This project has received funding from the European Union's HORIZON Research and Innovation Actions programme under grant agreement number 101138325

Electrification of ceramic industries high temperature heating equipment (eLITHE)

eLITHE aims to support decarbonisation of the ceramic industry through the demonstration of sustainable and cost effective pathways to electrify high-temperature thermal processes (i.e. melting, calcination, and firing). This is crucial for the EU to achieve its 2050 target of climate neutrality as energy-intensive industries (EIIs) are responsible for a large portion of greenhouse gas emissions. In the eLITHE project, three different production processes are being investigated with regard to possible electrification. For the brick and tile industry, the focus is on looking at electrification and possible hybrid operation of tunnel kiln.

The project consortium consists of 18 partners from 9 EU countries, with diversified expertise and knowledge in the addressed processes. The project will have a significant impact on the transition of EIIs to regenerative energies like hydrogen and green electricity and will lead to a reduction of over 97,000 tons of CO2 per year and over 505 GWh/yr of natural gas use for a full-scale unit. In addition to the direct impact on the clean energy transition of the ceramic industry, eLITHE will also have broader societal and economic impacts. The project will contribute to the development of a sustainable and circular economy, supporting the creation of green jobs and improving the competitiveness of European industries.

IZF will work together with TNO and RECOM for the development and demonstration of a hybrid tunnel kiln for the firing of bricks. The main objectives are:

- creation of the specifications of the hybrid tunnel kiln;
- testing and validation of the lab-scale HyFlexFLOX burners;
- developlement, intergration and commissioning of the electric heating element in the pilot plant at IZF;
- carrying out tests and deriving possible modes of operation.

Organisations:

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Funded by the EU: Grant agreement number 101138325

Duration: 01.01.2024 - 31.12.2027

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