

RE4Industry

Success Case

H₂

Factsheet SARRALLE & NIPPON GASES

Key information

Sarralle & Nippon Gases have **developed** an innovative solution based on the use of hydrogen to assist companies in their challenges of decarbonization, sustainability, and energy savings in the steel-making process

Company: Sarralle

Founded: In 1965, in Azpeitia Spain

Located: Worldwide

Products for: Steel melting plant, rolling mill, processing lines, environment & energy, workshop & storage systems

Company: Nippon Gases

Founded: in 1910, Japan

Located: Worldwide

Products: Industrial, medical and electronics gases for aquaculture, automotive, chemicals, food and beverage, glass, healthcare and homecare, metal production and metallurgy, petrochemicals, pharma, steel, water and wastewater treatment, welding and cutting and other



Technical aspects

Sarralle has joined forces with **Nippon Gases** to put into operation the world's first ladle preheating station capable of working with green hydrogen as fuel for the Spanish steel manufacturer. The new hydrogen-oxygen burner can reproduce the usual ladle preheating ramps while operating with no CO₂ emissions

Steel mill Ladle preheaters that work with 100% hydrogen fuel

- ❖ Ladle preheaters are equipment used to transport molten steel from the furnace to the casting area
- ❖ The technology offered by Sarralle & Nippon Gases helps improve efficiency and reduce the emissions of the ladle preheater
- ❖ This is achieved by replacing the air used as an oxidizer with oxygen, maintaining natural gas as fuel, or taking it a step further by using 100% green hydrogen
- ❖ It eliminates all CO₂ emissions, as only water vapor is generated as a result of the combustion of green hydrogen
- ❖ It has the benefit of also reducing NOx emissions thanks to oxy combustion



The future

- One of **Sarralle's** main projects is the H-ACERO project, which aims to contribute to the decarbonization of the steel industry by using H₂ as an alternative at various energy sources points in the steel production process
- **Nippon Gases**, part of Nippon Sanso Holdings, recently launched the Carbon neutral world initiative to help their help customers reduce their carbon footprint worldwide. With a combination of 4 ground-breaking technologies (Combustion, HyCO, CO₂ Recovery and O₂Production) in the steel, glass, aluminum & non-ferrous and biomethane markets they are enabling a more sustainable future



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Success cases can be found in the interactive mapping tool

