



MARKET SEGMENTS

**Biogenic & Synthetic  
Gaseous Fuels**

Industry  
Energy Storage

B

BOOTH NO.

**B03 Hymeth · Denmark**

**Product:** BEAUTY

## The world's first electromagnetic alkaline electrolyser

**THE NEED.** A balancing energy storing technology is needed to enable more sustainable sources in the energy mix. Hydrogen is promising, but conventional electrolysers for sustainable hydrogen production are very expensive, as they require a platinum or iridium-based catalyst, energy inefficient, physically large in size and only compress hydrogen gas up to 35 bar, which requires additional compressor further increasing OPEX/CAPEX.

**THE SOLUTION.** BEAUTY is a low-temperature alkaline electrolyser, compact, lightweight, that supports high-pressure electrolysis. It is the result of radical innovations: a new non-precious alloy electrocatalyst, the use of electromagnetism in the conversion process, the spiralled design of the anode and cathode, the electro-hydraulic valve and unique nozzles, through which it is capable of delivering highly compressed gas, and the design, material and cooling system that ensures a lightweight and compact electrolyser that reduces the physical footprint. BEAUTY is expected to produce hydrogen at a cost reduction of up to 40% compared to existing alkaline electrolysers. It is a state-of-the-art system for FC vehicle refilling stations, sustainable steel production, bio oil refinery, energy storage, etc.

### KEY FEATURES.

- Compact, stand-alone, on-demand system.
- High pressure electrolysis up to 300 bar.
- Synthetic natural gas from electricity and tap water.
- Easy, low-cost installation plus low raw material costs.

### VALUE PROPOSITION.

- Lower CAPEX and OPEX and high efficiency.

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### THE TEAM

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### STRATEGIC PARTNERSHIPS/ CUSTOMER REFERENCES

References available on request

✓ **COMMERCIALISED**