

INNOVATION FUND

Deployment of net-zero and innovative technologies

N2TR: NextGen Thermal Tire Re-use

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

| Project Factsheet

The project aims to demonstrate that it can produce high-quality recovered carbon black commercially while minimising carbon deposits. Its pioneering continuous pyrolysis pilot plant will test a new decarbonisation technique for processing end-of-life tyres mainly used to produce recycled carbon black and pyrolysis oil. This innovative solution will increase energy efficiency and reduce greenhouse gas (GHG) emissions by up to 85% compared to virgin carbon black production. The resulting recovered carbon black is comparable to semi-reinforcing grades of commercial carbon black, with a predictable quality. A few companies have initiated tyre pyrolysis operations to recover both tyre pyrolysis and recovered carbon black, but the industry is still in its infancy, with low annual production volumes.

Using a unique tyre pyrolysis process already verified and certified in the United States, N2TR's large-scale reactor plant will be able to recover both pyrolysis oil and carbon black. The plant is predicted to process 36 000 million tonnes of end-of-life tyres per year while

COORDINATOR

BOLDER INDUSTRIES LLC.

LOCATION

Belgium

CATEGORY

Energy intensive industries (EII)

SECTOR

Chemicals

AMOUNT OF INNOVATION FUND GRANT

EUR 32,309,258

EXPECTED GHG EMISSIONS AVOIDANCE

587,776 tonnes CO₂ equivalent

STARTING DATE

01 April, 2025

FINANCIAL CLOSE DATE

31 January, 2026

ENTRY INTO OPERATION DATE

30 June, 2027

CALL NAME

InnovFund-2023-N2T

* Calculated vs. the 2021-2025 ETS benchmark of 6.84 tCO₂e/tH₂, not taking into account additional carbon abatement due to substitution effects in the H₂ end use application, i.e. conservative estimate.

maintaining consistent quality of carbon black and pyrolysis oil. The project will have four reactors working together in monthly operational cycles to achieve this production, allowing for a minimal production of 4 million tonnes per hour. Furthermore, the project addresses the ash content issue, a significant barrier to incorporating recovered carbon black in the tyre rubber market. The project is expected to achieve a GHG emission avoidance of 606 557 tonnes CO₂e over its first ten years of operation. This reduction is comparable to removing approximately 131 000 cars from the road or powering around 73 000 homes for a year.

The project supports NextGenerationEU and RePowerEU plans to create a more sustainable and resilient Europe and will contribute to reducing net GHGs by 2030. The production of carbon black in Antwerp will reduce Europe's reliance on imports,

promoting greater energy independence. Furthermore, the project contributes to the Circular Economy Action Plan by extracting and reusing carbon black and pyrolysis oil to produce new tyres, thereby closing the loop and promoting a circular economy.

N2TR is expected to significantly impact the regional economy, creating approximately 54 direct jobs to operate the greenfield pilot plant. Additional job creation is anticipated among feedstock suppliers providing quality tyre chips to the facility. The project has the potential to create a circular value chain, engaging tyre manufacturers, waste collectors, and other stakeholders in the collection and processing of end-of-life tyres. The pilot plant's design allows for collaboration with one or more tyre manufacturers, enabling the allocation of one or more reactors to a specific partner.

| Participants

BOLDER INDUSTRIES LLC.

United States

BOLDER INDUSTRIES BELGIUM

Belgium

Additional information on the [EU Funding & Tenders Portal](#).