



From Gray to Green: Hydrogen for the Decarbonisation of Steel Production in Thailand

PROJECT FACTS

Duration: December 2025 – September 2026

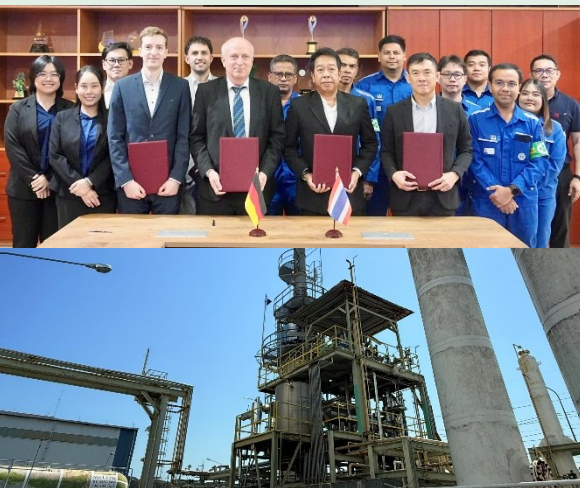
Country: Thailand

Partners:

- Neuman & Esser Southeast Asia (NEA SEA)
- Sahaviriya Steel Industries PLC (SSI)
- Thai Cold Rolled Steel Sheet Public Company Limited (TCRSS)

Outputs:

- Comprehensive feasibility study on green hydrogen for steel production
- Project Results Presentation
- Capacity Building Programme



PROJECT OVERVIEW

Amid rising global pressure for sustainability, the steel industry – one of the most carbon-intensive sectors must accelerate its transition to low-carbon production. Thailand is still reliant on imported scrap and fossil-based inputs and predominantly relies on grey hydrogen produced from natural gas. Downstream products, particularly cold-rolled steel, are essential for automotive manufacturing, a key driver of Thailand's economic growth and exports.

The new public-private partnership (PPP) between Neuman & Esser Southeast Asia (NEA SEA) and Thai Cold Rolled Steel Sheet Public Company Limited (TCRSS) – a subsidiary to Sahaviriya Steel Industries PLC (SSI) – recognises the potential of green hydrogen as a cleaner hydrogen cooling source in their annealing process, as well as the structural and environmental challenges that need to be addressed to facilitate green hydrogen applications.

OBJECTIVES & EXPECTED RESULTS

This new PPP aims to explore the use of green hydrogen feasibility in sheet metal annealing process for Thailand, including the techno-economic feasibility aspects as well as environmental impact assessments. The expected results and impacts of this PPP include:

- Establish a knowledge base to support informed decision-making and future green hydrogen projects.
- Initiate a similar pilot industry project that can serve as a scalable, replicable model for Southeast Asia.
- Increase awareness and understanding of green hydrogen applications in the Thai market and industry.
- Strengthen Thai-German industry collaboration to foster innovation and future cooperation in the green hydrogen sector.

ABOUT H2UPPP

The International Hydrogen Ramp-up Programme (H2Uppp) paves the way for companies to develop the global green hydrogen market through project identification, project development, support and trade.

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The International Hydrogen Ramp-up Programme is supporting entrepreneurial engagement in the ramp-up of hydrogen in the Global South and is a funding programme of the:



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