

Brussels, 11 June 2021

PRESS RELEASE: EU-funded CO2OLHEAT launched
CO2OLHEAT will focus on industrial waste heat valorisation and its conversion into electrical energy via a supercritical CO₂ cycle

The “CO2OLHEAT” project – *Supercritical CO₂ power cycles demonstration in Operational environment Locally valorising industrial Waste Heat* – started officially on 1 June 2021. The project, funded by the EU Research and Innovation Programme Horizon 2020 (G.A. 101022831), has an overall budget of approximately €18,8 mil. and will run for four years, between June 2021 and May 2025.

CO2OLHEAT’s ambition is to support the EU’s energy efficiency targets and GHG emissions reduction. This translates into the project’s main objective – to unlock the potential of unused industrial waste heat and transform it into power. The development of innovative and cutting-edge supercritical CO₂ (sCO₂) technologies will be used to design and demonstrate in a real industrial environment the EU-first-of-its-kind sCO₂ plant.

On that account, 21 partners formed a consortium that will work together towards the development of this flexible, innovative, economically viable and easily replicable 2MW sCO₂ power block. The technology will be demonstrated in the CEMEX cement plant in Prachovice (Czech Republic). The project will have six virtual replication sites across different industries: glass (Turkey), aluminium (Greece), steel (Spain), waste incineration (Belgium), gas power generation (France) and solar power generation (Spain).

CO2OLHEAT’s waste-heat-to-power (WH2P) application is based on a recuperated closed-loop Brayton cycle with sCO₂ as a working fluid. Thanks to its flexibility (compact size and capability to better accommodate load changes), high efficiency and the ability to work with significant temperatures, the sCO₂ power block offsets the disadvantages of the traditional WH2P applications.

sCO₂ WH2P applications will mitigate the increase of electricity consumption while introducing the concept of circular economy and industrial symbiosis in heat management: the unused heat in heavy industries (chemical, iron & steel and cement manufacturing), accounts for more than half of all the EU industrial WH potential. Most importantly, CO2OLHEAT will facilitate savings of primary energy consumption and thus reductions of CO₂ emissions.

The CO2OLHEAT consortium includes partners from all previously EU funded projects on sCO₂ cycles. The 21 partners from 11 different European countries involved in this project are: ETN (BE), Rina Consulting (IT), Siemens Energy (DE), University of Duisburg-Essen (DE), Baker Hughes (IT), Politecnico di Milano (IT), SimeROM (RO), CEMEX Czech Republic (CZ) (with the support of CEMEX Innovation Holding AG and CEMEX Polska Z.o.o.), Brunel University London (UK), MAS (EL), University of Roma Tre (IT), CERTH (EL), Leitat (ES), Heatric (UK), ENEA (IT), ENGIE Laborelec (BE), EDF (FR), MYTILINEOS (EL), Şişecam (TR), Bosal (BE) and CELSA (ES).

More information on the project can be found at:
<https://cordis.europa.eu/project/id/101022831>

CO2OLHEAT

Supercritical CO₂ power cycles demonstration in Operational environment Locally valorising industrial Waste Heat

EU’s Horizon 2020 Research and Innovation Programme grant agreement N. 101022831

www.co2olheat-h2020.eu

info@co2olheat-h2020.eu

Communication and dissemination: ETN Global (info@etn.global)



Project Details

Project Grant Agreement: 101022831

Start Date: 01/06/2021

Project Duration: 48 months

Project Budget: €18.813.891,25 (EU contribution: €13.999.996,40)

Project Coordinator: Ugo Simeoni, email: us@etn.global

Info: info@co2olheat-h2020.eu



This project has received funding from the European Union's Horizon 2020 research and innovation programme under GA n. 101022831.

Partners



Siemens Energy is a registered trademark licensed by Siemens

CO2OLHEAT

Supercritical CO₂ power cycles demonstration in Operational environment Locally valorising industrial Waste Heat

EU's Horizon 2020 Research and Innovation Programme grant agreement N. 101022831

www.co2olheat-h2020.eu

info@co2olheat-h2020.eu

Communication and dissemination: ETN Global (info@etn.global)

