

REGISTRATION OPEN



ESTEP workshop **SecCarb4Steel**

Preparation and use of biogenic and non-biogenic secondary carbon carriers (SCC) in processes for iron and steelmaking



Three-part webinar
November 2024

- 15 | 11 Utilization of biogenic SCC in iron and steelmaking
- 22 | 11 Non-biogenic SCC for iron and steelmaking
- 29 | 11 Recent project activities on European level following SCC usage

**Get your
seat and
coffee
ready...**

Secondary carbon carriers generated from biogenic and non-biogenic sources represent valuable materials paving the way for a more sustainable future of the iron and steelmaking industry. Industrial and academic R&D&I projects as well as the successful implementation of the outcomes are closely linked to the lowered use of fossil fuels and reducing agents. Thus, the efforts contribute to the overall goals defined in the Circular Economy Action Plan and the Green Deal of the European Union.

The workshop will point out the potential, challenges and future trends in the production and application of biogenic and non-biogenic SCC. In addition, it represents a platform to discuss with industrial and scientific specialists in preparation and use of secondary carbon carriers in various metallurgical processes uncovering sector coupling possibilities.

Keynote lectures

15 November 2024

Biochar production plants: Status quo by Next Generation Elements (NGE)

NGE produces customised facilities for recycling of biogenic residues utilising pyrolysis. Pyrolysis of diverse raw materials generating biochar represents a reasonable approach for carbon capture and storage (PyCCS) which has recently been acknowledged by the EU. As the iron and steel industry is forcing the integration of biochar, it is important to point out and discuss the actual production conditions and the suitability for metallurgical processes.

22 November 2024

Decarbonization through recycling and industrial symbiosis: The use of recycled carbon raw materials in steelmaking by I.BLU

The mixed polyolefins used as feedstock are composed of a variety of polymers with different technical characteristics, not suitable to be directly recycled via plastic-to-plastic. Following various sorting steps, the collected urban waste streams can be recycled to produce secondary carbon-carrying products, while being diverted from other less desirable end-of-life scenarios like energy recovery and landfill. A virtuous example of industrial symbiosis will be shared regarding the use of recycled polymers in substitution of coal in steelmaking, contributing to the achievement of the European recycling targets of plastic packaging waste, leading to significant CO₂ emission savings, as well as to the preservation of natural resources and, therefore, of carbon storages in the ground.

29 November 2024

Ecological evaluation of the utilization of secondary carbon sources in the steel industry through a Life Cycle Assessment approach by RWTH Aachen

The utilisation of secondary carbon carriers is essential to close gaps in the sustainable transformation of the steel industry. For evaluating the environmental impacts of biomass/biochar and plastic residues with a high fixed carbon content in iron and steel furnaces for substitution of fossil coke, as well as in carbon composite agglomerates in the form of self-reducing briquettes or pellets made of iron ore/iron rich residues and SCC for the exploitation of volatile matter, the implementation of a Life Cycle Assessment (LCA) helps to identify and address shifts in environmental burdens throughout the entire life cycle, from sourcing of raw materials to disposal, promoting more sustainable technology development and eco-friendly design.

Participation fee

- » Free for speaker in the related session
- » 50 € per person per session
- » 100 € per person for all sessions

Student fee (all sessions)

- » 60 € (additional seats offered based on availability)

Company flat rate fees (all sessions)

- » 300 € (max. 25 persons)

Fee is used by ESTEP for workshop organization as well as generation and provision of the proceedings and related publications. Members of ESTEP interested in sponsoring the event (1000 €) are invited to contact the ESTEP secretariat via e-mail: D.Snaet@estep.eu

Scientific committee

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