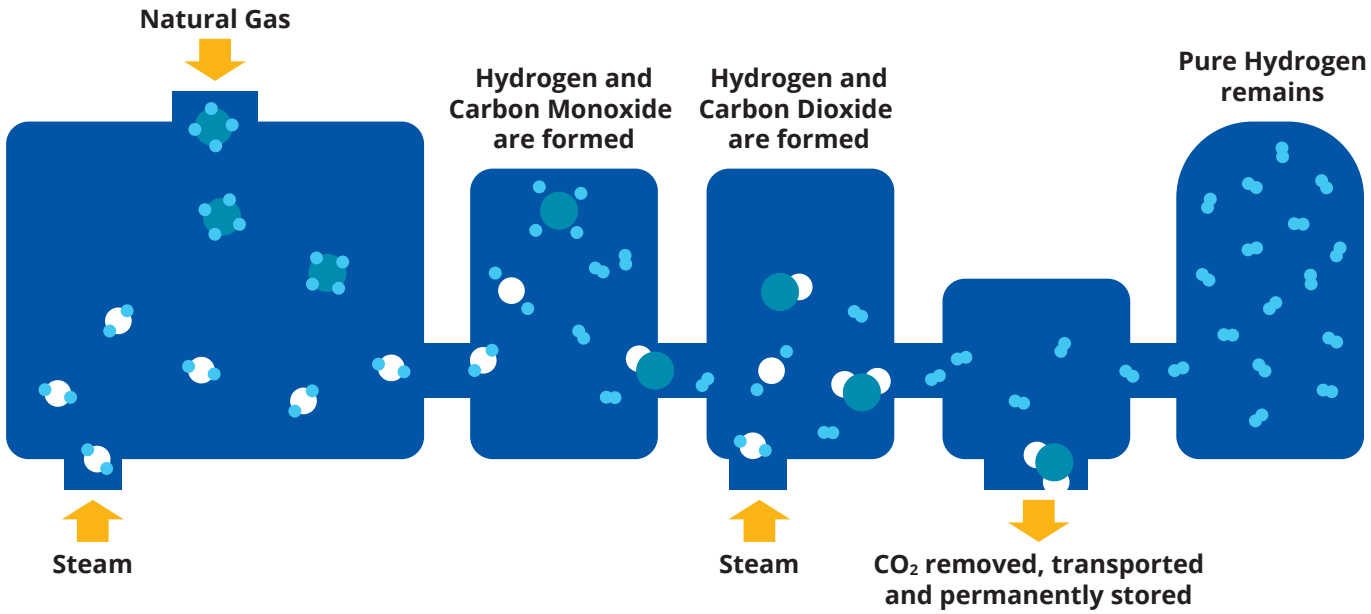
BLUE HYDROGEN

Blue hydrogen is derived from natural gas through the process of steam methane reforming (SMR). SMR mixes natural gas with very hot steam, in the presence of a catalyst, where a chemical reaction creates hydrogen and carbon monoxide. Additional water is added to the mixture converting the carbon monoxide to carbon dioxide and creating more hydrogen.

The carbon dioxide emissions produced are then captured and stored underground using Carbon Capture, Utilization and Storage (CCUS) technology leaving nearly pure hydrogen.

Blue H_2 facts:

- The most common and economical way to produce hydrogen
- When used with CCUS, blue hydrogen produces nearly zero emissions
- Alberta has the infrastructure to produce blue hydrogen cheaper than any other jurisdiction in the world



GREEN HYDROGEN

Green hydrogen is the production of hydrogen from renewable energy through electrolysis. It is a process that splits water into its basic elements – hydrogen and oxygen – using an electric current. The electricity used in the process comes from renewables.

Green H_2 facts:

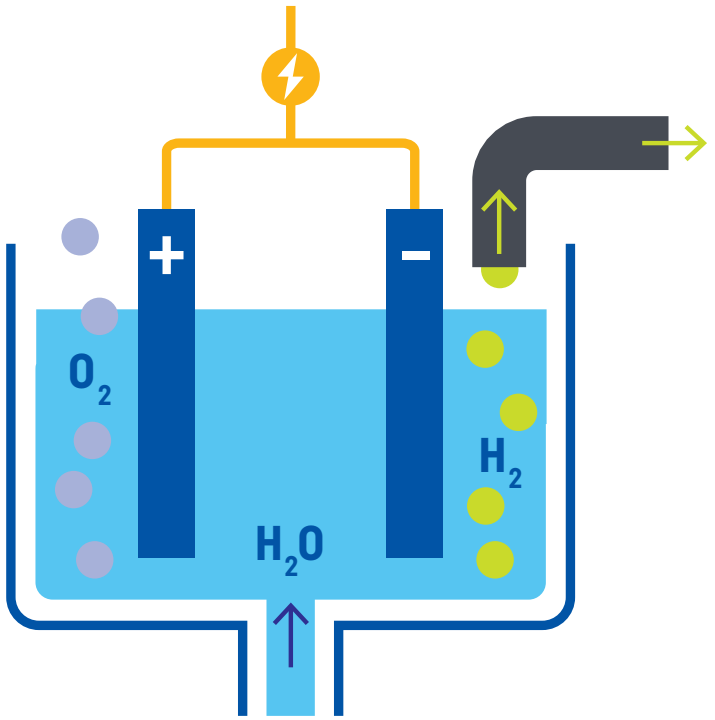
- Most expensive method for producing hydrogen
- Producing hydrogen generates zero emissions
- Electrolysis can be powered by renewable energy such as wind, hydropower and solar energy

Clean water is pumped into the electrolyser

The water is split by an electric charge into hydrogen and oxygen

The oxygen is released into the atmosphere or utilized

The hydrogen is captured



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