stockholm exergi

BECCS Stockholm

Johan Börje, Head of VCM

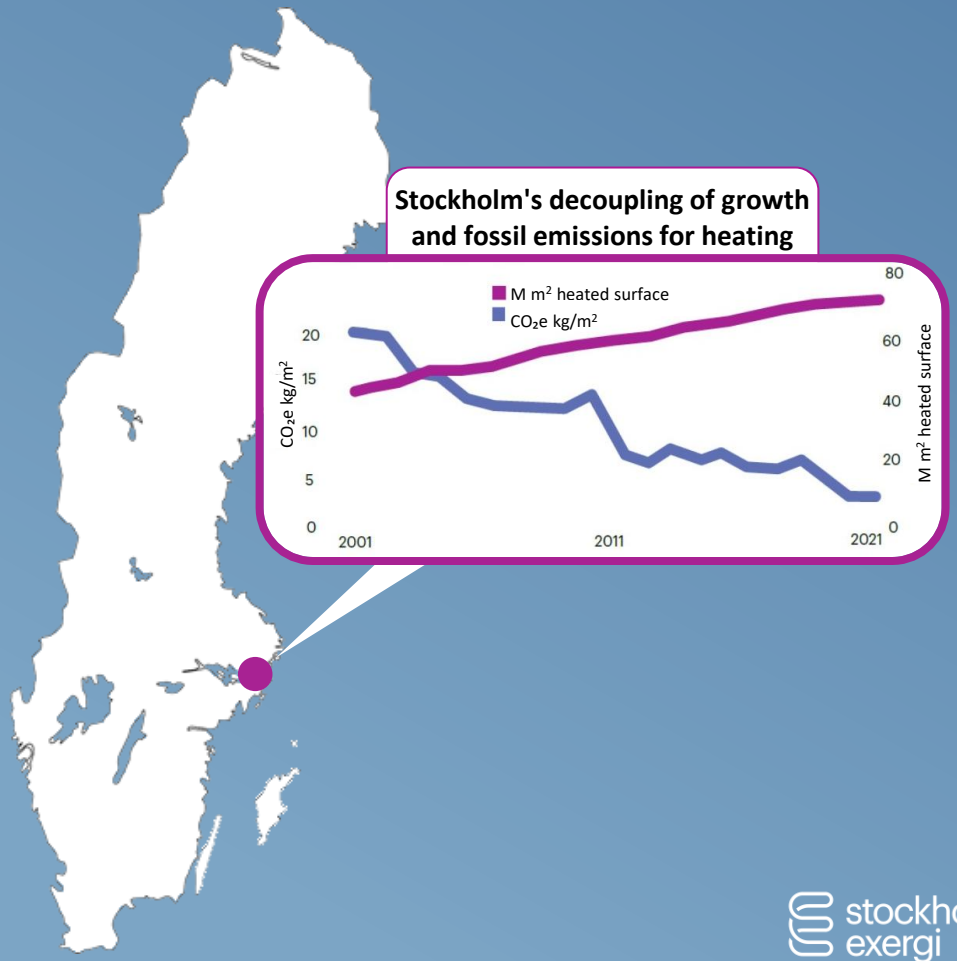
Co-funded by the European Union
Emissions Trading System
Innovation Fund

Swedish Energy Agency

Beccs Stockholm
NEGATIVE EMISSIONS BY STOCKHOLM EXERGI

Stockholm Exergi

- A 50/50 ownership structure between City of Stockholm and Ankhiale
- District heating and cooling to 12 000 buildings and power to the electrical grid, totaling 10 TWh p.a.
- €700 m turn-over
- Last coal-fired plant phased out in 2020; now 99 per cent of production from recovered, reused and renewable sources
- Next step: Become EU's largest supplier of CO_2 removals with permanent storage



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The BECCS Stockholm value chain

Certified and REDIII compliant biomass residuals transported by boat and train

Biomass incineration since 2016

CO_2 capture and Liquefaction with heat reuse and buffer storage

Sea-based transportation

Geological storage with Northen Lights

Methodology for net quantification of permanent removals

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BECCS Stockholm in short

Key Benefits

- Removal of 800 000 tonnes CO_2 per year
- Heat recovery – no energy loss
- Sustainable biomass. No additional outtake
- Proven, friendly capture solvent
- High concentration of CO_2, around 19%.
- 90-95% capture
- Ownership of steam, electricity and harbor
- No requirement for fresh water

Pilot	FEED study	Detailed design		Investment decision and Construction start		Operations start and commissioning
2020	2021	2022	---	2025	---	2028

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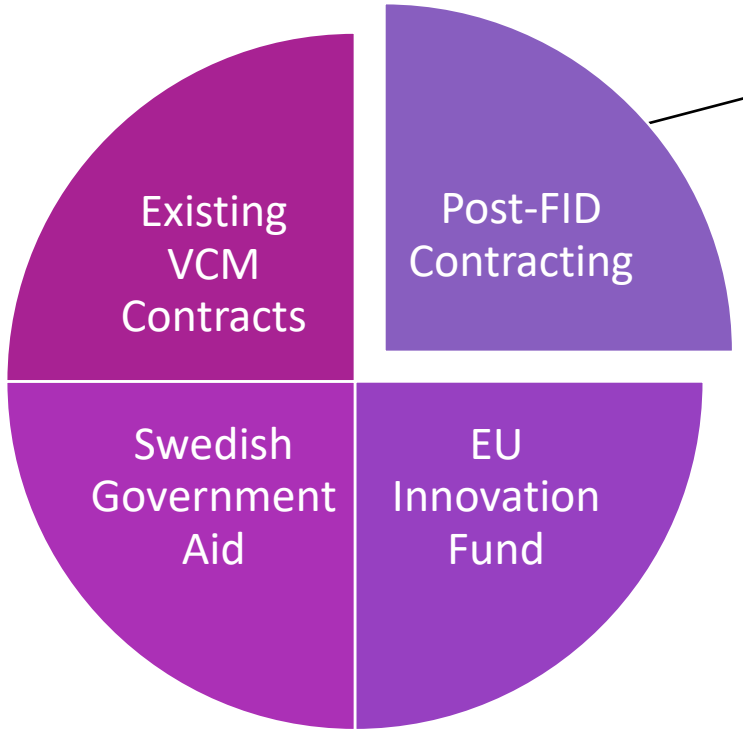
Final Investment Decision achieved thanks to stacking of funds. Now construction and contracting for success

Microsoft
Alphabet
Meta
workday.
shopify
stripe
McKinsey Sustainability
H&M
J.P.Morgan



- ~175,000 units currently open (yearly)
- Deliveries start 2030, 2028/2029 fully booked

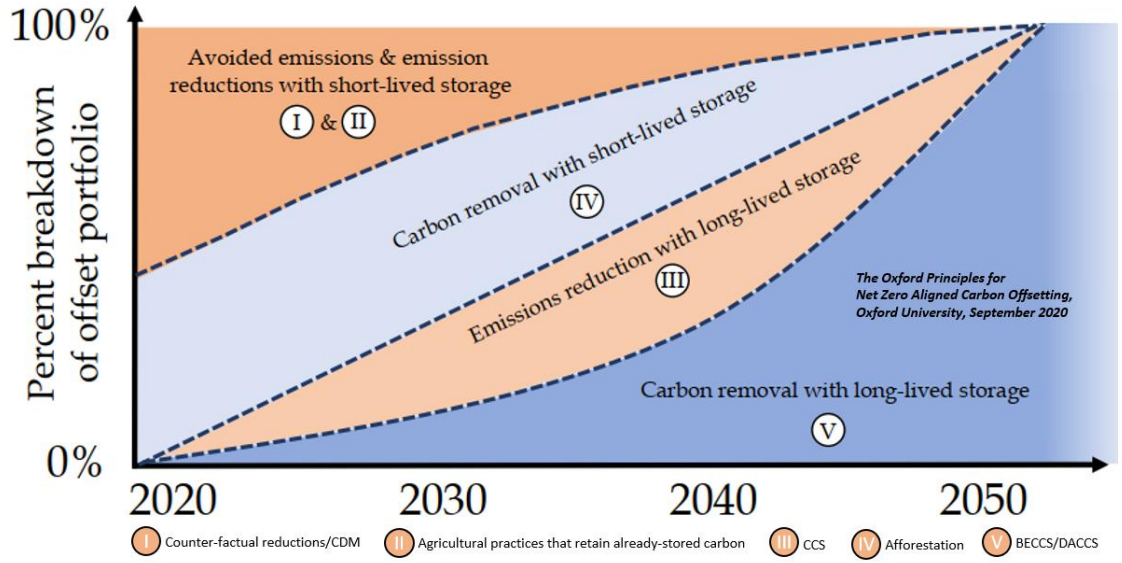
European Commission

Net-zero is approaching

Why CDR already today?

- Counterbalance your current impact on warming
- Join climate leaders, gain brand advantage
- Secure SBTi and net-zero volumes for 2030/35/40
- Help your customers reduce Scope 3 up-stream emissions
- Integration with ETS almost a foregone conclusion
- Supply shortage coming up: leverage the business opportunity

Oxford Principles for Carbon Offsetting



Key policy issues impacting evolution of removals industry

- Claims
- Carbon Removal Certification Framework
- Compliance and 2040 Targets
- SBTi NZ Standard 2.0 and GHGP Standard for removals

- Trans-European Network for Transport and Storage
- Protecting carbon stocks

- On the horizon: implication of net negative

"The long investment cycles in industry must also be taken into account….Decisions made today to invest in CO_2 capture and CO_2 transport infrastructure will thus determine the capacities for CO2 removal in the 2040s – and thus whether the net zero target is within reach."

SWP

SWP-Aktuell

NO. 10 MARCH 2025

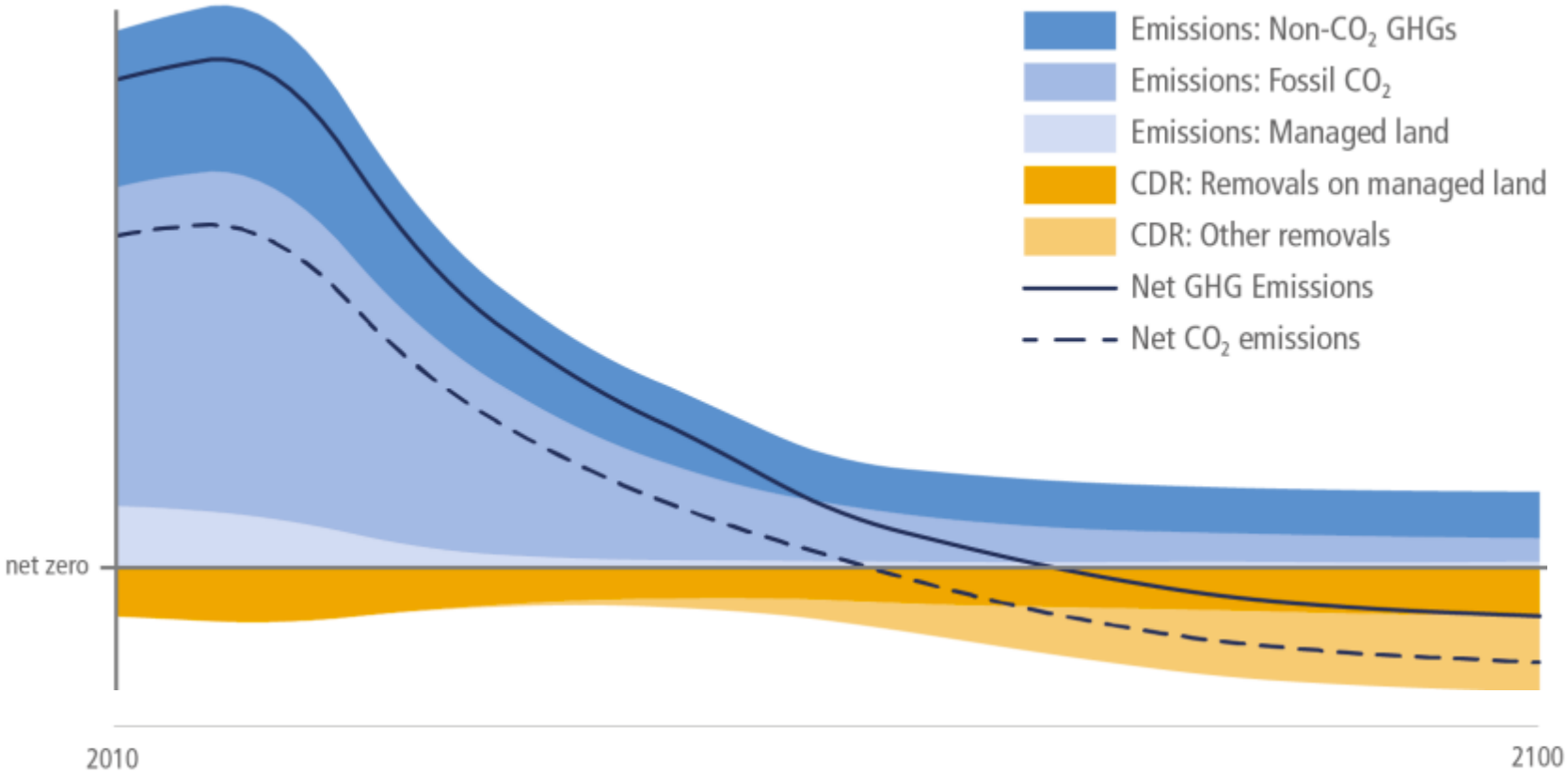
A "Short-Term Strategy for Negative Emissions": Policy Options for the Ramp-Up of CO2 Removals

Felix Schenuit / Domenik Treß

German Institute for International and Security Affairs (SWP)

Back-up

Why do we need carbon removals?



Source: IPCC Sixth Assessment Report