

Bio-to-X

Green Hydrogen from Biogas



CO₂-neutral mobility with green hydrogen from biogas

Steam reforming integrated in the container

Scalable biogas plants offer a base load capacity for hydrogen production. They are CO₂-neutral or even have a negative CO₂ balance if they use waste materials such as manure as feedstock for biogas.

An efficiency of at least 60% allows very good use of the energy contained in the biogas. Electrolysis plants only achieve an efficiency of 20% when using biogas (CHP). With this improvement, bioenergy can be a step in the energy transition to a hydrogen economy.

The containerised facilities are scalable with a hydrogen production of 100 kg/d per unit. The following table shows example values for use in mobility scenarios.

Application of H ₂ for mobility	100 kg/d (1 Unit)	400 kg/d (4 Units)
Car fleet (200 km/d)	50 Vehicles	200 Vehicles
Bus fleet (300 km/d)	3 – 4 Vehicles	12 – 16 Vehicles
Truck fleet (800 km/d)	2 – 3 Vehicles	6 – 9 Vehicles
Railway	1 Train - average premises	3 - 4 Medium sized local trains

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