

INNOVATION FUND

Deploying innovative net-zero technologies for climate neutrality

REC2pCAM: First European direct recycling solution to pCAM fast production facility

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

| Project Factsheet

REC2pCAM project aims to establish an industrial-scale facility for the production of high-quality precursor cathode active material (PCAM) for Nickel-Cobalt-Manganese (NCM) cathodes. The facility will use 100% European-sourced recycled black mass as feedstock, combining a hydrometallurgical refining unit (UHM) with a vertically designed PCAM plant. The project is expected to avoid relative greenhouse gas (GHG) emissions by 100% compared to a reference scenario based on Internal Combustion Engine (ICE) vehicles. In addition, it will cut UHM emissions from black mass exports by 100% and enable a fully circular supply of critical material for PCAM production, further enhancing the project's overall climate benefits.

The project introduces a groundbreaking approach to produce PCAM that goes well beyond the current state of the art. It integrates two dedicated facilities: one for black mass refining - recovering valuable and critical battery raw materials through a

COORDINATOR

ORANO HYDRO BATTERY RECYCLING

LOCATION

France

CATEGORY

Mobility (MOB)

SECTOR

Road transport

AMOUNT OF INNOVATION FUND GRANT

EUR 125,000,000

EXPECTED GHG EMISSIONS AVOIDANCE

3,398,699 tonnes CO₂ equivalent

STARTING DATE

01 April, 2026

FINANCIAL CLOSE DATE

31 October, 2028

ENTRY INTO OPERATION DATE

31 July, 2032

CALL NAME

InnovFund-2024-NZT

* 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.

hydrometallurgical process - and another for PCAM synthesis.

By combining recycling and PCAM plants together within a single framework, the project will establish the Europe's first-of-the-kind large-scale, safe and sustainable European PCAM production hub. This innovative process design ensures an energy and cost-efficient conversion of recycled materials into high-quality PCAM with a low carbon footprint.

At full capacity, REC2pCAM is expected to produce 20 000 tons of PCAM annually using feedstock entirely sourced from European black mass. This will not only strengthen Europe's strategic autonomy in battery materials but also accelerate the commercialisation of circular battery technologies. REC2pCAM will contribute to replace over 300 000 ICEs with zero- or low-emissions electric vehicles annually and to avoid 3.4 million tons of CO2 equivalent over 10 years.

The project supports the key objectives of the European Green Deal by strengthening the European sovereignty over critical raw materials. It contributes directly to the goals of the Critical Raw Materials Act, aiming to achieve 40% refining and 25% recycling of EU demand within Europe. In doing so, it reinforces the European battery value chain. The project is also aligned with the Net-Zero Industry Act, the Battery Regulation and the European automotive sector Action Plan, collectively advancing the European transition towards a sustainable, resilient and competitive industrial ecosystem.

Alongside its industrial role, REC2pCAM drives regional growth and job creation. The project is expected to generate approximately 230 direct and indirect jobs - including in logistics, maintenance and security - in northern France, promoting high-quality employment and consolidating an European battery valley in the Dunkirk region.

| Participants

ORANO HYDRO BATTERY RECYCLING

France

NEOMAT PCAM

France

ORANO BATTERIES

France

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