



European
Commission



INNOVATION FUND

Deployment of net-zero and innovative technologies

BOOST: BOOST: Back-to-mOnOmer recycling of polymeric materials using molten meTals

The Innovation Fund is 100% funded by the EU Emissions Trading System

| Project Factsheet

The BOOST Project is aimed at implementing the first-of-its-kind commercial plant of MyRemono's NXRe PMMA (NXRe PMMA, formerly known as CatC) modular technology for producing high-quality recycled Methyl Methacrylate (r-MMA) by chemically recycling secondary raw materials sourced from Polymethyl Methacrylate (PMMA) waste. PMMA is a transparent thermoplastic used for applications in various industries such as automotive, construction, electronics and healthcare. PMMA production is based on the polymerisation of its monomer, the virgin Methyl Methacrylate (MMA), traditionally produced by different routes that require fossil-based feedstock. The BOOST Project will offer a circular solution to the plastic waste dilemma by redefining PMMA waste as a sustainable source for r-MMA production. It is forecasted that over the first ten years of operation, the first commercial plant will

COORDINATOR
MYREMONO SRL

LOCATION
Italy

CATEGORY
Energy intensive industries (EII)

SECTOR
Chemicals

AMOUNT OF INNOVATION FUND GRANT
EUR 3,978,854

EXPECTED GHG EMISSIONS AVOIDANCE
236,126 tonnes CO2 equivalent

STARTING DATE
01 October, 2023

ENTRY INTO OPERATION DATE
31 December, 2025

FINANCIAL CLOSE DATE
31 January, 2025

achieve a 96% relative Greenhouse Gas (GHG) emission avoidance compared to the reference scenario.

Due to the combination of the patented innovative molten metal-flow and the distinctive charging system, NXRe PMMA allows for the optimisation of the depolymerisation process, ensuring a thorough PMMA-metal mixing. The depolymerisation process is performed continuously with a short residence time and with improved heat and mass transfer rates. Both factors allow for the construction of compact depolymerisation units with high-energy efficiency levels, resulting in lower capital expenditures and operating costs, and ensuring the production of high-quality and sustainable r-MMA with a final purity greater than 99%. The first commercial plant will increase the European PMMA chemical recycling capacity by 5 000 tonnes per year, producing approximately 4 345 tonnes per year of r-MMA, and avoiding the consumption of more than 13 000 tonnes per year of fossil based

raw materials.

The project will enable the commercial deployment of NXRe PMMA with the aim to address the same target market from both the supply and off-take sides, embracing a fully circular model. Furthermore, the positive results arising from the research development campaign tests, already conducted on polystyrene (PS) and polyolefin (PO), demonstrate the potential NXRe PMMA technology scalability into various sectors within the plastic manufacturing and recycling industry. This means closing the waste recycling loop for different plastic waste and enhancing the production of sustainable plastic products.

The BOOST Project will yield positive socio-economic effects contributing to the growth of a transition region within the framework of the EU Cohesion Policy and fostering the resilience of the EU economy in compliance with the principles of sustainability and circular economy.

| Participants

MYREMONO SRL

Italy

NEXTCHEM TECH SPA

Italy