

Greener furnaces for energy intensive industries

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Energy-intensive industries play a crucial role in boosting Europe's growth and employment, but strong climate-related policies can undermine their competitiveness. New, cleaner technologies are needed, and an EU project recently managed to achieve just that.

'Carbon leakage' is a well documented phenomenon in Europe, which sees businesses transfer their production to other regions in order to face competition from third countries without restrictions on [greenhouse gas emissions](#). Since the EU cannot compromise on its sustainability targets for the sake of [future generations](#), all hopes lie in new, affordable technologies enabling more sustainable production at a competitive cost.

The EDEFU [project](#), which was partly funded under the EU's 7th Framework Programme to the tune of EUR 8.5 million, has recently announced a major step forward in this regard. The team, which held its final workshop on 22 May in Brussels, announced the successful design of a new type of ecological furnace boasting [energy efficiency](#) by 35% and reducing CO₂ emissions by 27% compared to traditional equipment.

The new technology integrates various heating systems such as plasma heating, high resistivity heating, radiant heat-microwave and biomass. It was developed for the aluminium, glass, cement and ceramic sectors, where industrial furnaces are used to provide heat in production processes. However, the team says it could be used by other related sectors as well.

Other results from the project include waste heat reuse technologies, and new type of refractories (materials that retain their strength at high temperatures) with improved insulation characteristics thanks to the use of nanotechnology. The project discussed commercialisation potential of these technologies at its workshop, saying there was a 'high commercial potential expressed by end users, furnace manufacturers and auxiliary industry firms.'

Manufacturing industries are currently responsible for nearly one third of the world's energy consumption and 36% of its CO₂ emissions. The project team expects its findings to contribute to reduce production costs and products' carbon footprint.

Provided by CORDIS

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