

Austria's largest electrolysis plant

Green hydrogen is set to help decarbonise industrial processes. Together with Siemens Energy, STRABAG is building a 140 MW electrolysis plant for OMV.

Green hydrogen as a raw material

A remarkable project is taking shape in Bruck an der Leitha: a 140 MW electrolysis plant. Austria's largest facility of its kind is expected to produce up to 23,000 tonnes of green hydrogen from renewable energy every year.

The green hydrogen produced there will replace fossil-based hydrogen in OMV's production processes, helping to progressively decarbonise industrial operations at the nearby Schwechat refinery.

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Electrolysis powered by green electricity

The project is being delivered for OMV by a consortium comprising STRABAG AG and Siemens Energy. STRABAG is responsible for the construction works, bringing together civil engineering, industrial plant construction and energy infrastructure. Siemens Energy is responsible for the technical plant engineering and will supply the electrolyser, among other equipment, as the centrepiece of the facility.

Completion is scheduled for the end of 2027. Once operational, electrolysis – the process of splitting water molecules (H_2O) into their gaseous components, hydrogen (H_2) and oxygen (O_2) – will be powered by electricity from wind, solar and hydropower. With a total capacity of 140 MW, the plant will be able to produce vast quantities of green hydrogen, avoiding around 150,000 tonnes of CO_2 emissions a year. That is roughly equivalent to the carbon footprint of 20,000 people.



High-tech projects such as the electrolysis plant in Bruck an der Leitha are part of our DNA. We bring extensive construction expertise to projects like this and combine it with the technical know-how of strong partners. Green hydrogen is an important technology for the future. By building industrial facilities of this kind, we are helping to create more sustainable energy infrastructure.

Thilo Klepsch,
Technical Business Unit Manager
Industrial Construction



1 Austria's largest electrolysis plant is being built in Bruck an der Leitha. © STRABAG

Complex high-tech construction

An electrolysis plant on this scale is a complex high-tech industrial facility. Construction and logistics have to be perfectly coordinated from the outset to ensure that the processes can later run smoothly. The on-site project team has extensive experience in delivering complex major projects while meeting the highest safety standards across the almost seven-hectare construction site.

Earthworks, underground and above-ground utility networks, the numerous foundations and structures, and the building services are just as important as integrating the electrolysis systems and installing the control and safety technology. STRABAG brings many years of expertise in the planning and construction of industrial infrastructure as well as industrial and power plant construction. This provides a safe and robust environment for Siemens Energy's technical equipment.

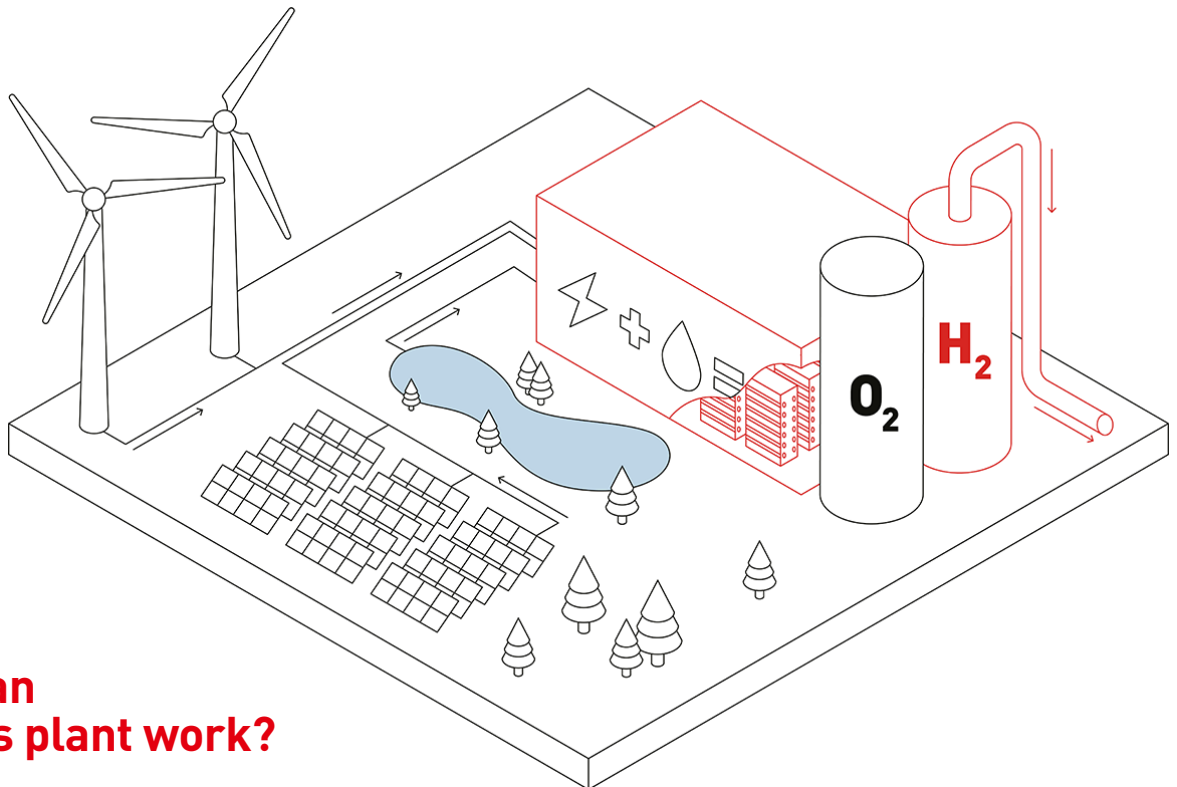
Project data at a glance:

- **Client:** OMV Downstream GmbH
- **Partner:** Siemens Energy
- **Project start:** June 2025
- **Completion:** End of 2027
- **Capacity:** 140 MW and 23,000 tonnes of H_2 per year
- **CO₂ savings:** 150,000 tonnes per year

An energy carrier with future potential

Under the EU Green Deal, hydrogen is regarded as a key building block for sectors that are difficult to electrify. These include the steel and chemicals industries as well as aviation and shipping. Around eight million tonnes of hydrogen were produced in Europe in 2025, less than 1% of it green. Most of the hydrogen used today continues to be produced from natural gas. Essential infrastructure is therefore still lacking if the EU is to achieve its goal of producing around ten million tonnes of green hydrogen domestically by 2030.

Austria has also set ambitious targets. By 2030, hydrogen production through electrolysis is intended to be an integral part of the energy system. The country plans to have 1 GW of electrolysis capacity for green hydrogen in place, equivalent to around 116,000 tonnes a year. By then, 80% of the hydrogen currently produced from fossil fuels is also to have been replaced by climate-neutral hydrogen.



How does an electrolysis plant work?

Water molecules (H_2O) consist of hydrogen (H_2) and oxygen (O_2).

Electrolysis is currently the most common method of using electricity to split water into these gaseous components. The electrolyser itself consists of individual cells comprising an anode, membrane and cathode, which are combined into what are known as stacks. The water used for electrolysis must have low electrical conductivity and is therefore treated beforehand to remove impurities.

Hydrogen comes in many colours. But what do they mean?



Grey hydrogen is produced from fossil fuels, primarily natural gas, which is converted into H_2 and CO_2 .



If the CO_2 produced in the process is subsequently captured and stored, for example using carbon capture technology, the hydrogen is referred to as blue hydrogen.



Green hydrogen, by contrast, is produced using electricity from renewable sources to generate H_2 . This makes green hydrogen the only fully sustainable form of hydrogen.

Smarter infrastructure expansion

Renewable energy sources need functioning infrastructure if they are to become firmly established. Green hydrogen offers a future-ready alternative for industrial processes that currently rely on fossil fuels. OMV is making strategic use of the Bruck an der Leitha location: the electrolysis plant will be connected to the Schwechat refinery, allowing the green hydrogen to be used in industrial processes. Electricity from wind and solar power will be supplied via the Sarasdorf substation, which is undergoing extensive expansion. The project demonstrates how existing infrastructure can be intelligently upgraded and expanded.

For STRABAG, the construction of electrolysis plants is particularly interesting as a new business field. STRABAG has extensive expertise in power plant and industrial plant construction as well as in the field of renewable energy. The company delivers major wind and solar farms, is building Europe's largest heat pump in Mannheim and is constructing 400 kilometres of electricity transmission infrastructure across Germany.

Turning ambition into reality

Green hydrogen has been identified as an important lever for achieving Europe's climate targets. The foundations for success now need to be put in place and hydrogen infrastructure expanded rapidly. At present, too little green hydrogen is produced locally and the technology remains expensive.

The electrolysis plant in Bruck an der Leitha is a pioneering project for Austria. As the country's largest electrolysis plant and one of the largest electrolysis projects in Europe, it demonstrates how industry can effectively reduce CO₂ emissions from its processes. By building the facility, STRABAG is helping drive the transition towards sustainable energy infrastructure.

2 Hydrogen molecules
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