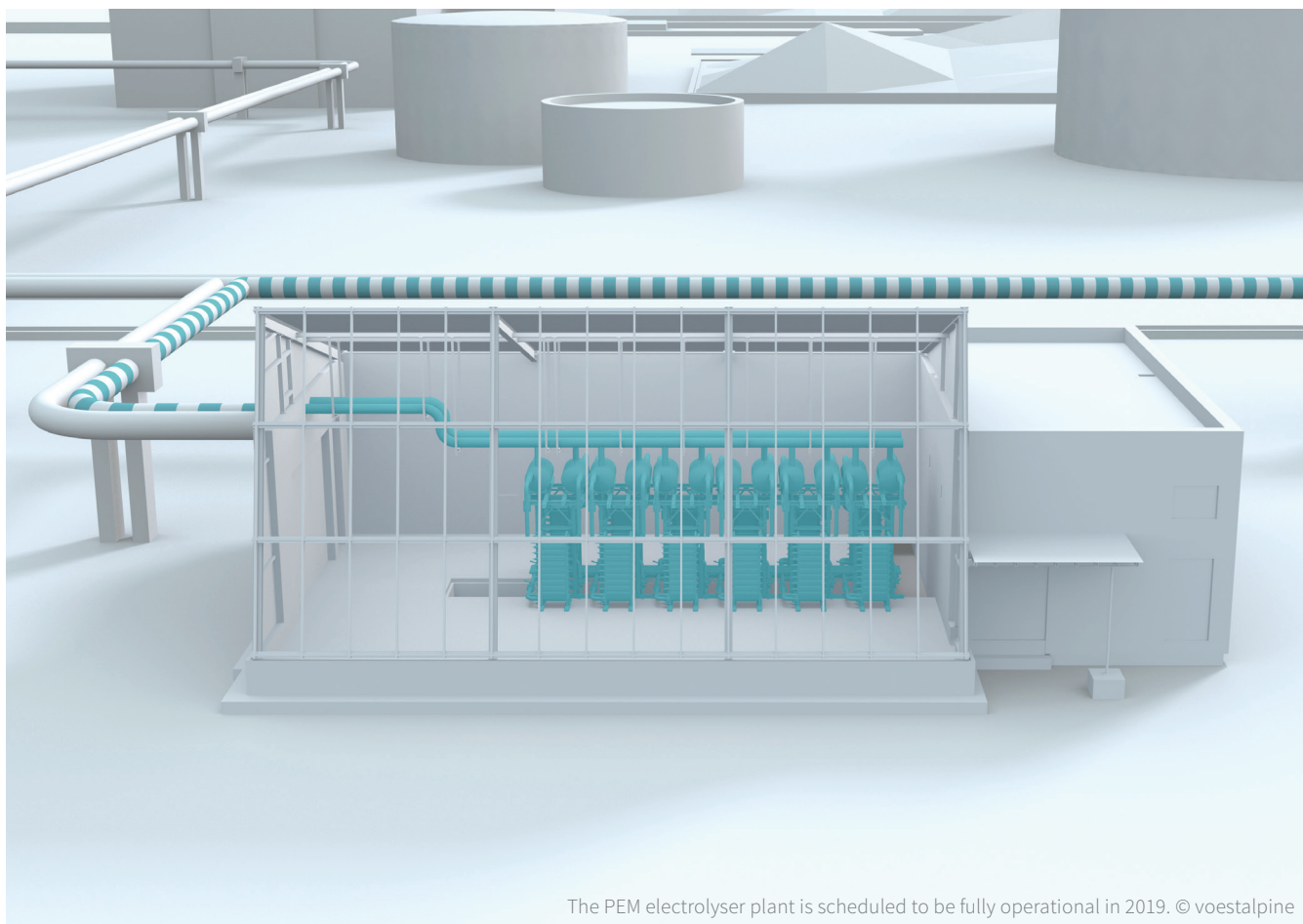


H2FUTURE – A European Flagship Project for Generation and Use of Green Hydrogen



The PEM electrolyser plant is scheduled to be fully operational in 2019. © voestalpine

New partnership to meet transformation challenges

Vienna, November 2018. Europe's society, and in particular the energy system, will undergo a fundamental transformation over the coming decades. In order to tackle climate change, industry is already intensely researching practical ways for substantially reducing CO₂ emissions. This requires development and roll-out of completely new technologies, e.g. in steel production, and relies on the availability of sufficient energy from renewable energy sources. New partnerships within and across all sectors are needed to meet these challenges successfully.

The EU flagship project "H2FUTURE – Hydrogen meeting future needs of low carbon manufacturing value chains" brings together energy suppliers, the steel industry, technology providers and research partners, all jointly working on the future of energy.

With a capacity of 6 megawatts and a production of 1,200 cubic meters of green hydrogen per hour, H2FUTURE is currently the world's largest and most advanced hydrogen pilot facility using PEM (proton exchange membrane) electrolysis technology for producing green hydrogen from renewable electricity. The PEM electrolyser plant is scheduled to be fully operational in 2019.

Six partners, one common goal

Under the coordination of Austrian utility company VERBUND and with PEM technology developed and provided by SIEMENS, Germany, the electrolyser is currently being built and will be operated at the largest steel production site of voestalpine Group in Linz, Austria.

VERBUND will provide electricity from renewable energy sources and is responsible for developing and testing grid-services with the electrolyser. Using demand side management, the PEM electrolyser will help to compensate fluctuations in an increasingly volatile power supply and enable higher shares of wind and solar energy.

The Austrian transmission system operator Austrian Power Grid (APG) will provide support in integrating the plant into the power reserve markets. Scientific partners are the research institution ECN part of TNO (The Netherlands), responsible for the scientific analysis of the demonstration operation and the transferability

to other industrial sectors, and the Austrian COMET Competence Center K1-MET, which will demonstrate the potential applications in the European and global steel sectors.

Fundamental project for long-term decarbonisation

In a nutshell, the fundamental goal of H2FUTURE is to demonstrate that an industrially integrated PEM electrolyser is able to produce green hydrogen and supply grid services at the same time.

In this way, the potential for “breakthrough” steelmaking technologies which replace carbon by green hydrogen can be examined and the basis for further upscaling to industrial dimensions and in the long run for decarbonizing the economy is created.

H2FUTURE will also address regulatory challenges that need to be solved to create a sustainable environment for European industry players.

Project Facts & Figures

VERBUND Solutions GmbH (project coordinator)
voestalpine Stahl GmbH
Siemens AG
K1-MET GmbH
Austrian Power Grid AG
TNO

Project Budget: 18 million EUR
Total Funding: 12 million EUR by FCH JU
Project Duration: 4.5 years (1st January 2017 – 30th June 2021)
Project Website: www.h2future-project.eu

Verbund

voestalpine
ONE STEP AHEAD.

SIEMENS

K1 MET
metallurgical competence center

APG
Austrian Power Grid

TNO innovation
for life



This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No 735503. This Joint Undertaking receives support from the European Union's Horizon2020 research and innovation programme and Hydrogen Europe and N.ERGHY.

