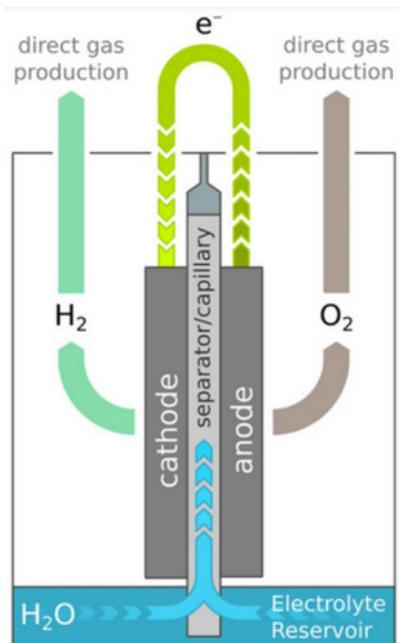


# Hydrogen Technology Cheat Sheet

The hydrogen industry is a growing sector with a vast array of possible technologies and opportunities where hydrogen can be implemented. Below is some brief information on green hydrogen: what it is and how it is produced.



Green hydrogen is produced when electricity is passed through water between 2 metal rods (electrolysis) to produce hydrogen and oxygen.

## Stages of green hydrogen production (via electrolysis):

- Electricity is passed through water (the electrolyte), passing from one metal rod (electrode) to another.
- A reaction then occurs, where water is converted to hydrogen at one electrode (the cathode) and oxygen at the other electrode (the anode).
- The hydrogen can be collected and used.

## Uses of hydrogen:

- Hydrogen vehicles
- Electricity generation
- Energy storage
- Heating buildings and decarbonising industry

Colour	Production method	Feedstock	Carbon Footprint
Green	Electrolysis of Water	Renewable Energy	Minimal
Pink/Purple/Red		Red Nuclear Energy	
'Yellow'		Mixed Renewable and non-renewable	Medium
Blue	Natural Gas Reforming & Carbon Capture & Storage (CCS)	Natural gas	Low
Grey	Natural Gas Reforming and releasing CO2		Medium/high
Brown	Gasification (reacting with steam and CO2)	Brown coal (lignite)	High
Black		Black coal	