

About Steel

Steel is a “permanent material” that can be endlessly recycled and is continuously transformed. The EAF route is essential in allowing the highly developed and mature steel recycling infrastructure.

In 2050 the contribution of the EAF route to the EU steel production is expected to significantly increase since it represents a powerful force for climate mitigation.

Scrap based steelmaking provides opportunities for Green Steel along the entire value chain from low value scrap to process decarbonization and energy recovery up to valorisation of residues.

Further benefit to investigate is the additional GHG reduction offered by the combination of Direct Reduction Process and EAF, where green hydrogen can play a significant role as a reducing agent, while the melting energy will be provided from renewable sources.

All these issues and more will be shared and discussed in the Workshop in Bergamo.

Organisation & Steering Committee

Enrico Malfa	Tenova
Falvio Bregant	FederAcciai
Maurizio Zanforlin	ORIMartin
Costanzo Pietrosanti	Danieli Automation
Fabio Praolini	Tenaris
Pietro Gimondo	Rina
Delphine Snaet	ESTEP

Scientific Committee

Bernd Kleimt	BFI
Filippo Cirilli	Rina
Valentina Colla	SSSA
Marta Guzzon	Tenova
Klaus Peters	ESTEP
Ilaria Pistelli	Rina

Workshop venue

13 November: Plant visit

TenarisDalmine
Piazza Caduti 6 Luglio 1944, 1
24044 Dalmine BG, Italy

14 November: Sessions

Hotel San Marco
Piazza della Repubblica, 6
24122 Bergamo BG, Italy
<https://www.hotelsanmarco.com/>

Rooms has been reserved for the WS participants

Participation fee

Participation fee (200 €) will include workshop proceedings, common lunch, coffee breaks and dinner.

Transfer from Dalmine to Hotel San Marco is available on 13rd of November afternoon. Payment instructions and registration form are available on ESTEP web site
<https://www.estep.eu/events/>

Contacts

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DRAFT

PROGRAMME



13-14 November 2019
Bergamo, Italy

The Focus Group “Circular Economy” of European Steel Technology Platform announce the workshop:

**Green steel by EAF route:
a sustainable value chain in the
EU Circular Economy scenario**

The workshop is focused on sharing experiences, needs, opportunities and best practices for further greening the steel production by EAF route. The goal is identifying the actions that the scrap based steel production sector is putting in place to achieve the CO₂ reduction and circularity EU targets.



DANIELI AUTOMATION



Federacciai



Tenaris tenova

13 November 2019
Green steel by EAF route

Visit to TenarisDalmine Plant

- 14:30 Registration desk at main entrance
- 15:00 *Welcome*
Dalmine plant description
Safety device distribution
- 15:30 Site visit
- 17:00 Transfer to Hotel San Marco by bus (30 minute)



Evening Program

- 18:30 Meeting at Hotel San Marco
- 18:45 Transfer to Old Town by public transportation
- 19:15 Free time for Old Town visit
- 19:45 Dinner at Mimmo Restaurant



14 November 2019
Green steel by EAF route:
a sustainable value chain in the EU Circular Economy scenario

8:30 Registration desk at Hotel San Marco
Opening plenary section - Chairman: C. De Maré

- 09:00 Welcome and opening
- 09:20 Steel Production from EAF: achievements and future challenges by Circular Economy and Sustainability - A. Schweiger (*FederAcciai*), A. Braconi (*EUROFER*)
- 09:50 CO₂ mitigation in Electric Arc Furnace steelmaking: Perspectives from LowCarbonFuture project - F. Cirilli (*Rina*)

10:20 Coffee Break and Poster Session

Scrap management - Chairman A. Schweiger

- 10:40 SCOT - Scrap Cranes Operation Tracking - *Arcelor Mittal*
- 11:05 Intelligent scrap management and adapted EAF process control - *BFI*
- 11:30 A model for influence of Scrap Quality on the Environmental Performance evaluation - *Beltrame*
- 11:55 Metal scrap classification and tracking in ORI Marin - *ORI Martin*
- 12:20 Sustainable and flexible EAF production with lowest emissions and energy consumption - *Primetals*
- 12:40 Panel with authors

Decarbonisation - Chairman K. Peters

- 10:40 Economically viable technologies for decarbonisation in steelmaking business - *Tenova*
- 11:05 EAF optimization in Scrap Based Melting Process - *Danieli Automation*
- 11:30 Zero CO₂ emissions EAF and hot rolling mill plant - *Tenaris*
- 11:55 Road to Steel Process Decarbonisation - *ABS*
- 12:20 Reduction of direct CO₂ emissions in the EAF by substitution of fossil coal with biogenic materials - *Rina*
- 12:40 Panel with authors

13:00 Lunch and Poster Session

Energy efficiency - Chairman B. Kleimt

- 14:00 The green way of ORI Martin - *ORI Martin*
- 14:25 The Feralpi strategy to continuous development of a Sustainable Steel Production and Circular Economy Concept for Environment and Communities – *Feralpi*
- 14:50 iRecovery® system transforms in profits the wasted energy in the EAF off-gases - *Tenova*
- 15:15 Eco-friendly steelmaking slag solidification with energy recovery to produce a high quality slag product for a sustainable recycling - *FEhS*
- 15:40 Advanced EAF steelmaking flow-sheeting models for assessment of energy and environmental performances - *Scuola Superiore Sant'Anna*
- 16:05 Panel with authors

Circular Economy - Chairman E. Malfa

- 14:00 Used tires utilization in EAF - a success for circular economy - *Beltrame*
- 14:25 Plastic utilization in EAF: a fruitful example of circular economy - *Rina*
- 14:50 Recycling of steelmaking dust - RecoDust concept for an enhanced circular economy - *K1-MET*
- 15:15 Secondary Metallurgy Slag Valorization as Green Raw Material - *Tenaris*
- 15:40 EAF slag in polymeric matrix, examples of green reuses - *University of Brescia*
- 16:05 Panel with authors

16:25 Coffee Break and Poster Session
Closure plenary section - Chairman: TBD

17:00 Closure