



The mobile, hydrogen-powered fast charger

Overcoming the limits of electric vehicle charging infrastructure



H₂energy

FAST, GREEN EV CHARGING. ANYTIME, ANYWHERE

Overcoming the limits of electric vehicle charging infrastructure

With the number of battery electric vehicles on the road projected to increase tenfold by 2030, the charging infrastructure must expand accordingly. To satisfy demand in Europe alone, 6000 charging points will need to be installed weekly by 2025, up from 1600 per week currently¹. This will require massive upgrades to the power grid as well as new additions of renewable energy sources, all of which are slowed down by permitting bottlenecks and public opposition. To keep traffic flowing smoothly on EU highways, at least one fast charger per km in each direction will need to be installed by 2030².

Presenting kvyreen

kvyreen is a mobile, hydrogen-powered fast charger. When used with green hydrogen, it offers CO₂-free, fast and scalable charging, independent from the local electricity grid and without the risk of charge power limitations at peak times. For commercial fleet operators, kvyreen enables a plannable charging schedule and avoids costly delays in case of electricity shortages. It can be easily integrated into existing hydrogen or traditional refuelling stations, installed at rest stops, parking lots, or deployed for temporary events such as festivals or trade fairs. Highly mobile, kvyreen allows for demand driven fast charging: redeployed from camping sites in the summer to ski resorts in the winter.



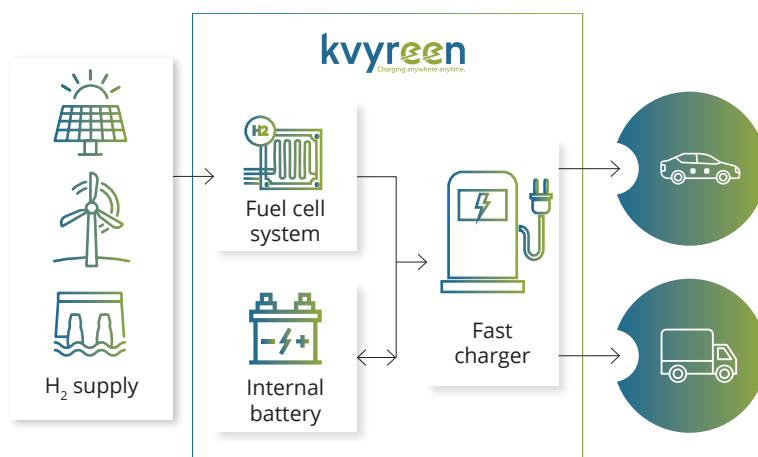
**kvyreen allows you to
offer EV fast charging
anywhere, anytime!**

¹ <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/europes-ev-opportunity-and-the-charging-infrastructure-needed-to-meet-it>

² <https://www.acea.auto/publication/european-electric-vehicle-charging-infrastructure-masterplan/>

A flexible and powerful platform

kvyreen offers a charging power of 80 kW or 160 kW, with higher power models available in the future. Hydrogen is either supplied via the infrastructure of a hydrogen refueling station, the Hydros spider³ network, or via a hydrogen bundle. kvyreen uses state-of-the-art fuel cell technology and custom power electronics to transform energy stored in hydrogen into electricity to charge the EV's battery. The same technology platform can be used to power off-road vehicles and ships, as well as to deliver AC power to the grid as part of combined heat and power system (CHP) or as a mobile, hydrogen-powered genset⁴.



Guaranteeing ease of use

The kvyreen's system allows real-time data management and control via a remote dashboard. A comprehensive service package covering planned and unplanned maintenance, spare parts management, remote support and training is available. It offers easy backend integration and a pre-installed RFID reader so multiple payment options can be realized. The kvyreen can be installed in less than 60 minutes once the hydrogen supply has been prepared.

Customization

Upon acquiring kvyreen, you gain the flexibility to customize it according to your unique brand identity.

Watch video



Benefits at a glance

- DC fast charging at 80 or 160 kW
- 100% reliable and guaranteed power output
- No grid connection or upgrades required
- CO₂ free with green hydrogen
- Mobile unit, can be installed wherever needed
- Integration with various external H₂ supply possible
- Scalable to 500 kW and beyond



³ Containerized hydrogen logistics solution from H2 Energy. For more information see: <https://www.hydros spider.ch/en>

⁴ More information on alternative applications available upon request.

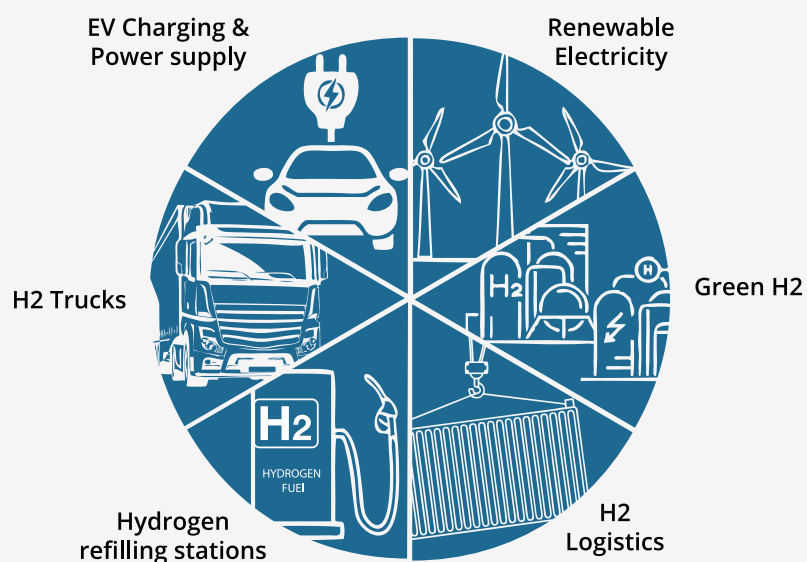
Technical specifications

Specifications ⁵	Unit	kvyreen 80 CG	kvyreen 160 CG
Dimensions (W × L × H)	m	1.6 × 2.1 × 2.4	1.6 × 3.1 × 2.4
Weight	kg	1,800	2,500
Max. inclination	degree	+/- 5 to horizontal	+/- 5 to horizontal
Ambient temperature ⁶	°C	-30 bis +35	-30 bis +35
Hydrogen supply pressure	bar	9 to 16	9 to 16
Max. altitude	m a.s.l.	1,500	1,500
Fuel cell system			
Rated power	kW	80	160
Hydrogen consumption ⁷	kg/hr	5.5	11
Hydrogen quality	-	ISO14687-2 2012 Type I, Grade D SAE J2719	
Fast charger			
Max charging power	kW	90	180
Max. charge voltage	V	800	800
Number of charging points	-	1	1
Charging connector	-	CCS Type II	CCS Type II

⁵ Specifications are work in progress and can be subject to change

⁶ Without de-rating of charging power

⁷ At rated power and beginning of life



About Kvyreen

Kvyreen is a subsidiary of H2 Energy and is responsible for the global sales and marketing of the kvyreen product range. Founded in 2014, H2 Energy is a pioneer in the hydrogen industry and develops, engineers and invests in clean hydrogen eco-systems around Europe. The company is involved in the entire hydrogen value chain, offering know-how and engineering excellence every step of the way.

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