# Svante

# CCUS Prospects in North America

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# Agenda

- US CCUS landscape
  - ☐ Project examples
    - ✓ Microsoft
    - ✓ Svante
- Canada CCUS landscape
  - ☐ Project examples
    - ✓ Varme Energy
    - ✓ Carbon Alpha
    - ✓ Svante
- Application for Finland?
  - ☐ Non-traditional geologic storage





### Current CCS landscape in the US

#### The GOOD

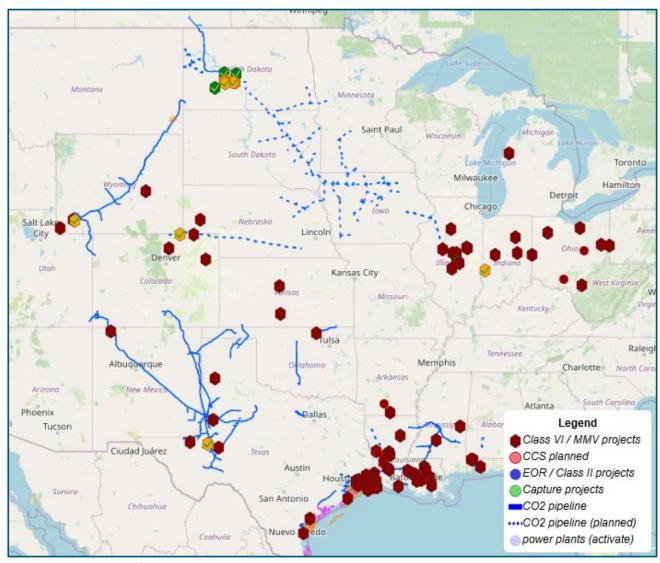
- Over 8,000km of existing CO2 pipeline
- 4 states (Louisiana, N.Dakota, W.Virginia, Wyoming) have been granted
  Class VI primacy
- 170 well applications currently under review (ie lots of projects planned!!)

#### The LESS GOOD

- The EPA has only ever awarded 3 project licenses
- Current EPA estimates for permit approval range 3-5 yrs FROM WHEN APPLICATION RECEIVED
- Summit pipeline (Biogenic sources) cancelled due to eminent domain ruling

#### CAUTION: Biogenic emitters looking to do high value pre-2030 CDR projects:

- Existing pipelines cannot be used for CDR related projects!
- Pre-2030 CDR projects need too be attached to existing Class VI applications



From CCUS Map software



### 2025- Forward momentum in biogenic projects in the USA

#### Feb 7

DOE selects **SVANTE** for \$1.5MM USD pre-FEED commercial scale study in pulp and paper sector

### April 11

Microsoft signs 3.69Mt- 12 yr CDR offtake agreement with developer CO280 and US pulp and paper company

### April 15

Microsoft signs 6.75Mt- 15yr CDR offtake agreement with Fidelis New Energy

- · New build BECCS in Baton Rouge, LA
- 680ktpa CO2



Svante 25tpd at Chevron facility, California



### Current CCS landscape in Canada

#### **Current and Planned Infrastructure**

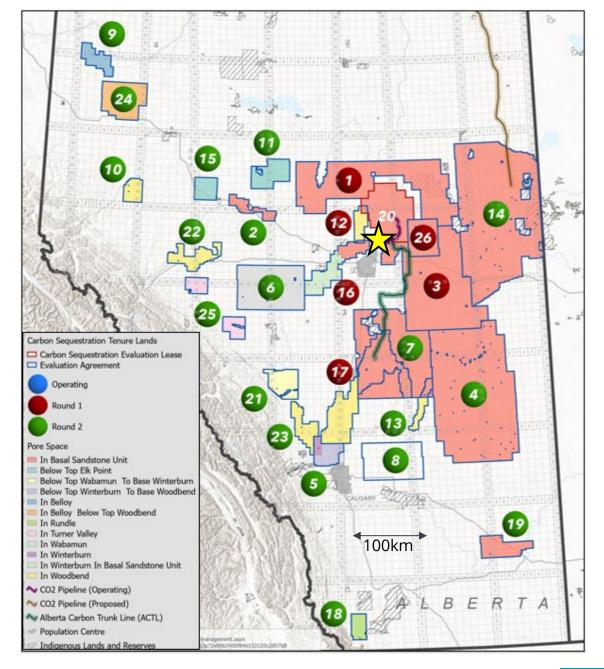
- Shell Quest- 64km, 1.2Mtpa capacity (saline aquifer)
- Alberta Carbon Trunk Line (ATCL) 240km, 15Mtpa capacity (EOR)
- Provincial owned pore space; AB government has granted 25 hubs for development (saline aquifer only)
- Pathways Alliance pipeline (400km, 12Mtpa capacity, \$16B CDN)

### Biogenic power news

Varme Energy



- Canada has a total of 5 existing EfW facilities nationwide (>50ktpa)
- Varme will be Canada's FIRST EfW with carbon capture facility
- 200ktpa CO2 emissions; CGF Carbon Credit Offtake 200kt annually for 15 years @ \$85/t\*





<sup>\*</sup>backstop price, could be more for CDR eligible emissions

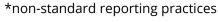
## Pulp and Paper sector in Canada

- 88 facilities totaling 21.6Mtpa CO2 emissions
- In the region (blue box) of best identified saline aquifer CO2 sequestration options there are 7 facilities- 873ktpa\*
- 2 active projects in region
  - -Carbon Alpha North Star (Saskatchewan)
  - -Svante-Mercer (Alberta)

#### **CARBON ALPHA NORTH STAR**

- Canada's first Indigenous-majority owned BECCS project
- 90ktpa CDR credit generation with local geologic storage
- Sustainably sourced forestry residue material from adjacent sawmill
- Canada's first project listed on Puro.earth

Svante-Mercer

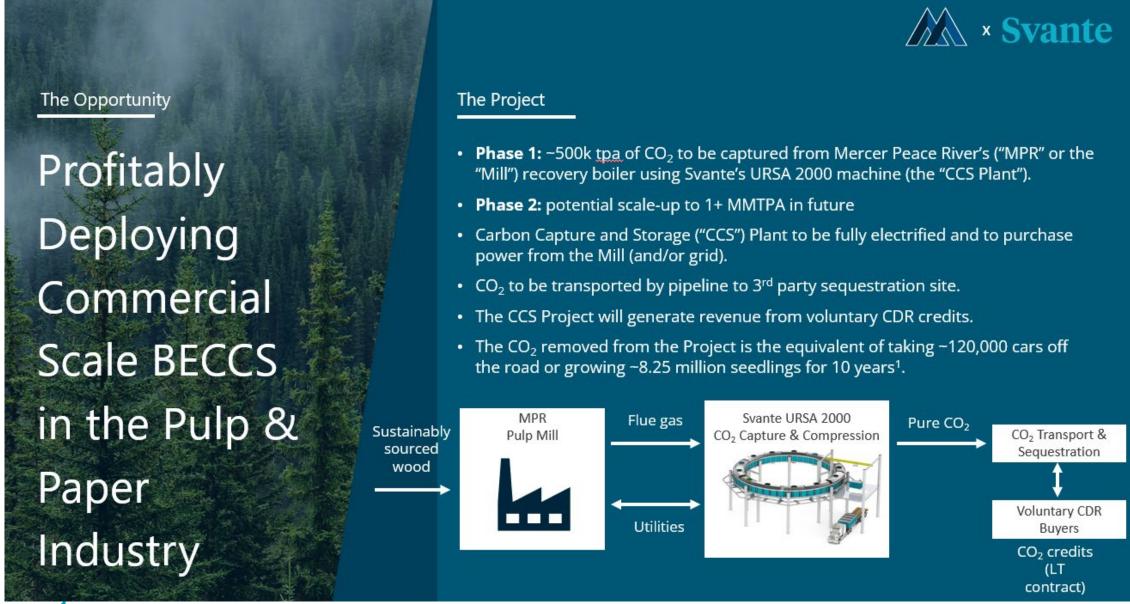




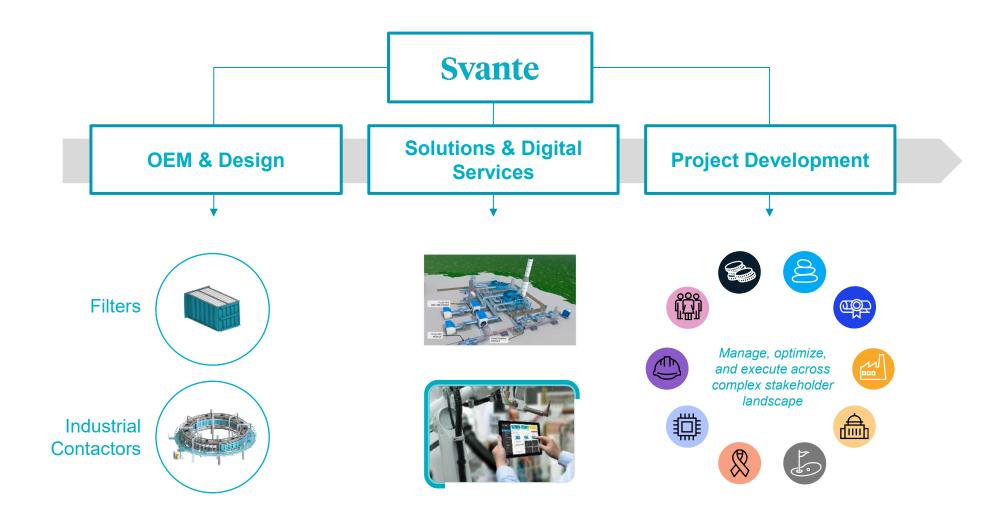
From Endrava Capture Map

Carbon Alpha North Star SOUTH DAKOTA

## Svante and Mercer enter into preFEED agreement (April 28,2025)



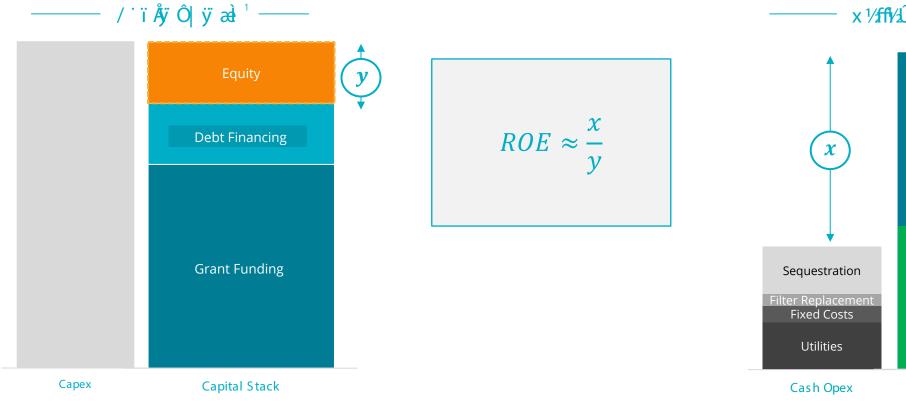
# Svante Group Business Units

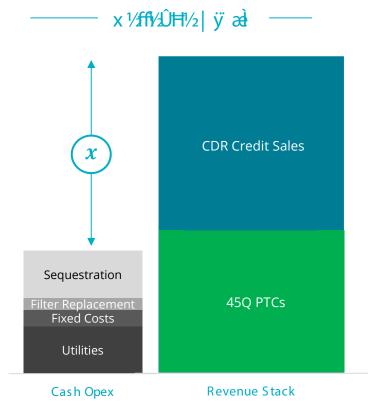




## **BECCS Project Economic Drivers**

The multitude of incentives, subsidies, policy and economic drivers for projects can be broken down into two simple constructs – the Capital Stack and the Revenue Stack





<sup>&</sup>lt;sup>1</sup> Proportions of capital stack are illustrative and will vary from project to project. Debt financing could be either concessional (e.g. DOE loan) or from commercial banks



## Pathways for Finland/Baltics

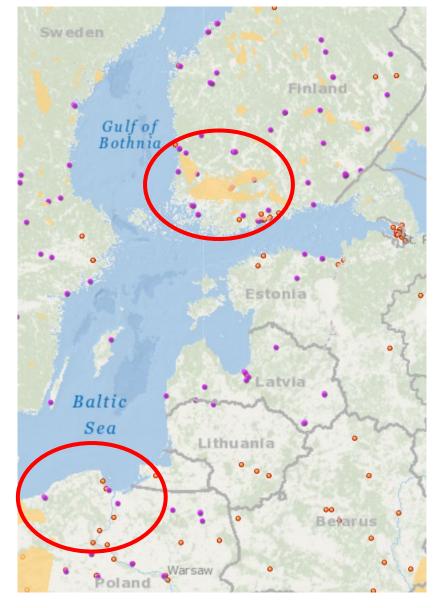
### CO2 Storage and high value CDR options available for Finnish emitters

#### **Traditional**

- Danish onshore and offshore options (Greensands FID)
- Norwegian shelf (Northern Lights Phase 2 FID)

#### Non-traditional

- Poland onshore and offshore saline aquifer potential (announced Orlen and Equinor collaboration)
- Finnish CO2 mineralization potential ('near' surface ultramafic volcanics)



From Carbfix atlas

