

PRESS RELEASE

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BioRECAST - BIObased RESidues Conversion to Advanced fuels for sustainable STEEL production

The EU-funded BioRECAST project (upcoming website: www.biorecast.eu) officially started in November 2023, and the launch of the project is now announced through this press release. The first consortium meeting took place in a hybrid format (online and in person), with all eight partners from four countries (IT, DE, ES, CZ), during the kick-off meeting on the 20th of November at the premises of the coordinating partner, Polytechnic of Turin. Consortium partners include the Polytechnic of Turin, RE-CORD, the Polytechnic of Milan, SIDENOR, CALVISANO, HTT Engineering, Rina Consulting and WIP Renewable Energies.

BioRECAST Project

Steel sector decarbonization is a key challenge for the EU Green deal targets. BioRECAST proposes a “new and improved steelmaking technique”, reusing waste-heat of electric arc furnace from steel company for the on-site conversion of residual biomass into biocoal and sustainable bioenergy, to be used as alternative sustainable fuels for steelmaking process, increasing the sustainability of steel company, particularly Electric Arc Furnace (EAF) process. The project work plan includes: biocoal production tests in a 100 kg/h plant, biocoal industrial tests in EAFs; pyrogases combustion trials and design of new pyrogas burner to be used in EAFs, and the executive design based on two industrial case studies of a new integrated pyro-EAF steelmaking plant.

Project Objectives

BioRECAST addresses the research objective for steel: “New and improved steelmaking and finishing techniques”. The project also aims to the research objective “Decarbonisation and Modernisation of steel sector”, of the European Green Deal Communication. In particular, the main scope of BioRECAST is to foster the consumption of biowaste streams as renewable carbon and energy source for the steel sector and, at the same time, to valorise the waste heat of EAF steelmaking. The project pathway towards the achievement of this goal is based on innovative solutions:

1. The production of biocoal from residual biomass streams of suitable quality to be used as coal substitute in EAF steelmaking processes;
2. The valorisation of EAF hot flue gases to supply the thermal energy required for the pyrolysis process, enabling the use of the pyrolysis gases (Pyrogases) as renewable energy source in the steel sector.
3. Assessment of best available solution for pyrogas valorization in the steel making company.

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BioRECAST Consortium Partners



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