ITM Power manufactures and supplies integrated hydrogen energy solutions. ITM Power operates out of two premises in Sheffield, UK with further offices in Germany, France, USA and Australia.

Based on the modular HGas electrolyser design, ITM Power can provide turnkey solutions for a broad range of applications including clean fuel, energy storage, and chemical feedstocks. ITM's PEM electrolyser has rapid response and high-pressure functions that meet the requirements for grid balancing and power-to-gas applications.
Projects:

FIRST HYDROGEN REFUELLING STATION WITH SHELL OPENS
LARGE SCALE POWER-TO-GAS ENERGY STORAGE DEPLOYMENT STUDY WITH NORTHERN GAS NETWORKS
WORLD'S FIRST TIDAL-POWERED HYDROGEN GENERATED AT EMEC
10MW REFINERY HYDROGEN PROJECT WITH SHELL
FIRST HYDROGEN BUS ROUTE IN FRANCE
GRID BALANCING BUS REFUELLER IN UK

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Products / Applications
The HGas electrolyser system allows users to efficiently convert excess renewable power into hydrogen which can be injected into the natural gas network for long-term storage, used in the process to produce Synthetic Natural Gas, dispensed to vehicles as a clean fuel or used as a chemical feedstock.

**Features and benefits include:**
- Rapid response PEM electrolyser technology
- Full system integration
- Modular design
- Differential pressure
- High purity

### Multimedia Panel

**HGas**

![HGas electrolyser system](image)

**Hydrogen Refuelling**

![Hydrogen refuelling station](image)

Hydrogen fuel is the cleanest available. It can be generated from renewable energy and water using an ITM Power electrolyser. When used, the only emission is water vapour. It is practical too; hydrogen vehicles can be fully refuelled in a few minutes and have a range comparable to petrol or diesel. Hydrogen is one of the key strategies to decarbonise public, private and heavy-duty transport and the key to a quicker, wider and more cost efficient electrical vehicle uptake.

<table>
<thead>
<tr>
<th>HGas</th>
<th>Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>System power</td>
<td>0.1 -100MW</td>
</tr>
<tr>
<td>H2 production rate</td>
<td>45 - 40,000kg/24h</td>
</tr>
<tr>
<td>H2 pressure</td>
<td>20bar (50bar optional)</td>
</tr>
<tr>
<td>H2 purity</td>
<td>99.5-99.999%</td>
</tr>
<tr>
<td>Packaging</td>
<td>ISO containers or indoor installation</td>
</tr>
</tbody>
</table>
Power-to-Gas Energy Storage is a scalable technology capable of absorbing power from the electricity grid at times when supply exceeds demand, and when intermittent renewable generation causes network stability problems. Power-to-Gas is a technique which enables electrical power to be converted to chemical energy in the form of hydrogen, which can be stored directly as hydrogen, injected and stored in the natural gas network or used to create synthetic natural gas by reacting with CO2 (SNG).

Industrial Hydrogen

Renewable hydrogen provides the global chemical industry with an opportunity to reduce its dependence on methane while balancing site energy consumption.

Certificates
ISO 14001

ISO OHSAS 18001

ISO 9001