

# PROJECT PROGRESS

## Ceramic sector

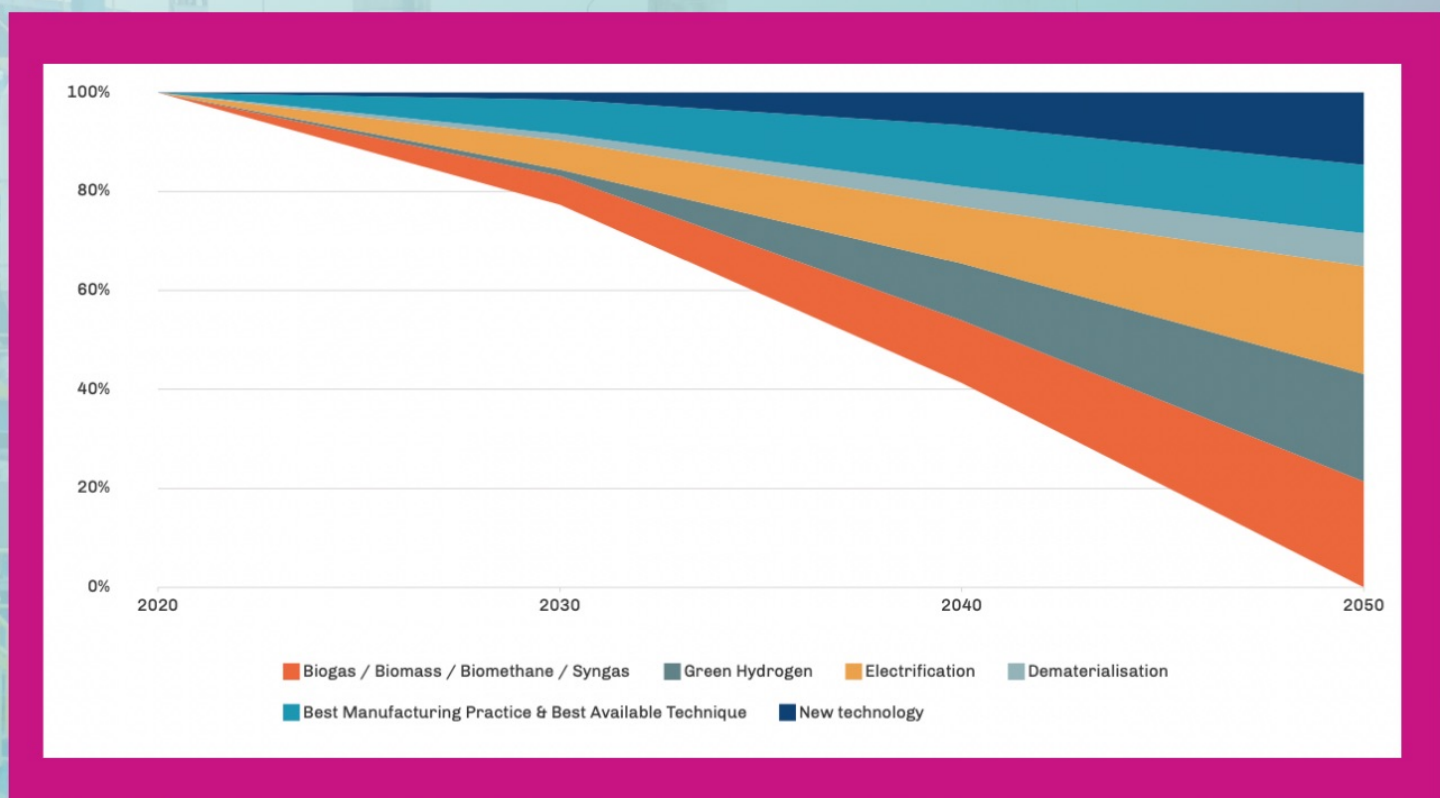
The ceramics industry in the EU is a leader in producing high-quality ceramic products such as tiles, bricks, sanitary ware, and vitreous clay pipes. Most manufacturers are innovative small and medium-sized enterprises. Although the industry suffered during the economic crisis, there are indications of a recovery. The ceramics sector provides over 338,000 jobs and has a production value of €27.8 billion.

EU manufacturers are mainly represented by small and medium-sized enterprises that can quickly respond to changing demand and new opportunities. They use automation and environmental technologies widely, and clusters fuel innovation and enhance competitiveness. This report provides a general overview of the ceramics sector and its importance for the European and global economy. It covers the main industrial activities in the ceramics industry, including production and the highest overall energy consumption.

The report provides information on the current usage and importance, main production processes, energy and greenhouse gases emission profile, as well as potential alternatives for cleaner production processes to mitigate their climate impact. Each chapter in this report focuses on a specific ceramic subsector or product, briefly describing these sub-sectors of the European ceramics industry. The industry is specialized in value-added products and has access to new markets in emerging economies, offering just-in-time and just-to-market service. The sector is increasing its research and development in technical ceramics, smart materials, the use of lasers, process automation, and labelling.



The production processes of ceramics are energy-intensive, with the bricks and roof tiles sector being the biggest energy consumer. However, the industry has halved its energy consumption over the last 25 years by switching fuel usage. Under the vision of a climate-neutral industry, the European ceramic industry projected an energy need of around 140k TJ by 2050, one third less than in 2020. Biogas and green synthetic gas technologies are already available, and the industry has included these renewable gases in its energy mix for 2030. The industry expects small quantities of green hydrogen to be available for the ceramic sector by 2030, and an increase in the availability of green hydrogen from 2040. Compared to hydrogen and electrification, biogas and green synthetic gas will play a smaller role in reducing emissions.



**Figure.1** Measures contributing to the reduction of emissions from fossil fuel combustion.  
(Source: [Ceramics Roadmap2050](#))

