

Factsheet OMV Hydrogen Mobility

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OMV Downstream

Hydrogen on the road – for an emission-free future

Hydrogen is one of the keys to unlocking a future of environmentally sound transport. OMV opened Austria's first public hydrogen refueling station in October 2012 and has been promoting the expansion of the network ever since. Hydrogen offers long-distance electro mobility at comparable costs and with the familiar driving comfort of conventional vehicles. This alternative drive concept marks a further step towards sustainability and emission-free mobility.

Establishing hydrogen infrastructure

The automotive and energy industries are cooperating closely to expand the hydrogen refueling station network to ensure hydrogen supply meets demand. OMV plays a pioneering role in Austria by providing hydrogen at five refueling stations. In Germany, OMV is part of the H2 MOBILITY initiative, which intends to build a comprehensive network of public refueling stations by 2023, based on the conditional growth in the number of fuel-cell vehicles on the road.

Facts and benefits at a glance

- ▶ No local CO₂ and NO_x emissions (Zero Emission Vehicle)
- ▶ Hydrogen vehicles offer long-distance electro mobility with familiar driving comfort
- ▶ Proven technology suitable for mass production
- ▶ Fueling with hydrogen is safe, efficient, odor-free and takes around

four minutes – comparable to conventional car fueling

- ▶ A single, standard refueling nozzle used worldwide
- ▶ Fuel tank capacities of between 4 kg and 6 kg, with typical consumption of around 1 kg hydrogen per 100 km
- ▶ Fuel costs and range are comparable to conventional vehicles

Hydrogen is already applied in the following electro mobility sectors:

- ▶ Passenger cars with fuel cells (ready for mass production)
- ▶ Buses with fuel cells for public transport (ready for mass production)
- ▶ Trucks, trams, locomotives (initial applications)



Overview

OMV hydrogen refueling stations

Country	Station name	ZIP	Address
AT	Vienna	1210	Shuttleworthstraße 10
AT	Wiener Neudorf	2351	IZ NÖ Süd Straße 4 Objekt 9
AT	Asten (Linz)	4481	An der Bundesstraße 1
AT	Innsbruck	6020	Andechsstraße 83
AT	Graz	8041	Ostbahnstraße 10
DE	Stuttgart Airport	70629	Flughafenstraße 70
DE	Metzingen	72555	Auchtertstraße 19
DE	Munich	81737	Ottobrunner Str. 116
DE	Munich Airport	85356	Erdinger Allee 2
DE	Friedberg-Derching (Augsburg)	86316	Winterbrückenweg 52
DE	Nürnberg	90475	Gleiwitzer Straße 220
DE	Schnelldorf	91625	Rudolf-Diesel-Straße 1
DE	Pentling (Regensburg)	93080	Ammerholz 3



The energy for a better life.

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Hydrogen for fuel-cell vehicles

Today OMV already fulfils every requirement for the provision of hydrogen for fuel-cell vehicles. More than 50,000 tonnes of hydrogen are currently produced per year in the Schwechat Refinery. A large percentage of this hydrogen is a secondary product from refinery processes, while the remainder is conventionally produced on the basis of natural gas and water vapor. In addition, the production of hydrogen from renewable energy sources via electrolysis from water has also been tested in a 100 kW pilot plant.

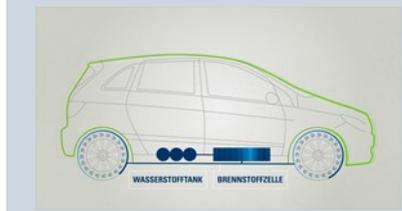
Whether for fast refueling, longer rang-

es or to meet the needs of heavy-duty vehicles such as trucks and buses, energy sources with high energy densities are required. Hydrogen vehicles are free of local emissions as the only byproduct resulting from the conversion of hydrogen into electric power is water. A comparison of greenhouse gas emissions from alternative drive technologies shows that fuel-cell vehicles are at the same level as battery-operated vehicles in the Austrian energy mix. (Source: "Update: Eco-assessment of alternative drive systems" Austrian Federal Environment Agency, Vienna, 2017 www.umweltbundesamt.at)

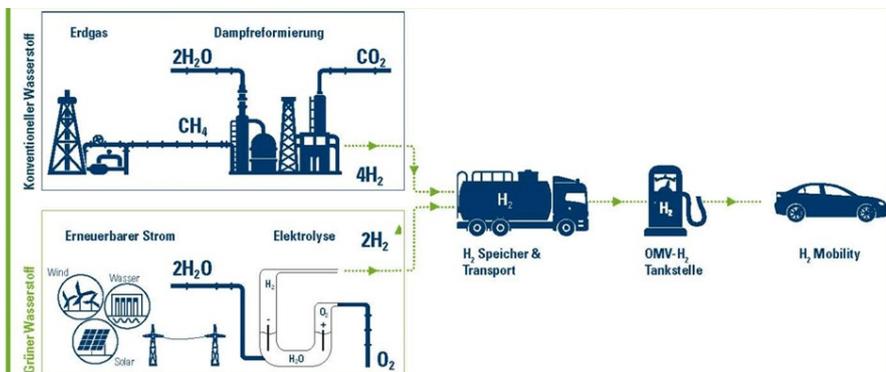


Fuel cells in hydrogen technology

In future the range of applications for hydrogen will expand enormously. The energy it contains can also be used on the road with a fuel cell system that converts hydrogen into electrical power. The hydrogen vehicle has a fuel cell that transforms hydrogen into electrical power, whereby the only byproduct of this process is pure water. The electrical energy used to power the electric motor is temporarily stored in a battery. This is twice as efficient as a combustion engine, which means that only half the energy is required for the same driving performance.



Provision of hydrogen



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