

<b>Paper Title:</b>	<b>Low impact Electric Arc Furnace: how to combine de-carbonization, energy saving and limited environmental emissions in modern electric steelmaking</b>
-------------------------	---

European Academic Symposium on EAF Steelmaking  
University of Oulu, Finland  
June 7<sup>th</sup>, 2023

Hydrogen utilization in the melting process, - H<sub>2</sub>

# Electric Arc Furnace H<sub>2</sub> Burners

**Developing and enabling H<sub>2</sub> burner utilization to produce liquid steel in EAF**

The research leading to these results has received funding from the European Union's Research Fund for Coal and Steel research program under grant agreement number: **101112264**

Realization and testing of innovative **H<sub>2</sub> burners** to be adopted in EAF  
From small scale to industrial trials

Able to work with NG/H<sub>2</sub> mixture, up to 100% hydrogen

The substitution of just **10% of NG** with hydrogen in the whole steel European production will bring a remarkable **reduction of CO<sub>2</sub> emission** up to 0.1 Mtons/year



# Electric Arc Furnace H<sub>2</sub> Burners



Coordinator of the project



Design, manufacturing and optimization of burner prototypes and full-scale



Design of hydrogen pipeline, H<sub>2</sub> storage tank and as well as safety aspects



Development of thermodynamic and kinetic models, testing with in an EAF pilot plant



Operative actions in their plant and handling the experimental campaign



Provides a systemic study for the implementation of the proposed technology

