Munters

Clean technologies by Munters

Proven solutions for carbon capture

Proven solutions based on technology expertise

Carbon capture limits the release of CO_2 emissions into the atmosphere by capturing and utilizing it, and then storing it safely.

Clean technologies from Munters enhance process productivity while lowering emissions and reducing carbon footprint. We have vast knowledge in Mist Elimination and Mass Transfer, Clean technologies that are essential parts of any carbon capture process.

With decades of experience, skilled design and support staff, and satisfied customers throughout the world, you can count on Munters as a partner to support your carbon capture project.

Solution partners for a carbon-neutral future

With Munters, your process partner, you will have access to our know-how and proven technologies. We'll make sure your equipment is set up and functioning correctly, right from the start. And over the years, your Clean technologies equipment will receive the attention needed to reach its maximum life expectancy.

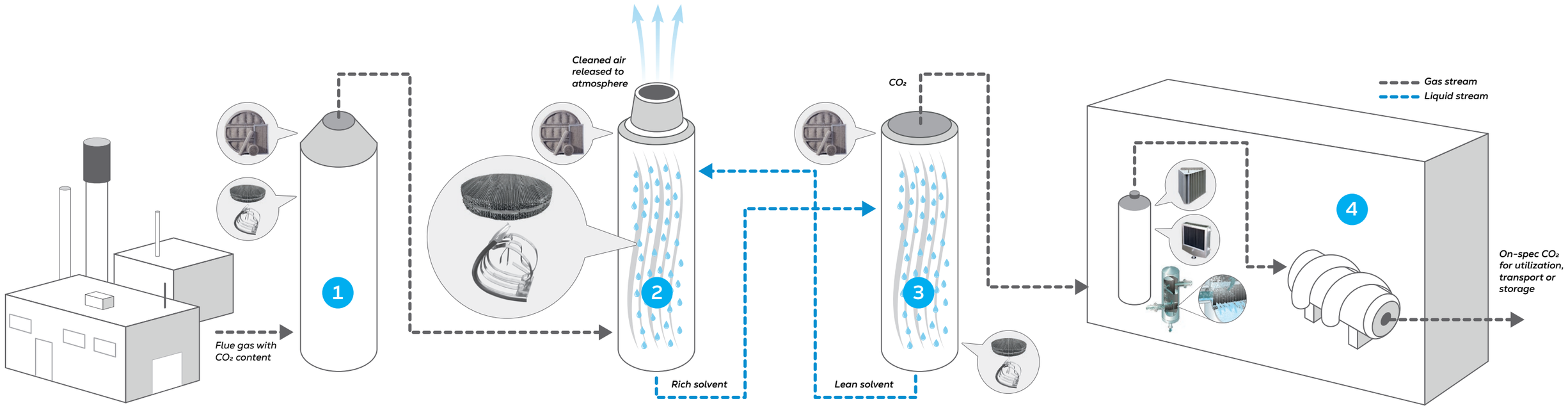
We're with you all the way throughout each phase of your equipment´s life cycle, Munters knowledge and expertise will insure optimal operation, minimum energy consumption, and extension of the life of your investment.

"We have high ambitions within Clean technologies. We don't just meet customer needs – we anticipate them. Our strength lies in engineering tailored solutions and driving innovation together with our partners", says Jennie Tåqvist, Vice President of Clean technologies at Munters.

"Munters is a trusted solution provider with proven solutions and decades of expertise in key process technologies."

Markus Karbach, Regional Director EMEA, Clean Technologies at Munters

Clean technologies in carbon capture



Emission source | **Pre-treatment column** | **CO_2 absorption column** | **Solvent regeneration column** | **CO_2 compression and liquefaction**

Munters gas-liquid separators are virtually everywhere there are liquids and gases that need to be separated. But gas-liquid separation is just one solution of Clean technologies from Munters. Additionally, Munters can also offer Mass Transfer technology for different unit operation processes in CCS applications, and VOC abatement removes polluting solvents from the air.

Clean technologies from Munters enhance process productivity while lowering emissions and reducing carbon footprint. Technologies that deliver clean air to the world.

1. Pre-conditioning depending on the composition of the CO_2 loaded flue gas and the used absorbent

→ Scrubber use will mean need of mist elimination and mass transfer equipment

2. Reaction of the absorbent and CO_2

→ Mass transfer internals (mainly structured and random packing) to let the absorbent and the CO_2 react

→ Mist elimination equipment to prevent that absorbent as droplets will go out with the cleaned flue gas

3. Extracting CO_2 from the absorbent

→ Mass transfer internals to facilitate the desorption process

→ Mist elimination equipment to prevent that absorbent will go out with the pure CO_2

4. Liquefaction of the CO_2 gas

→ Mist elimination and separator vessels are used in the heating and compressing stages for liquid recovery and to prevent liquid carry over

Munters success stories

Carbon capture at cement plant

A flagship project bringing carbon capture to cement manufacturing for the first time was commissioned in 2025. The Heidelberg Materials plant, located in Brevik, Norway produces 1.2 million tons of cement every year.

It is estimated that 400,000 tons of CO_2 will be captured per year, which gives a 50% reduction in the plant´s emissions. Munters provided separator vessels and mist elimination internals as part of the compression stage of the process.

- World-first carbon capture solution for cement manufacturing
- 400,000 tons of CO_2 will be captured every year
- Will help customer reach goal of being carbon-neutral by 2050
- Munters proven gas-liquid separation solutions support this carbon capture process

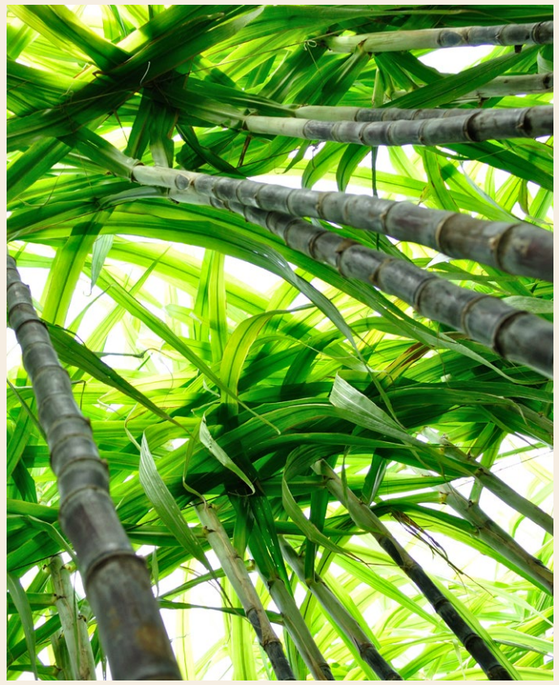
World´s first integrated, industrial-scale plant to produce climate-neutral e-fuel

Tomorrow´s fuel will be produced in the weather-beaten landscape of Chile. A combination of wind energy and CO_2 captured from the atmosphere will be used to create a gasoline substitute that can work in existing engines and infrastructure.

Via a filtration process, CO_2 will be directly captured and condensed in the atmosphere, and Clean technologies by Munters will be used in the carbon capture process. Green hydrogen will be combined with CO_2 captured from the atmosphere. And the methanol produced from this process will be converted to carbon-neutral e-fuel. In the pilot phase, 130,000 liters of e-fuel will be produced in 2022.

- Chile´s windy landscape region is the perfect location for wind turbines
- Munters Mist Eliminators will be used to help capture climate-neutral CO_2

- Wind energy will be used to produce hydrogen out of water with an electrolyzer
- Methanol will be produced from green hydrogen and captured CO_2
- A MTG (Methanol To Gasoline) plant will convert the green methanol e-fuel

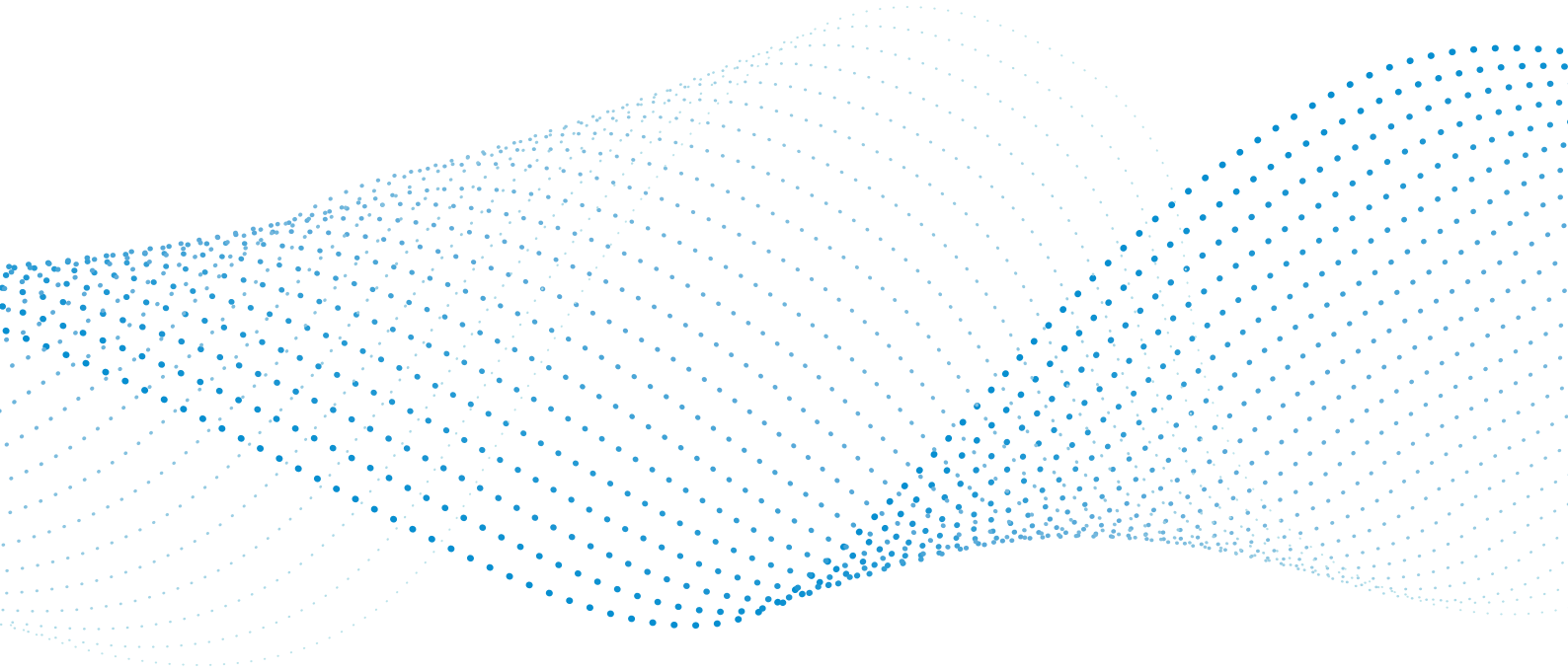


World´s first bamboo ethanol refinery

To support India´s ambition to reduce carbon emissions from its transportation sector a pioneering project is underway to build the world's first full-scale ethanol refinery using bamboo, which grows in massive quantities in northeastern India.

The refinery will process 300,000 tons of bamboo each year. This will generate 60 million tons of bioethanol and 30,000 tons of biochemicals that will be used to make paints, adhesives and plastics, and green power for local use.

- Bamboo grows in massive quantities in northeastern India
- Refinery will process 300,000 tons of bamboo each year
- 60 million tons of bioethanol and 30,000 tons of biochemicals will be generated annually
- Munters is working with the customer to develop an efficient and sustainable solution



About Munters

Munters is a global leader in energy-efficient air treatment and climate solutions. Using innovative technologies, Munters creates the perfect climate for customers in a wide range of industries.

Munters has been defining the future of air treatment since 1955. Today, around 5,000 employees carry out manufacturing and sales in more than 25 countries. Munters Group AB reported annual net sales of more than SEK 15 billion in 2024 and is listed on Nasdaq Stockholm.

For more information, please visit www.munters.com or contact our team at clean-technologies@munters.com.

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