



Carbon ReUse

FINLAND OY

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CarbonReUse Finland Oy

Started to Study Carbon Capture in 2009

Founded company in 2014

Developed own clean technology without chemicals

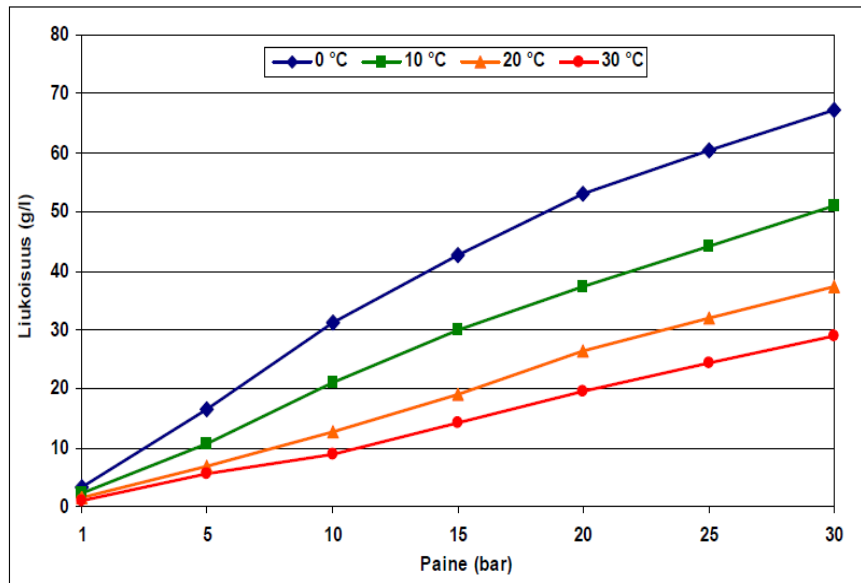
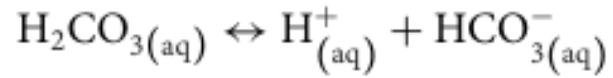
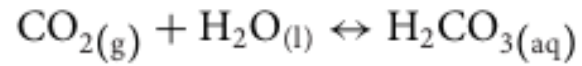
Participated in various projects of Carbon capture

Cooperation with Oulu, Aalto, Xamk Universities and VTT

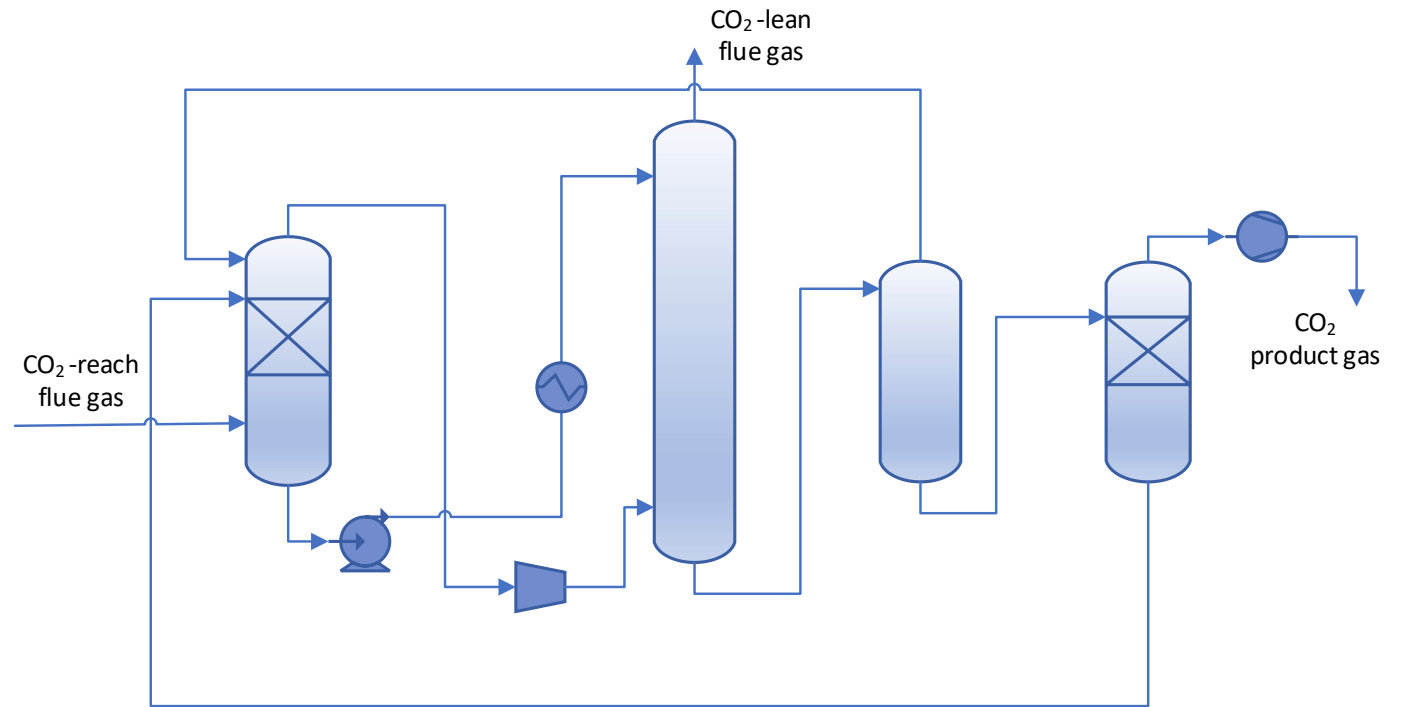
Founders:

- Timo Juutilainen (Founder of Control Express Finland Oy, www.cef.fi)
- Jouni Matula (Founder & Chairman of Wetend Technologies Oy, www.wetend.com)

Physical Absorption CO2 Capture Process



Kohl-Nielsen



Simplified CRUF process diagram

The Benefits of CRUF Technology

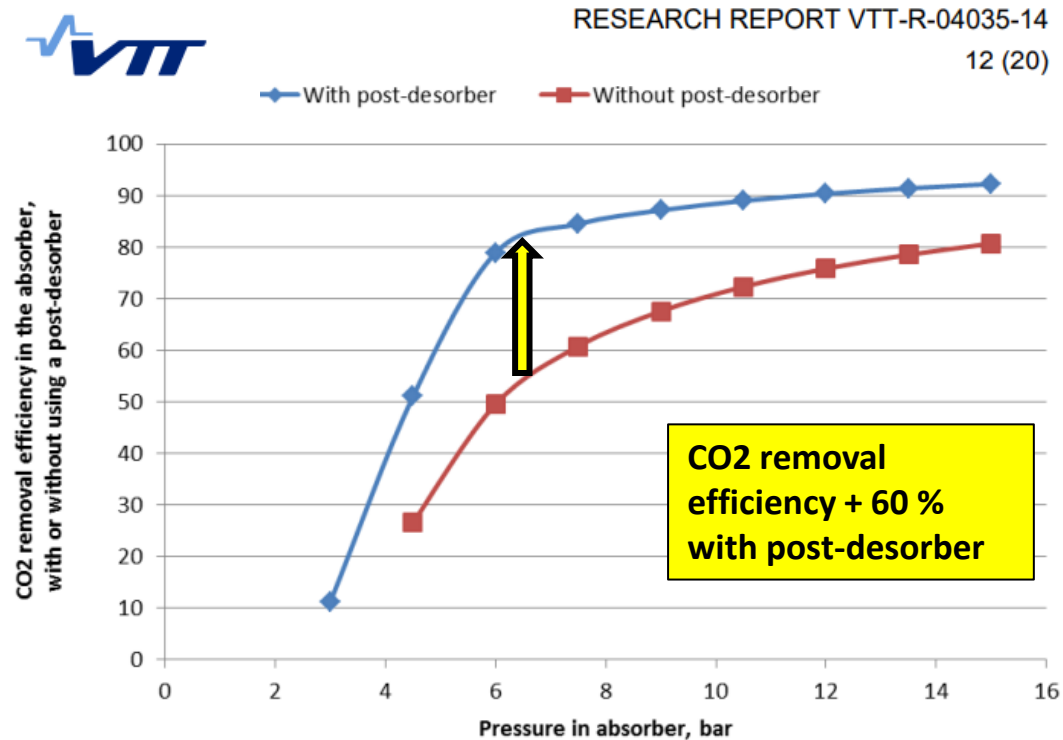
- Clean and environmentally friendly process
- Desorption without energy consumption
- No heat requirement
- Non-corrosive, solvent only water
- Low maintenance
- Patented and proofed process
- Suitable also for small scale CCU



Patents

CRUF has 6 patents

According to VTT research, CRUF's post-desorber patent increases CO2 removal efficiency by up to 60%



VTT-R-04035-14
<https://publications.vtt.fi/julkaisut/muut/2014/VTT-R-04035-14.pdf>

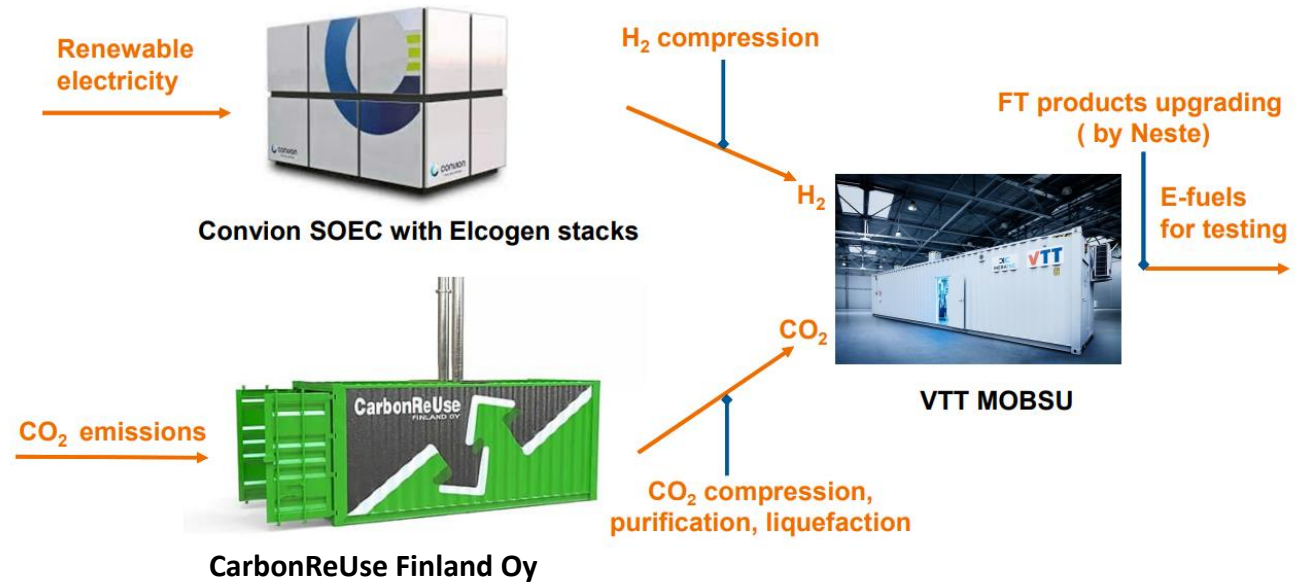
According to VTT study, Post-Desorption improved the CO2 removal efficiency up to 60 %

Demonstration results

- CO2 concentration in the flue gas ~12 %
- Product CO2 concentration ~99 %
- The capture efficiency of water process ~80 %
- Avg. Product CO2 flow 3.3 kg/h

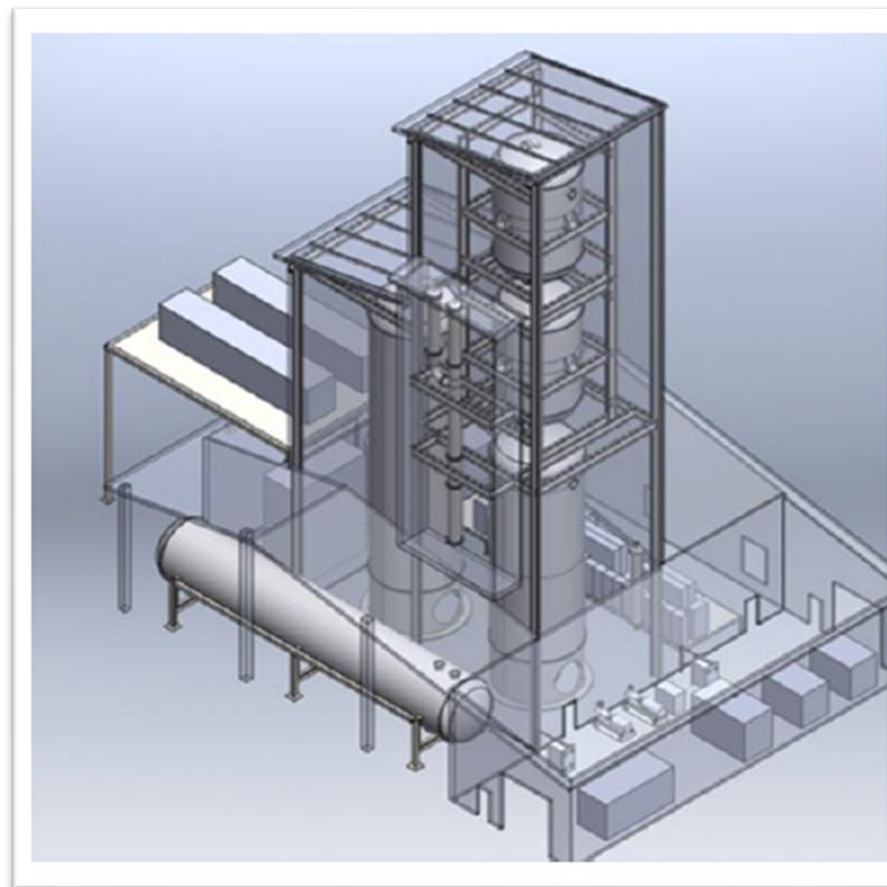
E-fuel demonstration – Integration of 3 units

VTT



CO2 Capture Plant Capacity

- By increasing the carbon dioxide concentration in the flue gas, plant's capacity also increases and capture costs decreases
- CarbonReUse technology is most cost effective in high CO2 concentration
- Easy to Scale-Up and applicable to various industries: Lime kilns and pulp mills, power plants, breweries refineries etc.



Thank you for your attention!

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