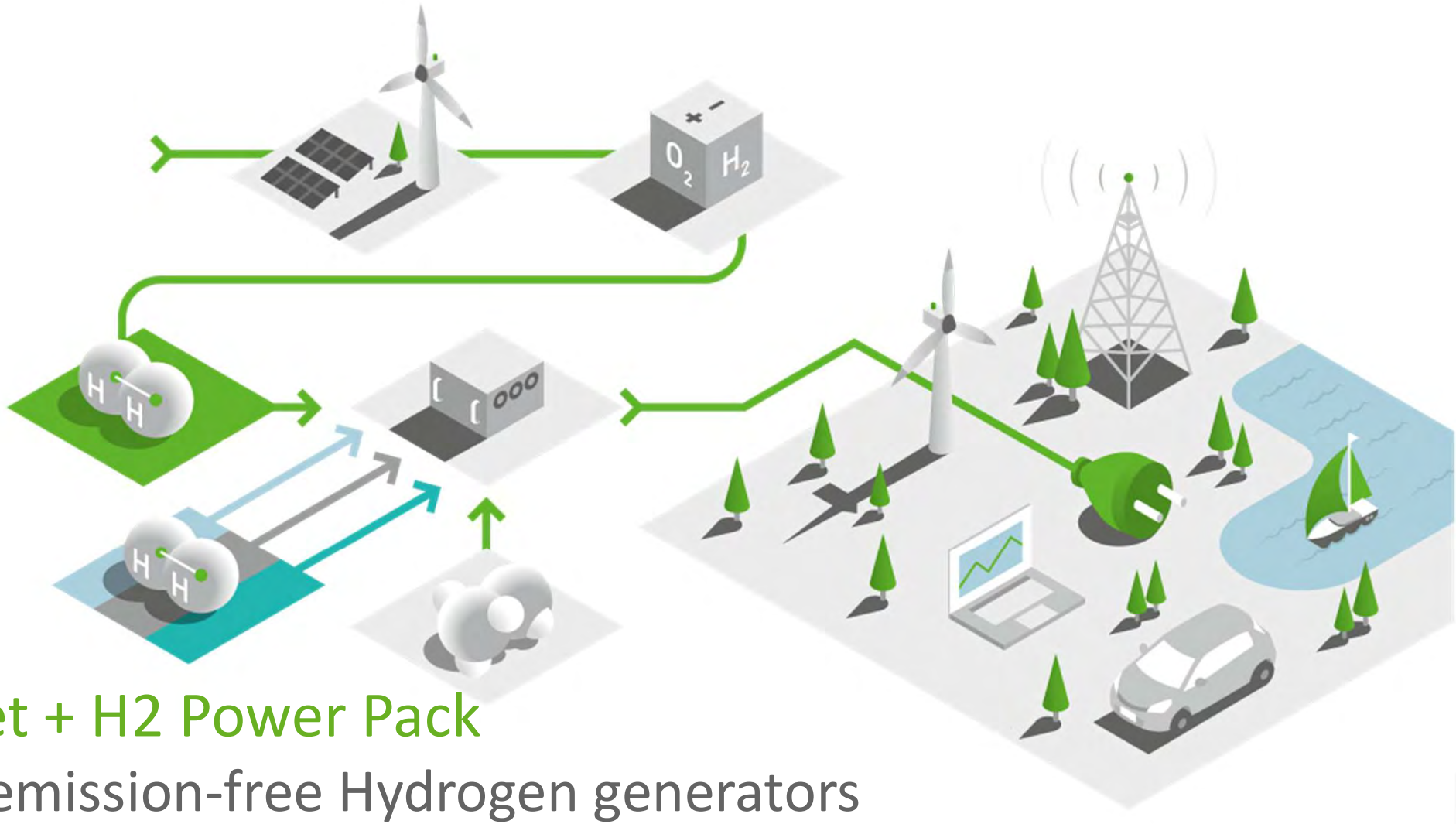


H_2Genset + H2 Power Pack

Mobile, emission-free Hydrogen generators

Founded in

2000

> 20 Years experience in fuel cell technology

72,000

Fuel cells sold worldwide

ISO-certified for quality standards and environmental guidelines

140 million

Operating hours

413

Employees

10 million kWh

Environmentally friendly energy

100+

Global Sales and Distribution Partners

8

Locations

Brunnthal (HQ)
Almelo, NL
Calgary, CA
Cluj, RO
Gurgaon, IN
Orem, USA
Swindon, UK
Hobro, DK

Hydrogen the energy carrier for
mobile, emission-free generators

REPORT: UK FESTIVALS USE 380M LITRES OF DIESEL A YEAR

The use of diesel generators to power UK events produces over one million tonnes of CO2 equivalent and costs the industry £220m per year

By Anna Grace on 31 May 2019

Savings potential of:

1 million tons of CO_2

compared to diesel generators[1)]

The emissions from the 380 million liters of diesel used at events release 1.2 million tons of carbon dioxide equivalent, the unit used to express the impact of each greenhouse gas in terms of CO_2 . This is roughly equivalent to the amount of emissions emitted by the European island state of Malta each year.

Significant CO_2 reduction through the use of H_2 fuel cells instead of diesel generators

1) 1 liter of diesel: CO2 emissions of 2.6 kg / consumption: 2 liters per hour; 17,520 liters

2) Source: https://www.iq-mag.net/2019/05/report-uk-festivals-use-380m-litres-diesel/

Hydrogen the energy carrier for mobile, emission-free generators

The future, a

green construction site

without diesel generators

"Tesla boss Elon Musk is a fan of green energy and sells solar roof tiles in addition to his e-cars. For his German plant, however, he not only needs gas for energy supply, but also plenty of diesel fuel during construction, according to a media report." (1)

Significant reduction in CO_2 and noise emissions through the use of H_2 fuel cells instead of diesel generators

1) Source: https://www.finanzen100.de/finanznachrichten/boerse/tesla-braucht-hunderte-diesel-generatoren-fuer-seine-elektroauto-fabrik_H887853622_13382315/

Significant CO_2 reduction

Hydrogen fuel cells instead of diesel generators

5 kW @ 365 days

Demand: 43,800 kWh $_{el}$

-45.6t CO_2

compared to the use of diesel generators[1)]

Equivalent

250,000 km

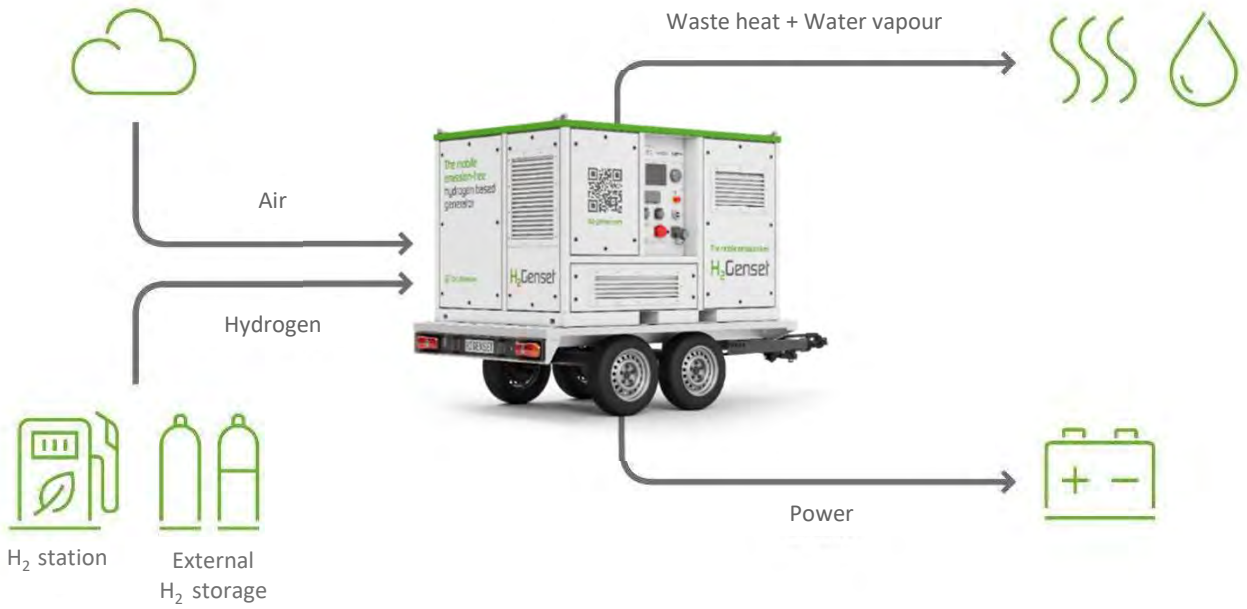
Mileage of the diesel vehicle [2)]

1) 1 liter of diesel: CO2 emissions of 2.6 kg / consumption: 2 liters per hour; 17,520 liters 2) 7 liters of these per 100 km, Source: KBA Germany

H_2Genset + H2 PowerPack

Functional principle of a fuel cell.

Zero Emission



- No moving parts
- Only fans and a few valves
- Extremely low maintenance

Flexible hydrogen supply via filling station or H_2 storage tank

H_2Genset
Advantages

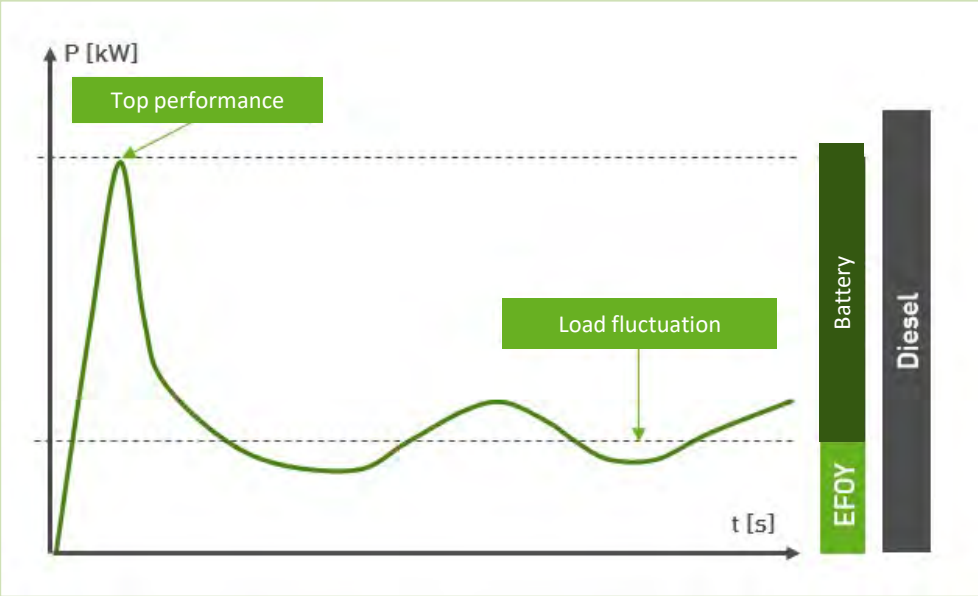
- Environmentally friendly and quiet
- Very low maintenance effort
- Remote monitoring
- Flexible hydrogen supply

Zero Emission

With Hydrogen we are free from imported fuels.

H_2Genset + H2 Power Pack

A Bigger advantage Load profile for correct system design = € saved



System dimensioning

- Fuel cells cover the average load
- Battery to cover peak loads
- Highly efficient, demand-driven operation
- Quite often users are surpriced about actual power use = user find that they have been „overproduding“ when using diesel gensets.
- **IMPORTANT: when optimizing the system dimensioning, combined with low maintenance and indirect benefits (less complaints from sourroundings etc, the total cost of ownership (TCO) of an emssionfree fuel cells becomes a valuable competitor to diesel gensets.**

Fuel cells supply customized energy

H2 Genset and H2 PowerPack

Flexible in many regards

Stand alone supply

Hybrid – charging a connected powerbank

UPS – backup power - a true UPS with 0 mS transition

AWILCO FLEXIBLE POWER SOLUTIONS SFC ENERGY

10kW and 50kW units

H2 GENSET
10kW continuos output
20kW for 30 min
Air cooled

Mobile
Construction, festivals, ad hoc

Build in 700 bar tanks if wanted

H2 PowerPack
50kW continous output
Connects up to 200kW output
Water cooled – how to use to the heat
Semi mobile
Construction, festivals, buildings, Watersupply
Runs on externals bundles / tanks

H_2Genset
Technical Data

Specifications	H_2Genset 28-10/0	H_2Genset 28-10/4	H_2Genset 28-10/7
Nominal power[1]	10 kW		
Peak power output (depending on state of charge of battery)	20 kW for approx. 30 min		
Overload power (max. 15 sec)	35 kW		
Output voltage	230 / 400 V AC, 50 Hz		
Fuel	Hydrogen 3.0 or better (according to specification sheet)		
Pressure level external tanks (bundle connection)	max. 300 bar		
Pressure level internal tanks	700 bar		
Number of integrated tanks (H_2 storage capacity)	-	4 (8.4 @ 700 bar)	7 (14.6 kg @ 700 bar)
Integrated EFOY Hydrogen fuel cell modules	4		
H2 consumption	ca. 0.06 kg / kWh_{el}		
Operating temperature [2]	-10 °C bis +50 °C		
Dimensions (L x W x H) [4]	ca. 2,100 x 1,600 x 1,450 mm		
Weight	Approx. 1,400 kg	Approx. 1,600 kg	Approx. 1,750 kg

Note

[1] guaranteed nominal output power of the fuel cells DC for supply air temperatures < 30°C / 86°F.

[2] Based on the temperature of the system components.

[4] Values excluding trailer and Accessories. Trailer weight 480 kg.

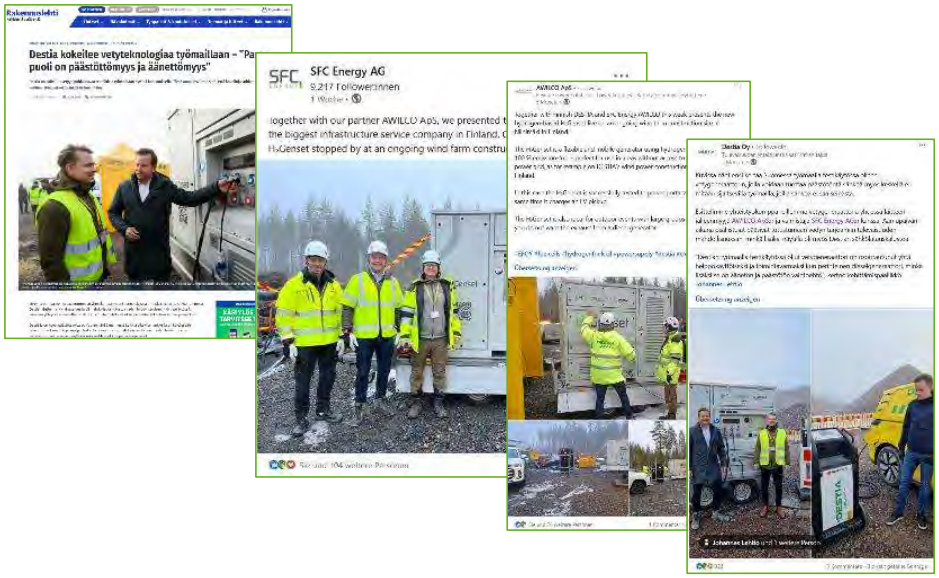
Subject to modification and errors – April 2025

H_2Genset at H_2 filling station

Refueling analog hydrogen vehicle

- ~5 minutes refueling time
- according to SAE J2601 protocol

H_2Genset Success Stories
Off Grid Construction Site - Finland



Project

- Real Life Test on Construction Site and Sustainability Fair
- Container, EV Charging, Foodtruck

Application H_2 Genset & USP

- H_2 Genset in combination with 1 x 12-bundle H2 (300 bar, 5.0)
- Silent, emission free operation following real demand

Customer Feedback

- "The hydrogen generator tested on the Destia construction site has proven to be just as simple and reliable as a conventional diesel generator and offering a quiet and emission-free alternative."

  Development Manager Johannes Lehtio

Sources: https://www.rakennuslehti.fi/2023/11/suomi-nousee-vetyteknologian-suurvallaksi-tyomaa-kerrallaan-jakeluverkostoa-odotellessa/
https://www.linkedin.com/posts/sfc-energy-ag_h2genset-cleanenergy-activity-7129784618865553409-eULR?utm_source=share&utm_medium=member_desktop
https://www.linkedin.com/posts/awilco-aps_efoy-fuelcells-hydrogenfuelcell-activity-7127940216157290496-owFN?utm_source=share&utm_medium=member_desktop
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EFOY H_2PowerPack X50
Preliminary Technical Data

Specifications	
Fuel cell technology	PEM, liquid cooled
Nominal power output	50 kW
Peak power output (depending on state of charge of battery)	66 kW
AC output / input (setup as UPS)	CEE 125 A, 400 V AC, 3 Phase, 50 Hz
Hydrogen fuel specification, gaseous	SAE J2719:2020, ISO 14687:2019 Type I Grade D
Hydrogen consumption	Ca. 1.1 kg/h @ 20 kW
Maximum inlet pressure level	300 bar
Operating[1] / Storage and transport temperature	-20 °C to +45 °C
IP class	IP 53
Maximum altitude[2]	3,400 m
Dimensions (L x W x H) [1]	1,600 x 1,200 x 2,100 mm
Weight	Approx. 1,800 kg

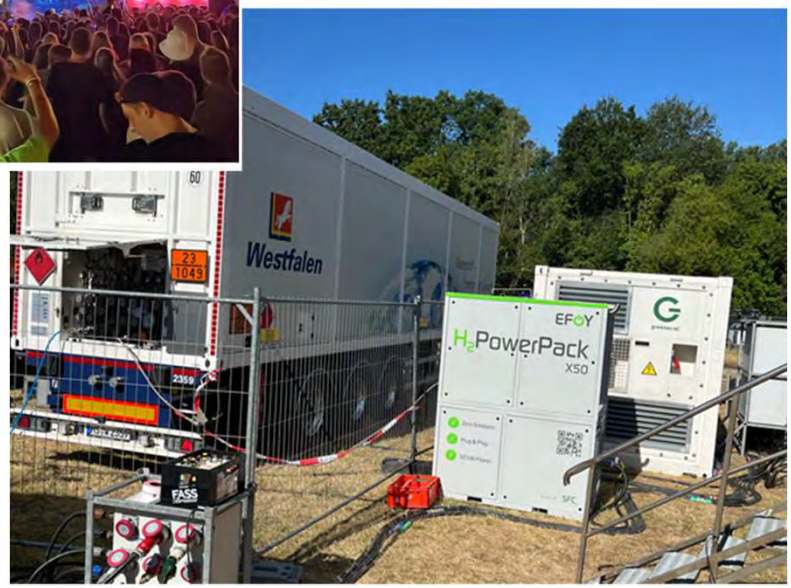
Note

[1] Maximum output power reduction above +40°C and below 0 °C possible

[2] SFC recommends to use the energy solution in a lower altitude area

Preliminary content – subject to Modification and errors – April 2025

H2 Power Pack - 50kW Energy supply or back-up – supplies bigger demands



EFOY H_2PowerPack
H_2 Energy Solution

H2 Power pack for larger use

Application: A live stage

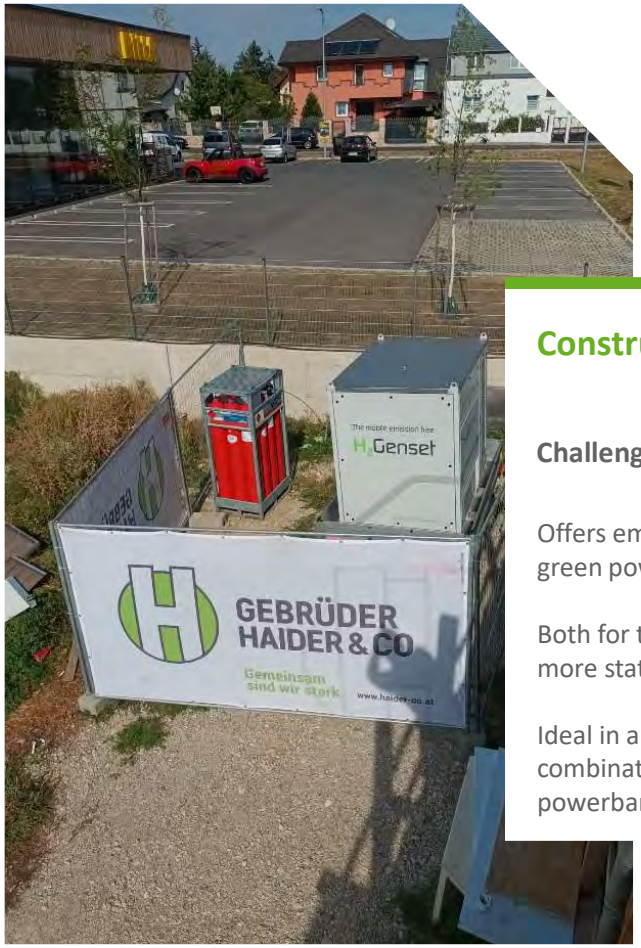
Has successfully provided power to the main stage at the Lautfeuer 2024 festival.
Experience was that the average consumption was far less than anticipated and hence modern hydrogen solutions become more attractive compared to conventional diesel/fossile generators.

Solution

- EFOY H_2PowerPack
- 50 – 200 kW
- 66kW peak
- Hydrogen – H2
- Silent and emissionfree

Use case

H2 Power Pack - 50kW Energi supply for constructionsites



EFOY H_2PowerPack
H_2 Energy Solution

Construction site

Challenge

Offers emissionfree and noise free green power for construction sites.

Both for temporary use, as well as more stationary use.

Ideal in a hybrid setup in combination with a battery powerbank.

Solution

- EFOY H_2PowerPack
- 50 – 200 kW
- Brint
- Lydløs og miljøvenlig

Remote monitoring / GPS tracking

Remote access for optimized operation and service

- Fleet management
- Real-time monitoring
- Fill level monitoring
- Pay per use*

*On request

Kiitos very much
for your attention

Niels Willumsen

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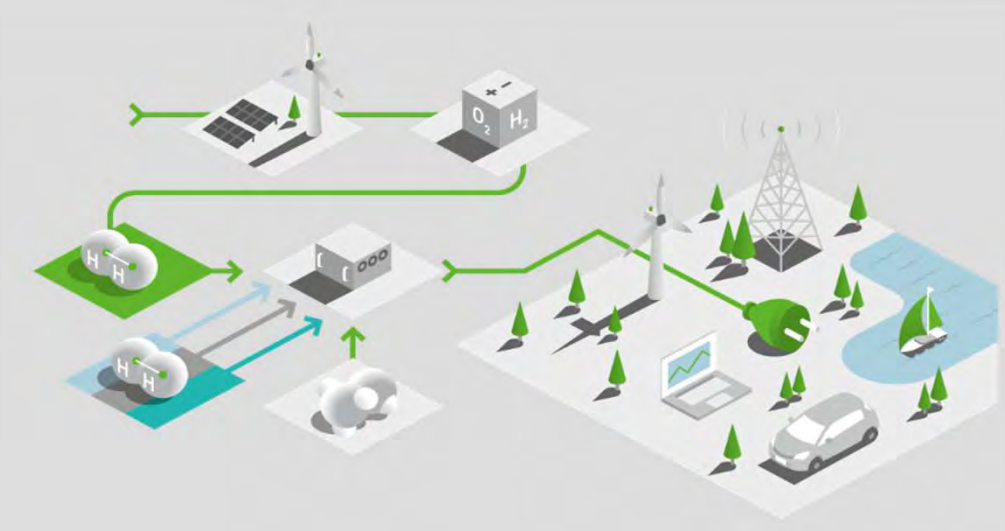
E-mail: nw@awilco.dk

Zero Emission

20 years of fuel cell experience
Mature and tested products – ready for use.

We are ready to support you in your journey towards green and low emission construction in 2030.



AWILCO ApS
Yderholmvej 64
4623 Lille Skensved
Denmark

www.awilco.dk
www.h2-genset.com

H_2Genset
Overview of the application

Continuous power supply

Constant loads up to 10 kW

Cooperation partner: Deutsche Telekom

Cyclical power supply

Backup power supply during periods of insufficient PV system performance

Cooperation partner: EWE, JOKE

Uninterrupted power supply

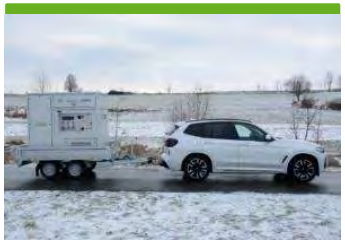
Securing load coverage in critical infrastructures during grid failure

Example Installation: Netze Duisburg

Market segments & applications

Sustainable energy supply for various fields of application

Temporary applications



Mobile emergency power system

Green film production

Event

Inner-city construction site

Semi-stationary applications

Telecommunications

Off-grid construction site

Civil protection

Festival