



NON-FERROUS METALS

# INNOVATION FUND

Deployment of net-zero and innovative technologies

## BBRT: BASF Battery Recycling Tarragona

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

### | Project Factsheet

BBRT aims to install and operate a plant for the recycling of black mass from end-of-life batteries and battery manufacturing production scrap. The plant will have the capacity to process recycling feedstock equivalent to roughly 120 000 tonnes of end-of-life batteries per year, and will recover nickel, cobalt, lithium, copper, and manganese at high yields. The project will thus be able to provide the EU battery industry with locally and sustainably produced raw materials. Compared to primary metals extracted via mining, BBRT will be able to reduce greenhouse gas (GHG) emissions of the produced metals by 58%.

Electric vehicle batteries require several raw materials such as lithium, nickel, cobalt, manganese and graphite. Extracting these materials has a significant carbon footprint. BBRT's specific objective is a first-of-its-kind commercial battery recycling process on an industrial scale,

#### COORDINATOR

BASF ESPANOLA SL

#### LOCATION

Spain

#### CATEGORY

Energy intensive industries (EII)

#### SECTOR

Non-ferrous metals

#### AMOUNT OF INNOVATION FUND GRANT

EUR 100,000,000

#### EXPECTED GHG EMISSIONS AVOIDANCE

2,257,326 tonnes CO<sub>2</sub> equivalent

#### STARTING DATE

01 January, 2024

#### ENTRY INTO OPERATION DATE

30 June, 2028

#### FINANCIAL CLOSE DATE

31 December, 2025

producing secondary raw materials that can be fed back into the circular battery material loop and re-used for battery production. The technological process is comprised of two steps: the pyrolysis step as pre-treatment and the hydrometallurgical refining step for metal extraction. Using this process, the plant can recover valuable metal salts with a special focus on lithium to be used as battery-grade raw materials for producing new batteries. BBRT expects to save 2.4 million tonnes of GHG emissions during its first ten years of operation compared to metal production from mining. This reduction equals the emissions caused by the yearly electricity consumption of 3.5 million European households.

Batteries are the heart of every electric vehicle. BBRT aims to produce them in the most sustainable way, establish a competitive battery

recycling industry in Europe and contribute to reducing the dependency of the battery industry on imports of raw materials like nickel, cobalt, and lithium. Its production process will fulfil the upcoming EU Battery Regulation requirements regarding recycling efficiencies and enable the fulfillment of the recycled content requirements for lithium-ion batteries.

BBRT will be implemented at BASF's site in Tarragona, Spain, in one of the largest chemical complexes in southern Europe. The investments in Tarragona will support establishing a battery value chain in Spain and bring around 200 direct new jobs to the area. It will lay the foundations for further expanding the capacity for battery recycling in Europe and advancing the technology to cope with the increasing volumes of batteries to be recycled in the future.

## | Participants

BASF ESPANOLA SL	Spain
BASF SE	Germany
BASF BATTERY MATERIALS AND RECYCLING SPAIN SL	Spain
BASF Schwarzheide GmbH	Germany
BASF Corporation	United States
BASF Oy	Finland
BASF South Africa (Pty.) Ltd.	South Africa