**PRESS RELEASE** **04 August 2025**

## Joint BioRECAST & H2Steel Webinar Explores Pathways to a Fossil-Free Steel Sector

On 18 June 2025, the joint online webinar *"Defossilizing the Steel Sector"* successfully brought together over 50 stakeholders from across Europe. The event was jointly organised by the EU-funded projects **BioRECAST** (BIObased REsidues Conversion to Advanced fuels for sustainable STeel production) and **H2Steel** (Green $H_2$ and circular bio-coal from biowaste for cost-competitive sustainable steel), in close collaboration with **IEA Bioenergy Task 33: Gasification of Biogenic and Waste Feedstocks for a Sustainable Future**.

The webinar provided a platform to present and discuss ongoing activities, results, and technical approaches from the participating projects, all aimed at identifying viable pathways for the **defossilisation of the steel sector** through the use of **renewable carbon and green hydrogen**. Additionally, recent developments from IEA Bioenergy Task 33 on the production and application of biocarbon in metallurgical industries were highlighted.

### Innovative Project Approaches

**BioRECAST** addresses the challenge of decarbonising the steel sector by exploring the valorisation of residual organic waste streams—including sewage sludge, food and agricultural waste—through slow pyrolysis. This process generates **biocoal** and **pyrolysis gases**, offering a sustainable alternative to fossil coal, especially for **Electric Arc Furnace (EAF)** plants. A key focus lies in upgrading the chemical composition of biocoal to meet the specific requirements of steel production.

**H2Steel** develops a novel, competitive solution for the production of **green hydrogen** and **biogenic carbon** from circular biowaste. By harnessing local waste streams, the project contributes to the emerging **EU Green Hydrogen economy** while directly supporting the steel industry's green transition.

**IEA Bioenergy Task 33** aims to advance the commercialisation of environmentally and economically viable **biomass and waste gasification (BMG)** processes. By monitoring their development and addressing key barriers such as operational reliability and capital costs, Task 33 plays a pivotal role in supporting sustainable industrial transformation.

### Highlights from the Webinar

The session was moderated by **Dr Rainer Janssen** from WIP Renewable Energies (Germany), who also delivered the opening remarks. Key presentations included:

- **Prof. David Chiaramonti** (Politecnico di Torino, Italy):

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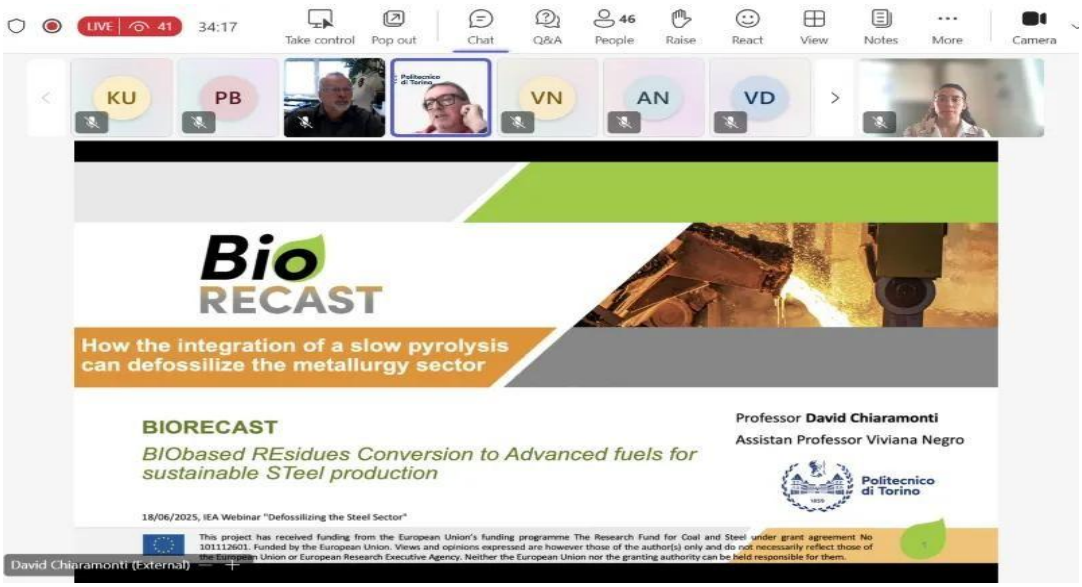
*Hard to Abate? Renewable Carbon and Hydrogen to Defossilize the Steel Sector*
*BioRECAST: How the Integration of a Slow Pyrolysis Plant into the EAF Can Defossilize the Metallurgy Sector*

- **Eng. Viviana Negro** (Politecnico di Torino, Italy):
  *Production of Green Hydrogen and Biogenic Carbon for the European Steel Sector* (H2Steel project)
- **Prof. Kentaro Umeki** (Luleå University of Technology, Sweden), representing IEA Bioenergy Task 33:
  *Challenges in Biocarbon Production and Usage in Metallurgical Industries*

A dynamic Q&A session followed the presentations, giving participants the opportunity to engage directly with the experts and discuss technological, regulatory, and economic aspects of the transition.

The organisers warmly thank all attendees for their interest and contributions and look forward to further editions in this collaborative webinar series.

*Presentation slides and a recording of the webinar are available for download.*

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