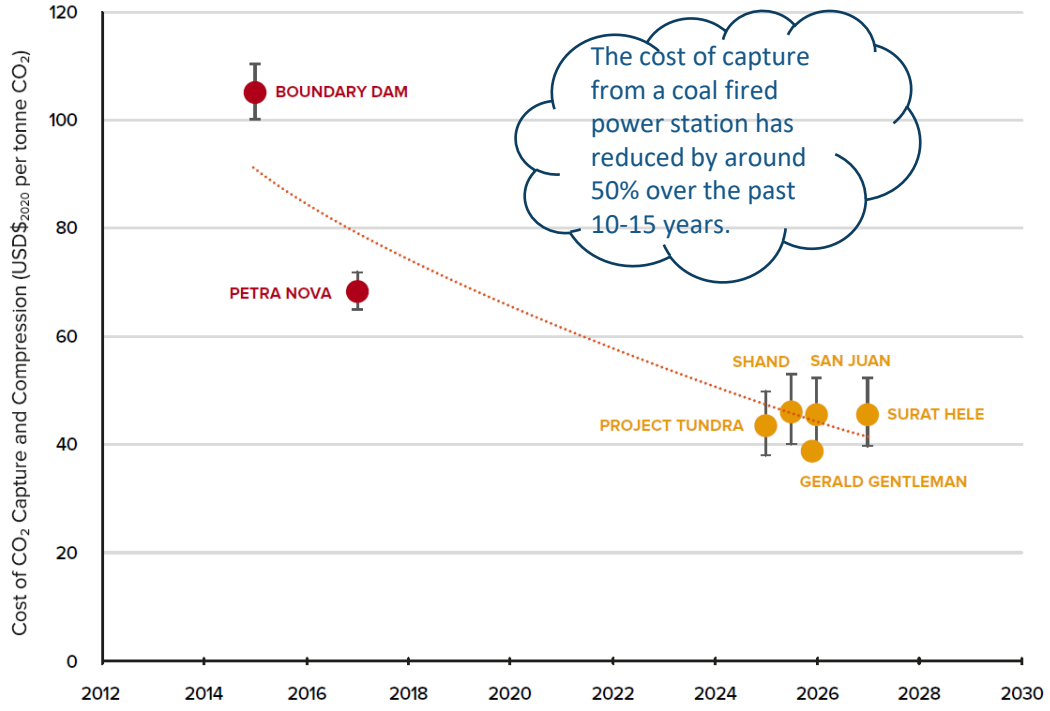


Source: Material Economics, Industrial Transformation 2050, Pathways to Net-Zero Emissions from EU Heavy Industry

Declining cost curves and increasing carbon prices make economics more attractive

Cost of capture is declining

Cost of CO2 capture and compression at commercial post-combustion CO2 capture facilities at coal-fired power plants



Source: Global CCS Institute, Technology readiness and cost of CCS

The price of carbon is increasing

Price of European carbon permits

NIB's view on CCUS

- Only a part of the solution to climate change - not a silver bullet
- The **origin** of the CO_2 and the **application/economic activity** that the CCS is applied for are key
- Efficiency dimension (how much do we need to capture?)

Origin of carbon	Energy *(Electricity/Heat)*	Synthetic fuel *(Hydrogen, methanol, ammonia…)*	Industry *(Cement, steel, chemicals…)*
Coal/Oil			Process/product to be checked
Gas		"Blue hydrogen CCS" >90% capture	Process/product to be checked
Industrial side-stream		Process/product to be checked	Process/product to be checked
Waste/RDF *(Circular economy principles)*			
Biomass *(sourcing to be verified)*	BECCS	BECCS	

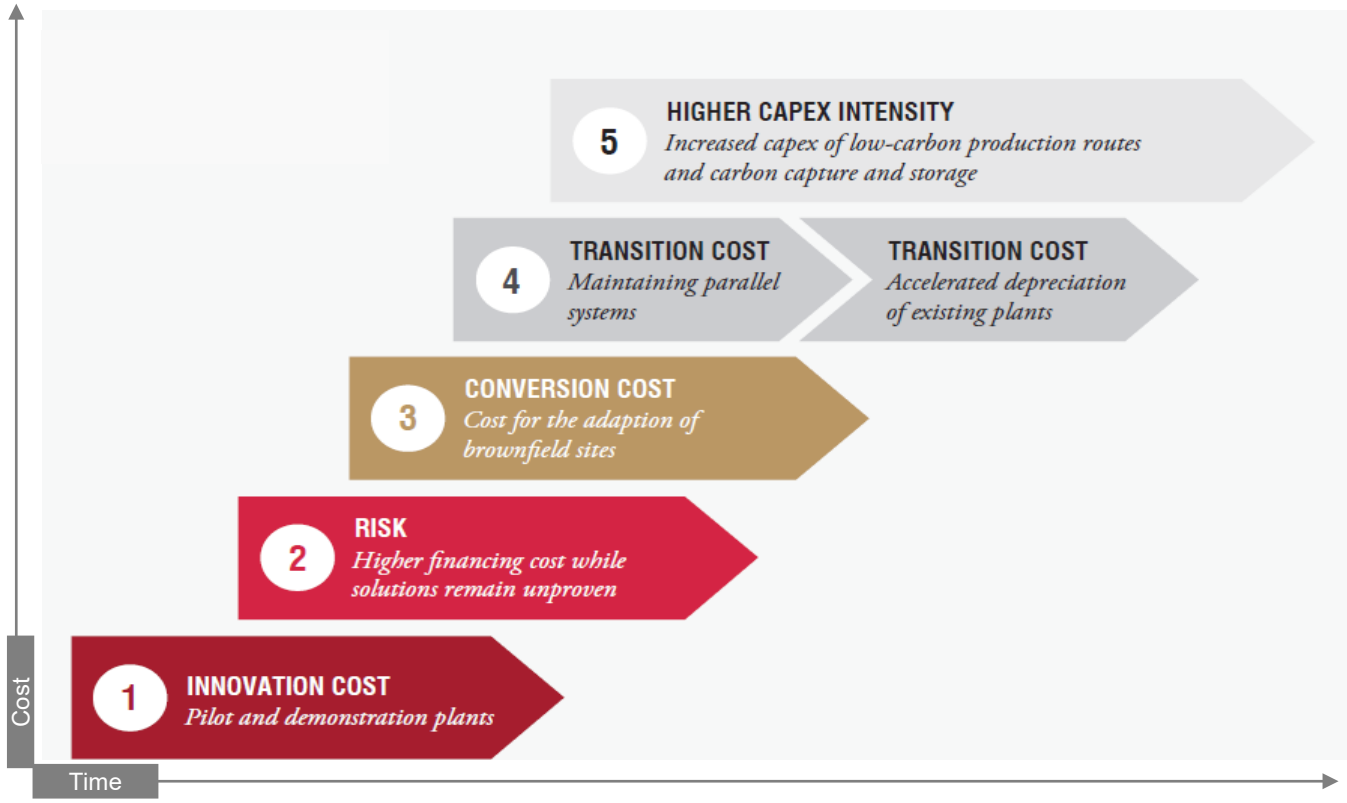
Application / economic activity

Carbon storage

- Geological storage with fixation
- Geological storage in reservoir
- Carbon Use - carbon fixed in long term products
- Enhanced Oil Recovery (EOR)

Making CCUS bankable

- Different stages of market development require different approaches to financing
- The **innovation stage** is higher risk and banks would look at this carefully
- **Risk-sharing** is key during **early investment stages**
- Once a **technology and process is proven**, direct debt becomes feasible



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Thank you!

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