



European  
Commission



OTHER ENERGY STORAGE

# INNOVATION FUND

Deployment of net-zero and innovative technologies

## MITIGAT: Making susTainable enerGY from heAT saving

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

### | Project Factsheet

The objective of the project is to implement a multi-energy smart grid that responds to the dual constraints of intermittent waste heat and intermittent renewable energies. This hub combines heat storage, renewable electricity conversion to heat, waste heat conversion into power, 15-Gigawatt hour (GWh) long energy storage capacity per annum, gas consumption reduction, and 100% greenhouse gas (GHG) emission avoidance. This solution will be the first-of-its-kind and will save approximately 4 000 tonnes a year of carbon dioxide (CO<sub>2</sub>) thanks to its modularity and standardisation, this solution can be replicated on several manufacturer sites.

MITIGAT will be the culmination of a 10-year R program, aimed at validating innovative technologies in real environment for industrial heat

#### COORDINATOR

ECO-TECH CERAM

#### LOCATION

France

#### CATEGORY

Energy Storage (ES)

#### SECTOR

Other energy storage

#### AMOUNT OF INNOVATION FUND GRANT

EUR 3,924,486

#### EXPECTED GHG EMISSIONS AVOIDANCE

37,784 tonnes CO<sub>2</sub> equivalent

#### STARTING DATE

01 January, 2024

#### ENTRY INTO OPERATION DATE

31 December, 2025

#### FINANCIAL CLOSE DATE

31 December, 2024

decarbonation. The use of heat storage and conversions technologies (from Power To Heat (PTH) and from Heat To Power (HTP)) make possible the creation of multi-energy micro-grids, where electricity and heat networks are coupled. This project goes beyond the state-of-the-art by coupling technologies that have already been validated, such as Rankine cycle (ORC) HTP machines and thermal storage solutions. The PTH solution has been proven at technology readiness level (TRL) 7. The hub itself has been tested at TRL level 6, and the current MITIGAT proposal will enable it to reach TRL 9. This final stage will enable the technology to be deployed throughout Europe and in every heavy industry plant, creating strong economic activity, improving energy recovery, reducing CO2 emissions, and making better use of renewable energy. These solutions are designed for industries who consume substantial amounts of energy, particularly gas, to decarbonise their production facilities as cost-effectively as possible.

MITIGAT aims to bring to market tools to decarbonise European industry and support its energy transition towards carbon neutrality, while also boosting its competitiveness. The outputs of the MITIGAT project aim to contribute to different policy areas such as, the Strategic Energy Technology (SET) Plan related to renewable energy, the Industrial Strategy for Europe, the EU's circular economy approach, and the Renewable Energy Directive (RED II).

MITIGAT's breakthrough innovation will enable the development of a competitive, low-carbon industry that creates jobs in the Occitanie region (France). Furthermore, it will contribute to the region's resilience in the face of climate change mitigation, an improved quality of life and economy, and the ambition to becoming the first positive-energy region in Europe by 2050.

## | Participants

ECO-TECH CERAM

France