

# ECO innovative methodologies for the valorization of construction and urban waste into high grade TILES (ECOTILES, EU-LIFE project)

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The ECOTILES project aims at studying the possibility to produce high-grade cement-based tiles using glass and ceramic waste. The project, financed under the EU - LIFE ENVIRONMENT/WASTE program will contribute to the achievement of EU 2020 goals on waste and resource efficiency, reducing emissions, waste, impacts on human health and the environment. Specific objectives are to:

- Demonstrate an innovative methodology that integrates promising research results to produce a new generation of tiles made almost entirely (up to 70%) with recycled materials and with substantially lower environmental impacts compared to current products.
- Demonstrate the improved environmental performance in the production process of precast products, through the re-use and recycling of several streams of urban waste as well as lower energy consumption

LIFE ECOTILES project focus at:

- Design, implement, fine-tune and optimise a series of three versions of industrial precast-products (Terrazzo tiles) with up to 70% content of recycled materials, potentially improving mechanical and structural characteristics compared to current products made with virgin materials;
- Adapt and engineer a low-energy industrial process able to manufacture the recycled Terrazzo tiles on an industrial scale, consuming 20% less than traditional processes;
- Facilitate the recycling of up to 450 t/year of CDW and construction materials scrap and 3 000 t/year of glass waste, with a potential of around 1 000 times more in Europe if applied to a share of all pre-casted products;

More general expected results concern the a) building and maintaining a collection and valorisation network in the Marche region; b) increasing of the awareness of the improved eco-innovative solutions among the general public, policy-makers and in the European industry, focusing on the environmental and economic advantages and technical feasibility of innovations such as LIFE ECOTILES.