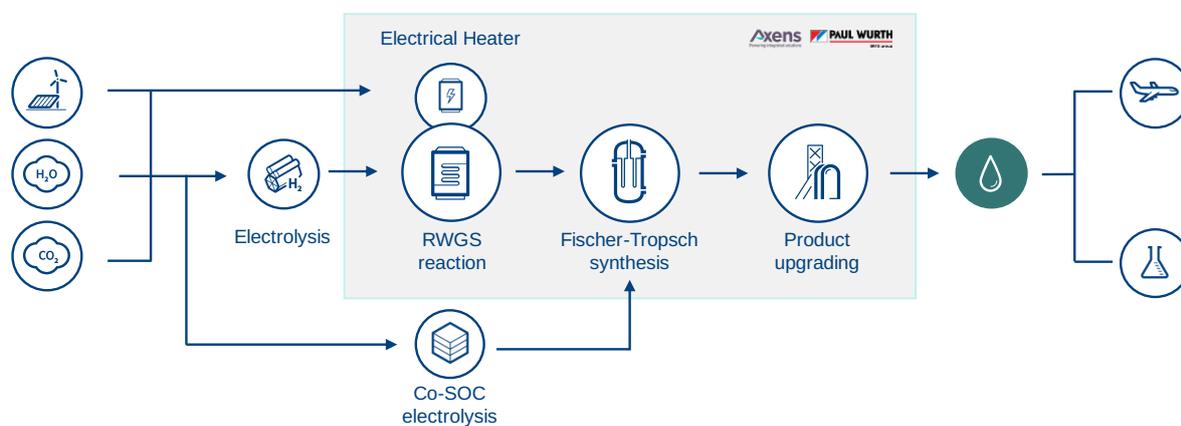


Norsk e-Fuel contracts Paul Wurth (SMS group) to carry out a FEED study integrating Axens technologies for the first e-Fuel plant

20th December 2023, Oslo (Norway)/ Luxembourg (Luxembourg) / Rueil-Malmaison (France)

Norsk e-Fuel selects SMS group subsidiary Paul Wurth to engineer and design one of the worldwide first industrial sized e-Fuel production sites in Mosjøen, Norway. Based on an integrated technological set-up provided by Paul Wurth (SMS group) and Axens, the Norwegian project developer Norsk e-Fuel will convert water and CO₂ to renewable, synthetic fuel for the aviation industry.

Norsk e-Fuel has engaged SMS group subsidiary Paul Wurth to conduct the Front-End Engineering and Design (FEED) study for the company's first production site for e-Fuels. Norsk e-Fuel will turn water and CO₂ into renewable fuels that can be used in existing engines and infrastructures prioritizing the aviation industry. The novel process set-up for the main production stream combines a Reverse-Water-Gas-Shift (RWGS) unit co-developed by Axens and Paul Wurth, a Fischer-Tropsch unit and an upgrading unit (Gasel®). Both RWGS and Gasel® are under exclusive license of Axens. In addition, the company will integrate a co-electrolysis (Co-SOC) unit, provided by Sunfire, for commercial validation. The combination of the singular technology units of Axens and their optimization for maximized e-Kerosene production are in themselves an innovation. To further push the boundaries, Paul Wurth has designed a unique electrical heating system for the RWGS, avoiding unnecessary burning of fossil fuel or hydrogen. The deep integration of the process scheme allows to minimize the overall energy consumption of the plant.



Turning CO₂ and water into e-Fuels

“Paul Wurth and its parent company SMS group are strongly committed to supporting the worldwide energy transition. The project with Norsk e-Fuel gives us the opportunity to actively demonstrate this ambition in the area of synthetic fuels production. We are delighted to form a strong partnership with Axens and contribute our broad expertise in order to bring this unique project to success”, said Thomas Hansmann, CTO of SMS group.

“Axens is pleased to join this adventure with such renowned and trustable partners. The perfect integration between our RWGS Technology, co-developed with Paul Wurth, and our Gasel® technology unlocks a competitive e-Fuel scheme ready to support the ambitious production level of SAF required in Europe. Norsk e-Fuel's solid foundations, ambition and strength complete this equation”, said Jean Sentenac, CEO of Axens.

“We are pleased to complete the picture of our technology partners with such distinguished experts in the field”, added Karl Hauptmeier, CEO of Norsk e-Fuel. “With confidence we can now say that we have the best technology set-up not only for now, but also for the future. The partnership with Paul Wurth (SMS group) and Axens in combination with the access to the technologies of our shareholders Sunfire and Climeworks will allow us at Norsk e-Fuel to always rely on the best technology available on the market. This is extremely important for a quick production scale-up to meet the rising demand.”

Norsk e-Fuel in brief

Norsk e-Fuel was founded in 2019 to drive the transition to renewable aviation by establishing the industrial production of sustainable fuels based on CO₂ and water. As project developer, Norsk e-Fuel is establishing large-scale production sites to deliver synthetic fuels to the aviation industry. Supported by strategic investors and carefully selected partners, Norsk e-Fuel is set to bring Power-to-Liquid production to industrial scale. The company is determined to develop a new value-chain for sustainable fuels, starting with a first production facility to be located in Mosjøen, Norway.

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Learn more on our [website](#), and follow us on [LinkedIn](#).

Axens in brief

Axens group (www.axens.net) provides a complete range of solutions for the conversion of oil and biomass to cleaner fuels, the production and purification of major petrochemical intermediates, the chemical recycling of plastics, all natural gas treatment and conversion options along with water treatment and carbon capture. The offer includes technologies, equipment, furnaces, modular units, catalysts, adsorbents and related services. Axens is ideally positioned to cover the entire value chain, from feasibility study to unit start-up and follow-up throughout the entire unit life cycle. This unique position ensures the highest level of performance with a reduced environmental footprint. Axens global offer is based on highly trained human resources, modern production facilities and an extended global network for industrial, technical supports & commercial services. Axens is an IFP Group company.

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Learn more on our [website](#), and follow us on [Twitter](#) and [LinkedIn](#).

Paul Wurth (SMS group) in brief

SMS group is renowned worldwide for its future-oriented technologies and outstanding service for the metals industry. The company applies its 150 years of experience and its digital know-how to provide the industry continuously with innovative products and processes – even beyond its core business. Paving the way for a carbon-neutral and sustainable metals industry is the company’s stated goal. As a member of SMS group, Paul Wurth is an established technology provider and plant builder for the global ironmaking industry. Presently, the company is focusing on the development of innovative solutions to lead the green transformation of the (steel) industry, as well as actively shaping the production of e-Fuels in order to enable the aviation industry to reach its net-zero emission targets.

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