

AEP H₂-SYSTEM

HYDROGEN OUT OF THE BOX



SAFE STORAGE SOLUTIONS
FOR CLEAN ENERGY



MOBILE HYDROGEN

SAFE STORAGE SOLUTIONS FOR CLEAN ENERGY

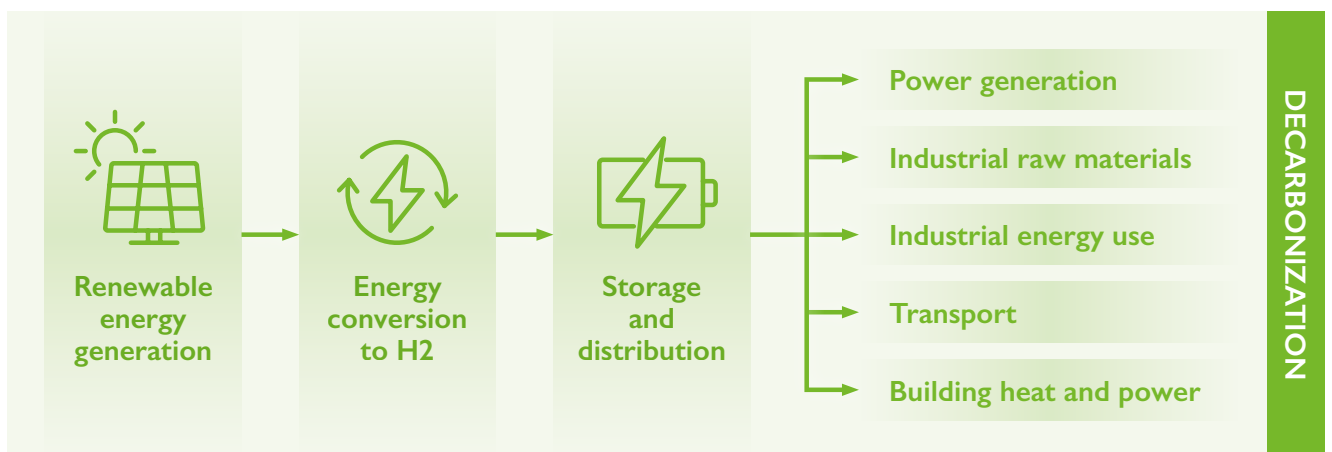
Hydrogen, produced with renewable energies, is a sustainable, flexible and easily transportable energy carrier of the future: Green hydrogen is produced by electrolysis of water, with the electricity coming exclusively from renewable sources. As a result, both the electricity used and the hydrogen production are CO₂-free.

Hydrogen produces almost no exhaust gases when burned. This makes the gas an ideal substitute for coal, oil and natural gas and transport and offers many potential applications in centralized and decentralized power generation. It can also be used to power vehicles, to produce alternative fuels, combustibles and gases, and as a raw material for industrial processes.



Our container grid systems are ideal for a variety of applications, including disaster relief efforts, construction sites, off-grid communities, and more. The modular design allows for scalability and customization to meet the specific energy requirements of each application. The systems can be quickly and easily deployed, reducing downtime and ensuring a continuous supply of electrical power.

AEP is your reliable partner for the planning, construction, operation and maintenance of mobile hydrogen storage systems. With our decades of experience in the field of green energy, expert advice and high-quality components, your zero-emission power plant become a sustainable success.



Hydrogen is generated from electrical energy by electrolysis and fed into storage tanks. The bonding of the hydrogen to the metal particles creates a safe and stable metal hydride, which can be dissolved again by simply adjusting the pressure and temperature.

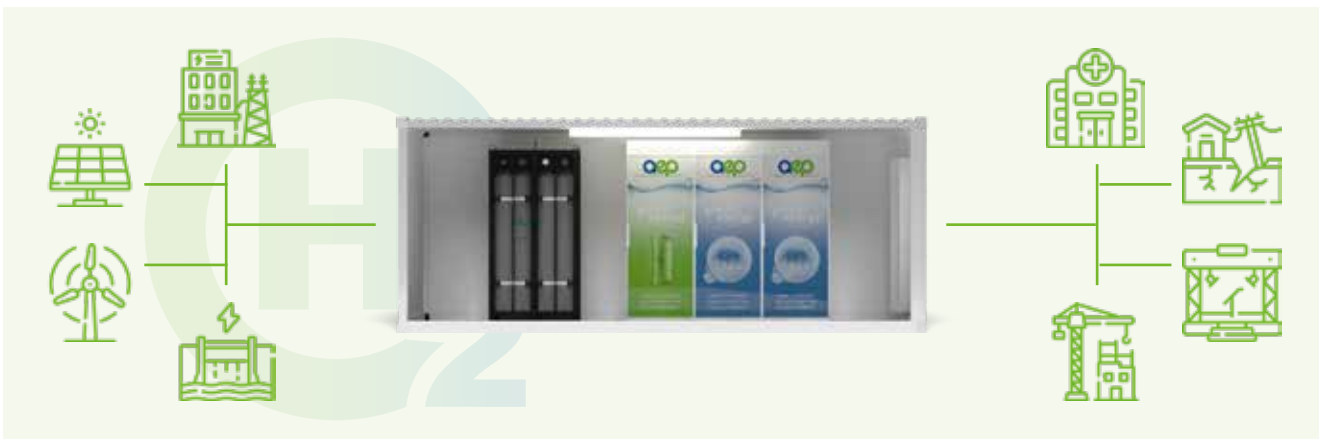
In this way, the hydrogen can be fed into a fuel cell and converted back into electricity. All that remains is oxygen and water without any environmentally harmful effects

The heat that is generated as a by-product of the conversion can alternatively be fed into the heat cycle.



APPLICATION AREAS

AEP H2 systems are versatile and flexible power solutions that can be used for a wide range of possible applications in a variety of locations including as a backup power source for buildings, in industrial processes, and as a way to store excess energy from renewable sources such as wind and solar power. Mobile container systems offer several advantages over traditional stationary hydrogen production facilities, including flexibility in terms of location, scalability, and the ability to respond quickly to changing demand. They can also be used to provide hydrogen in remote areas where traditional infrastructure is not available.



+ MOBIL

Highly transportable container solution that can be installed in remote locations.

+ OUT-OF-THE-BOX

Plug & Play system for on-grid and off-grid installations that requires no construction work.

+ HIGHLY SCALABLE

Modular solution with no technical or performance limitations, scalable to any capacity.

+ ROBUST

Weatherproof system that is always ready for use even in extreme climatic conditions.

+ ECONOMICAL

Ready for use at no additional cost and high-value retention due to modular/mobile design.

+ COMPATIBLE

The modular container storage system is compatible with almost all common systems.

+ LOSS-FREE

The ideal solution for storage without any losses and making it available at any time.

+ LONG TERM

H₂ can be stored for a particularly long time and ensures self-sufficient energy security.

+ EMISSION-FREE

Provides electricity and increases the overall energy efficiency without harmful emissions.

ADVANTAGES



- Powerful storage system
- Mobile and flexible deployment
- Plug-and-play architecture
- Modular highly scalable
- Simple and fast operational readiness
- No site compaction and cable trenching
- Simplified building permits
- Use even in extreme weather conditions
- Corrosion-proof aluminium system
- Low weight for maximum mobility
- Statically tested module
- Compatible with almost all systems
- Ready for use at no additional cost
- High returns and stable value

TECHNICAL DATA

SYSTEM PERFORMANCE

Long-term hydrogen storage	330-unlimited kWh
Backup battery	10.5-224 kWh
Inverter	9-180 kW
Peak power	15-300 kW
Emergency power switch	yes, under 10 ms
Black start capability	yes
Smartmeter	yes

PHYSICAL DATA

Enclosure	20 ft standard container, CSC certified
Dimensions (L/W/H)	6.058 / 2.438 / 2.896 m

COMPLETE MOBILE POWER PLANT FOR GREEN ENERGY

By combining our photovoltaic modules, high-performance electricity storage, and H2 storage systems, AEP enables the simple construction of a mobile on- or off-grid complete power plant quickly.