

PRESS RELEASE

## **Ecospray's amine-based carbon capture solution is ready for the market** *This solution enables the capture of up to 80% of CO<sub>2</sub>*

Alzano Scrivia, 5<sup>th</sup> June 2025 – Ecospray, a company specialized in integrated solutions for the sustainable conversion of marine and land industries, has brought its amine-based Carbon Capture solution for the shipping sector to market.

One of the system's most distinctive advantages is its high energy efficiency: it can reduce energy consumption by up to 50% compared to similar technologies, representing a significant step forward in making carbon capture more competitive and sustainable for maritime applications. The system, designed for easy integration on existing vessels, will allow the capture of up to 80% of CO<sub>2</sub> emitted during ship operation in specific conditions.

### **Amine-based Carbon Capture to reduce emissions in the shipping sector**

This technology is based on the chemical absorption of CO<sub>2</sub> using an amine solution. What sets Ecospray technology apart is its innovative low-temperature regeneration process, which transforms waste heat from ship engines into a valuable resource. This approach not only delivers substantial energy savings compared to traditional high-temperature methods, but also simplifies onboard integration and significantly lowers operational costs.

Over the past 18 months, Ecospray has further refined its solution - already successfully tested onboard in 2023 - through new pilot trials and advanced process modeling. As a result, the system now offers improved performance and a more compact design, making it even more suitable for widespread adoption across the maritime sector.

*"We have combined our extensive experience in gas treatment with next-generation chemical capture technologies to offer a concrete, ready-to-go solution," said **Maurizio Archetti**, President of Ecospray. "Our objective is to make carbon capture not only technically feasible but also economically sustainable for shipowners. This technology, now commercially available, is designed to be integrated into a broader decarbonization strategies and enables existing vessels to significantly reduce their emissions and comply the CO<sub>2</sub> reduction targets set by the IMO. It is also important to underline that, across all decarbonization scenarios, carbon capture remains an essential tool for the next 20 to 30 years to achieve the mandated climate targets. For this reason, and to ensure international decarbonization targets are met on time, it is essential that this technology be urgently and fully integrated into regulatory frameworks, enabling large-scale applicability and accelerating its widespread adoption".*

### **Decarbonizing through synergistic technologies**

Carbon capture technologies represent the latest advancement in the ongoing effort to make the maritime industry more sustainable. For years, Ecospray has been supporting shipowners in selecting the most effective solutions to reduce the global shipping industry's environmental impact.

In this context, EGCSs (scrubbers) are a fundamental first step toward adopting carbon capture technologies. In addition to significantly reducing harmful emissions such as SO<sub>x</sub> and particulate matter, scrubbers also pre-treat exhaust gases, improving the efficiency and durability of subsequently installed carbon capture systems. Furthermore, they cool exhaust gases to below 50° C – the temperature required for carbon capture – eliminating the need for additional cooling systems.

Another key area of action to support the sustainable transition is the Methane Slip Reduction system. This solution, also developed by Ecospray, uses catalytic oxidation technology to remove methane slip from dual fuel engines. It is designed to reduce emission levels up to 95%, using oxidation catalyst substrates with PGM (Platinum Group Metal) to oxidize methane.

**Ecospray**

*From research to development, Ecospray specializes in the creation of integrated solutions for the sustainable conversion of marine and land-based industries, as well as for the reduction of dependence on fossil fuels. Founded in 2005, Ecospray, market leader in the exhaust gas cleaning systems for marine diesel engines (EGCS), has been part of the Carnival Group since 2013. The company operates worldwide, providing a wide range of technologies, including gas cleaning and exhaust gas treatment (DeSO<sub>x</sub>, DeNO<sub>x</sub>, Methane Slip Reduction), carbon capture technologies, low-carbon fuel production (CH<sub>4</sub> liquefaction, eNG liquefaction) and waste-to-energy solutions (CO<sub>2</sub> liquefaction, flare gas recovery, LNG&NGL separation).*

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