



Contribution ID: 146

Type: Oral Presentation

Hurricane –Sector coupling hub for circular use of thermal and industrial waste

Tuesday 7 October 2025 10:50 (20 minutes)

Within HURRICANE a sector-coupling circular hub centred around the ArcelorMittal Ghent site will be created. We will target efficient resource management together with the recovery and utilization of squandered industrial waste heat and water. Together with ArcelorMittal Ghent's ongoing initiatives, this will lead to a reduction of energy, water and raw materials. Thanks to the ongoing projects taking place within and around the Ghent site, the site is already well connected to many other industries like waste suppliers, chemical producers, renewable power producers, and wastewater treatment. It has become a multi-sectoral hub leading to efficient implementation of industrial symbiosis concepts. The Ghent site has a significant amount of recyclable energy, material and water that allows this symbiosis. These aspects are not only from the steel making processes, but also from other operations taking place in the mentioned "multi-sectoral" hub. This hub can be further enhanced with the integration of waste heat with its ongoing initiatives. Our solution aims at developing and demonstrating novel heat recovery (heat exchanger) and upgrading (heat pumps) solutions from selected operations and then coupling it with the internal and external off takers by means of a heat grid. With digital tools, aspects like broadening the district heating network, and adapting the heat demand profile of the buildings to better match the intermittent of the waste heat, can be optimized. Finally, an integrated software tool for circular hubs that combines the different tools and data produced at the different operations will be developed and validated. Through two virtual demonstrations and circular hubs blueprint the replication potential will be proven. The consortium is formed by 11 partners from 4 different countries, including 4 research organizations, 1 large End User, 2 SMEs, 3 civil organizations and 1 linked 3rd party.

Primary author: BAUWENS, Joke

Presenter: Mr ALBOORT, Philippe

Session Classification: Circular Economy & Industrial Symbiosis

Track Classification: Environmental and energy aspects in iron and steelmaking