

Low cost energy from biomass



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Biomass short chain cogenerator with low environmental impacts and high efficiency

Founded in March 2004, the "Guglielmo Marconi" of Rome boasts important records: it is the first telematic university born in Italy and, as a good "progenitor", it excels not only in teaching but also in research. Numerous European projects bear witness to this, in particular in the renewable energy and hydrogen sector, of which it is also a partner. Among these, the project BLAZE "Biomass Low cost Advanced Zero Emission small-to-medium scale integrated gasifier fuel cell combined heat and power plant" which, with a budget of 4.2 million euros, includes various research realities (EPFL, Aquila, ENEA), industries (Walter Tosto, SOLIDpower, HyGear, Enereco) and a dissemination partner (EUBIA)

with an Italian technological focus. "The goal - explains Professor Enrico Bocci, coordinator of BLAZE and head of the university laboratory - is to overcome the criticalities that current biomass cogeneration plants present: the need of specific biomass, that is often not local and expensive, high investment and maintenance costs, system complexity and high emissions (particulates, tars). BLAZE, in fact, develops the first biomass cogeneration of small to medium size (25-5,000 kWe) with steam gasification fluidised bed technology that converts heterogeneous raw materials (agro-industrial, urban and forestry organic waste) in a gas with a high calorific value that feeds an efficient solid oxide fuel cell". The initiative, which involves Susanna Correnti and Federica Funghi as project manager, in 2021-2022 will integrate the 25 kWe SOFC with the gasifier at Walter Tosto. The related techno-economic, environmental, social, safety and market analyses will demonstrate the achievement of new goals in the competitiveness of European industry, the efficiency and flexibility of biomass plants and their social acceptance. "We are following other H2020 projects in this area of research - continues the head of the Research and Development area of 'Marconi'



The fluidised bed gasifier that is producing syngas via nuts shells

Arturo Lavalle - that aim to develop advanced clean technologies such as in the GICO 'Gasification Integrated CO2 cap-ture and conversion' project coordinated by Professor Bocci. Research and innovation are essential priorities for us, to which we dedicate commitment and resources with great determination.

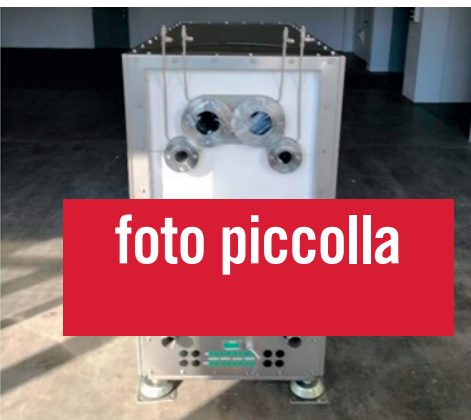


foto piccola

Solid Oxide Fuel Cell (25 kWe SOFC Large Stack Module)