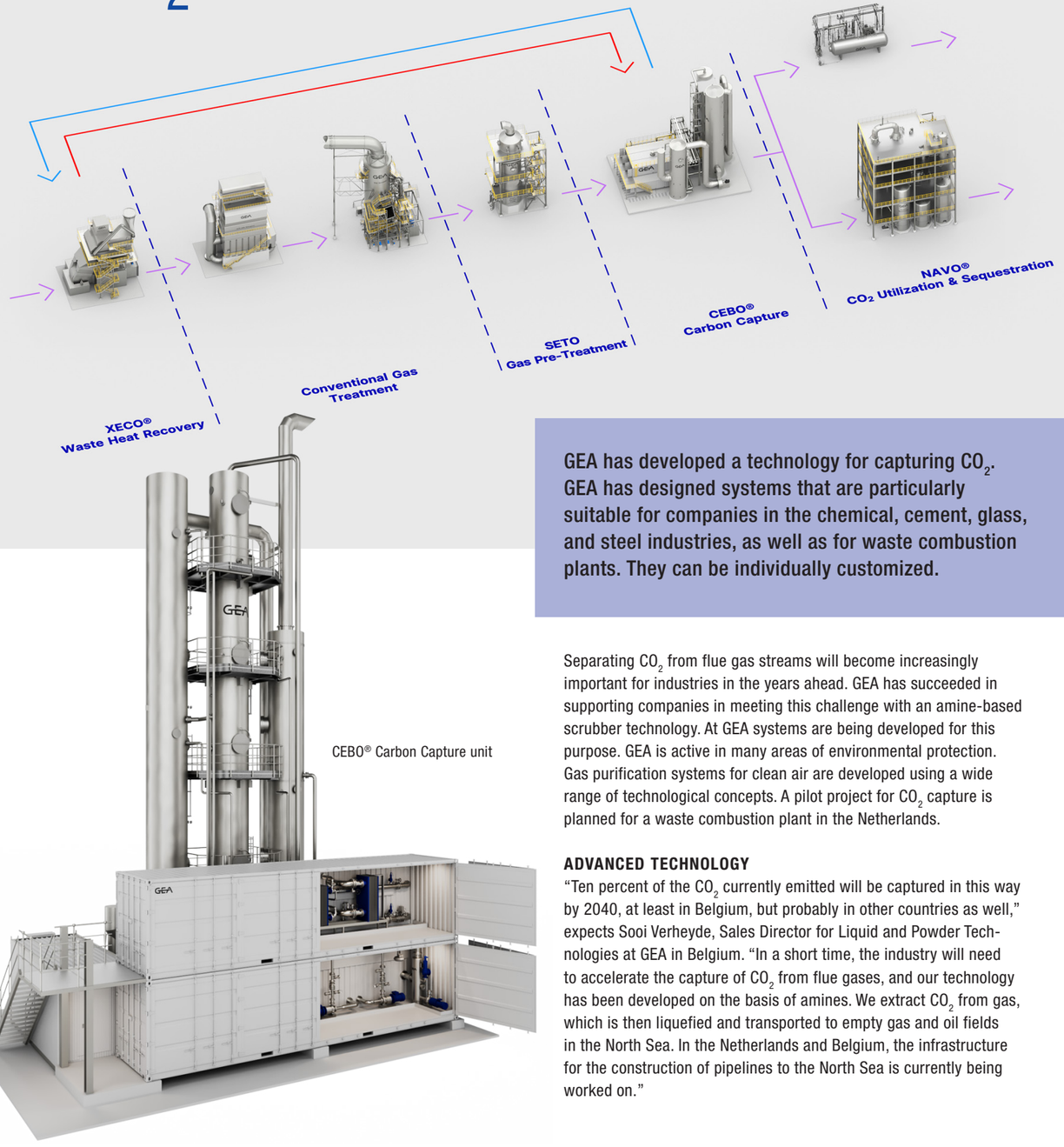
GEA STARTS THE ROLLOUT OF CARBON CAPTURE UNITS:

CO_2 CAPTURE



CEBO® Carbon Capture unit

GEA has developed a technology for capturing CO_2. GEA has designed systems that are particularly suitable for companies in the chemical, cement, glass, and steel industries, as well as for waste combustion plants. They can be individually customized.

Separating CO_2 from flue gas streams will become increasingly important for industries in the years ahead. GEA has succeeded in supporting companies in meeting this challenge with an amine-based scrubber technology. At GEA systems are being developed for this purpose. GEA is active in many areas of environmental protection. Gas purification systems for clean air are developed using a wide range of technological concepts. A pilot project for CO_2 capture is planned for a waste combustion plant in the Netherlands.

ADVANCED TECHNOLOGY

"Ten percent of the CO_2 currently emitted will be captured in this way by 2040, at least in Belgium, but probably in other countries as well," expects Sooi Verheyde, Sales Director for Liquid and Powder Technologies at GEA in Belgium. "In a short time, the industry will need to accelerate the capture of CO_2 from flue gases, and our technology has been developed on the basis of amines. We extract CO_2 from gas, which is then liquefied and transported to empty gas and oil fields in the North Sea. In the Netherlands and Belgium, the infrastructure for the construction of pipelines to the North Sea is currently being worked on."

"2030 is approaching faster than we think, so the industries definitely need to focus on that"

By capturing CO_2 before it is released into the atmosphere, the advanced Carbon Capture Technology developed by GEA can significantly reduce greenhouse gas emissions and pave the way to carbon neutrality. "The goal is to achieve net-zero," explains the ambitious Sales Director.

START OF THE MARKET LAUNCH

Many companies are preparing for the upcoming environmental regulations and aim to have such systems by 2030, says Verheyde. "We are now at the beginning of the market launch. Essentially, we are setting up Carbon Capture Units as part of a larger entity. We started developing these plants in 2022. And 2030 is approaching faster than we think, so the industries definitely need to focus on that." The price of CO_2 is currently quite low, but will inevitably rise. Under current legislation, the CO_2 levy rate will increase from 305 euros per ton in 2021 to 1503 euros per ton in 2030. This rate serves as a minimum price compared to the price of CO_2 allowances in the EU Emission Trading System (EU-ETS).

LEAN AND MODULAR DESIGN

GEA's modular and standardized systems are available in various sizes and enable rapid project implementation tailored to the customer's needs, particularly in the cement, iron & steel, bioenergy, glass, chemical, and waste-to-energy industries. "We are not active in the food industry with these systems, because, relatively speaking, much less CO_2 is emitted there," says Sooi Verheyde. "We offer solutions for electrification in this sector, because the best solution is of course to emit no CO_2 at all."

CUSTOMIZED IMPLEMENTATION

According to GEA, the implementation of the so-called CEBO® Carbon Capture Technology is an investment in the future. The solutions can be adapted to industry-specific needs. Plants of different sizes are being constructed, from a pilot plant to an industrial unit with a CO_2 capture capacity of 600 tons per day. "At the moment, this is still a niche market that is also customized," adds Verheyde. The systems require little energy. The configuration of the plants is optimized, with energy integration on-site, including waste heat recovery. The systems also have a long service life as they are made of corrosion-resistant materials such as thermoplastic or stainless steel. For over a century, GEA has been a global market leader in the development, planning, and installation of emission-reducing systems and technologies for customers in the process industry. This expertise forms the basis for the development of advanced Carbon Capture Technologies. GEA offers comprehensive end-to-end solutions for Carbon Capture, from waste heat recovery and gas pre-treatment to the capture, conditioning, and liquefaction of CO_2 or its conversion into CO_2-based products. Verheyde predicts that this development will only accelerate in the coming years, as many countries have committed to climate targets.

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