Contribution ID: **53** Type: **Oral Presentation**

Thick Slab Casting Technology for renewable energy produced by windmills

Tuesday 7 October 2025 17:00 (20 minutes)

Wind power plays a central role in the global energy transition and is one of the most sustainable methods of electricity generation. It harnesses the kinetic energy of the wind and converts it into electrical power through wind turbines, without emitting greenhouse gases. Windmills are a crucial component of the shift to renewable energies as they provide a reliable, cost-effective, and environmentally friendly energy source.

One of the key components of this technology is steel, which is indispensable in the towers, rotor blades, and foundations of windmills. High-strength steel ensures the stability and longevity of the installations, which often have to withstand extreme weather conditions. Thus, steel is an essential material that significantly contributes to the economic feasibility of windmills.

The required performance of the steel components is achieved through a combination of steel alloy, casting formats, and casting technology. Regardless of whether the mills are operated in onshore or offshore wind farms, steel plates with thicknesses greater than 100 mm are required.

The presentation discusses the significance of continuous casting plants with specific casting thicknesses for the construction and operation of leading-edge windmills.

Primary authors: Mr THIEDE, Christian (SMS group); Dr WANS, Jochen (SMS group)

Co-author: Mr FISCHER, Lothar (SMS group)

Presenter: Dr WANS, Jochen (SMS group)

Session Classification: Green Steel Technologies

Track Classification: Environmental and energy aspects in iron and steelmaking