

Enertime relays information on the launch of the Decagone project

PRESS RELEASE: The EU-funded DECAGONE project is launched

DECAGONE will develop a cutting-edge industrial waste heat recovery demonstrator based on Organic Rankine Cycle technology for electricity production

Courbevoie, 20 June 2022

The “DECAGONE” project - *DEmonstrator of industrial CARbon-free power Generation from ORC-based waste-heat-to-Energy systems* – started officially on 1st June 2022. The project is funded by the European Union’s Research and Innovation Framework Programme Horizon Europe (G.A. 101069740), with a grant amount of €14 million and a duration of 4 years (June 2022 to May 2026).

The ambition of DECAGONE is to develop beyond state-of-the-art technological solutions to increase energy efficiency in industry and to reduce greenhouse gas (GHG) and air pollutant emissions from industry by recovering excess industrial (waste) heat and converting it into electricity.

The technical solution, developed by a consortium of 16 partners from 10 European countries, is based on Organic Rankine Cycle (ORC) technology. It will achieve scalability to higher power levels, improve cost effectiveness, increase the input temperature ranges and a significant improvement in compactness, allowing wider application and more effective heat recovery from a wide range of industrial processes. The solution will be demonstrated in the TRINECKÉ ŽELEŽÁRNÝ steel Mill in Czech Republic with a 2 MW installation.

The ORC-based system will use enhanced heat recovery designs and disruptive turbomachinery developments. The proposed break-through architecture of the turbine is tailored for increased compactness, higher availability and safety, as well as cost reduction with near-zero maintenance. The project ensures an efficient and smart integration of advanced monitoring using innovative instrumentation and measuring devices, machine learning algorithms for real-time efficiency improvement. The potential of self-consumption in industrial plants at a large industrial scale will be assessed.

Within the scope of the project, the potential of this technology will be evaluated in six other energy-intensive industrial sectors. Market potential and Europe-wide transposability for potential use cases (aluminum, glass, gas-energy, oil & gas and refineries, LNG terminals, and cement) will be evaluated. New financing and business models will also be explored, to support long-term operations of the erected assets, coping with long-lasting and resilient industrial processes. The use of the ESCO model to contract, finance and operate energy efficiency facilities will be part of the assessment, preparing for the future operation of the

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facility by a specialized company. Lastly, the dissemination of best practice across Europe by relying on the consortium's European partners in coordination with regional energy agencies.

The 16 consortium partners, from 10 different European countries involved in DECAGONE are:

Enertime – Project Coordinator (FR),
Energie Circulaire (FR),
Energetika Třinec, a.s (CZ),
National Technical University of Athens (GR),
SINTEF Energi AS (NO),
Commissariat à l'Énergie Atomique (FR),
Université de Liege (BE),
Technische Universität München (DE),
SpinDrive Oy (FI),
Société Tunisienne d'Electricité et de Gaz (TN),
Motor Oil Hellas AE (GR),
Euronovia (FR),
EMCC energy sro (SK),
Polénergie (FR),
Arttic Innovation GmbH (DE),
Haute Ecole Spécialisée de Suisse Occidentale (CH).



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Project details

Project Grant Agreement: 101069740

Start Date: 1 June 2022

Project Duration: 48 months

Grant amount: €13 986 960

Project Coordinator: Enertime, email: contact@enertime.com



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