

NX Decarb™

Our solution to
optimize core
carbon capture unit

About NEXTCHEM

NEXTCHEM is MAIRE's company dedicated to Sustainable Technology Solutions. Leveraging our deep expertise in nitrogen, hydrogen, carbon capture, fuels, chemicals, and polymers, we deliver groundbreaking solutions and processes that fully enable the energy transition.

Building on the rich legacy of our group for over 70 years, we are dedicated to developing and offering technology solutions, processes, basic engineering designs, as well as proprietary equipment and catalysts, to drive global decarbonization efforts forward.

Reducing the environmental impact of industrial activities

Carbon Capture is emerging as a key technology for reducing the environmental impact of industrial activities. The unit can capture CO₂ at the point of emission and manage it in liquid form for storage, or utilize/sequester it in gaseous form.

Within the context of this technology, carbon capture via amine adsorption represents the most established and deployed solution with a robust track-record of online projects.

Increasing the efficiency of amine carbon capture

NX Decarb™ offers a solution to further increase the efficiency of amine carbon capture units with unique pieces of equipment aimed at valorizing the heat integration of the system therefore optimizing its energy requirement.

These IP protected equipment/configuration are the heat exchanger, quencher, heat pump, liquefaction and purification units.

NX Decarb™

Optimizing and
integrating core
carbon capture unit

Applications

Refinery and Fertilizers

Waste management

Steel industry

Cement industry

Other industrial sectors

Your benefits

- 1 Reduced utilities consumption (e.g., cooling water)
- 2 Better heat recovery by splitting the two sections (refer to Oersted case)
- 3 Management of Flue Gas impurities Integration of the SCR¹ with HRSG²
- 4 Minimization of the margin on Acid Condensation, therefore increasing the steam production

1. Selective Catalytic Reduction
2. Heat Recovery Steam Generator

Technical overview

NEXTCHEM's PEQ for Optimised Carbon Capture uses flue gases from point emitters that undergo HRSG and Quenching steps.

NX Decarb™ can be leveraged to integrate and optimize the core Carbon Capture Unit. Key sectors where PEQ can be applied are Hard-to-Abate industries.

