

A photograph of a hydrogen electrolysis system. It features two large, vertical, grey cylindrical storage tanks. The tanks are labeled with "HYDROGEN H<sub>2</sub>" in white text on a blue background. A central control panel is mounted between the tanks, also labeled "HYDROGEN H<sub>2</sub>". The system includes various pipes, valves, gauges, and electrical components. The background is a solid light blue color with white decorative lines.

# Hydrogen 101 Electrolysis

Hydrogen Council



## **Electrolysis is a process that enables renewable hydrogen production.**

It has the potential to create hydrogen energy with zero greenhouse gas emissions, depending on the source of electricity being used. Hydrogen production via electrolysis is being pursued for wind, solar, hydro, geothermal and nuclear energy options.

Electrolysis also offers opportunities for synergy with dynamic and intermittent power generation, to ensure effective use of resources. There are currently three leading electrolysis technologies:

- Alkaline Electrolysis (AEL)
- Proton Exchange Membrane Electrolysis (PEM)
- Solid Oxide Electrolysis (SOE)



## **Electrolysis uses electricity to split water into hydrogen and oxygen.**

The reaction takes place in a unit called an electrolyser, which consists of an anode and a cathode separated by an electrolyte.

