

How is green hydrogen obtain?

Producing green hydrogen by electrolysis from renewable sources involves breaking down water molecules (H₂O) into oxygen (O₂) and hydrogen (H₂).

1

The water used in the electrolysis must contain **salts and minerals** to conduct the electricity

2

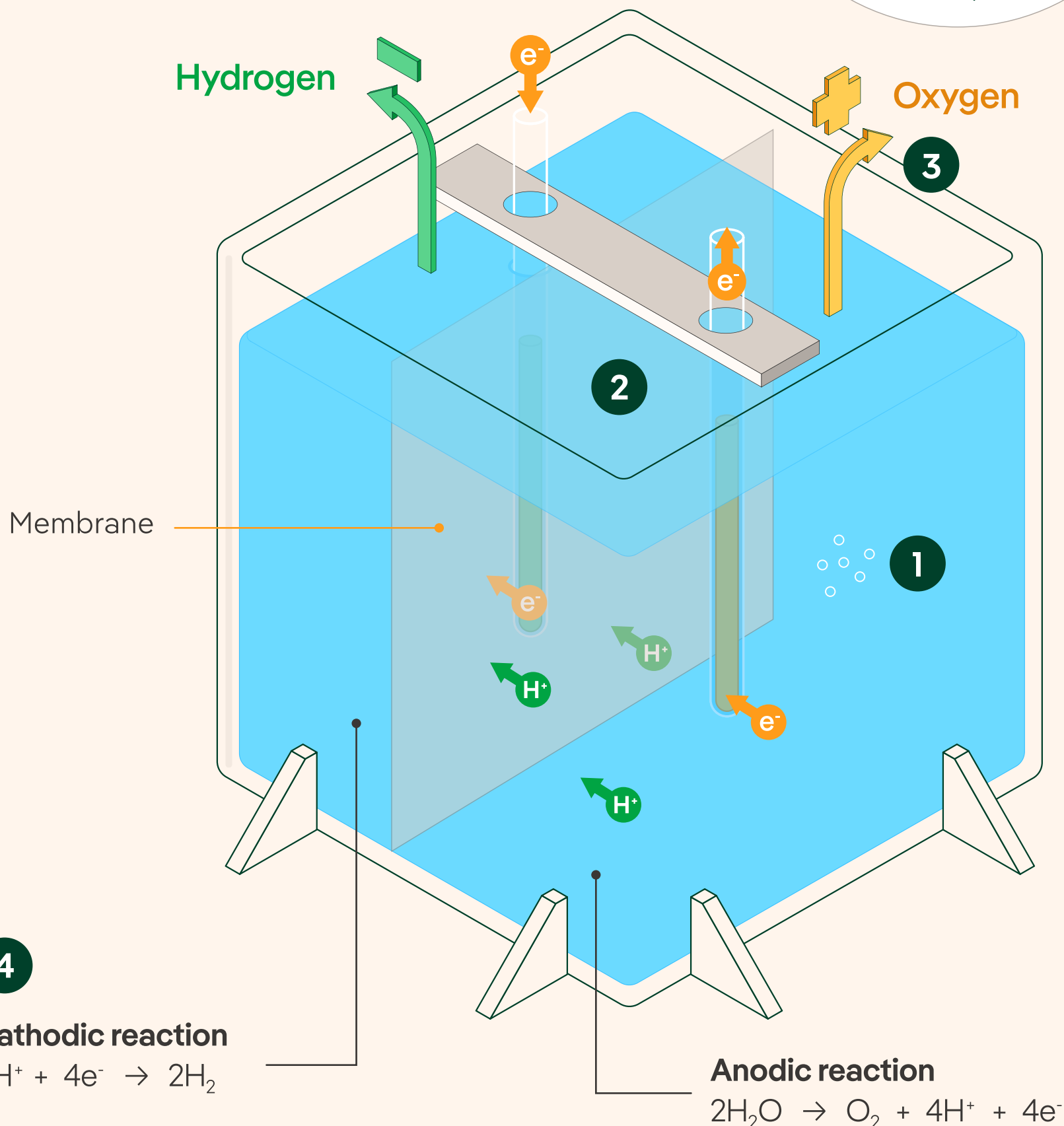
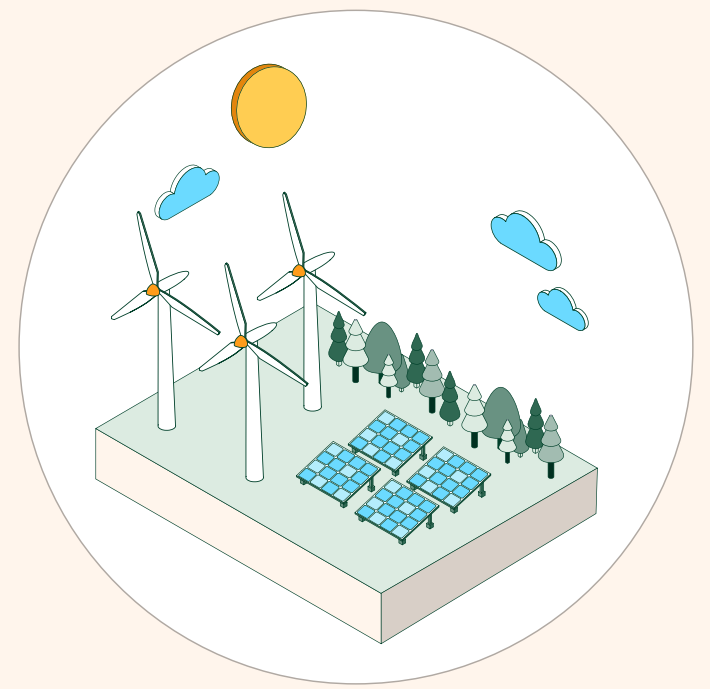
Two **electrodes** are immersed in the water and connected to a power source and a direct current is applied

3

The dissociation of hydrogen and oxygen occurs when the electrodes attract **ions with an opposite charge** to them

4

During the electrolysis, an **oxidation-reduction reaction** occurs due to the effect of the electricity



4

Cathodic reaction
 $4\text{H}^+ + 4\text{e}^- \rightarrow 2\text{H}_2$

Anodic reaction
 $2\text{H}_2\text{O} \rightarrow \text{O}_2 + 4\text{H}^+ + 4\text{e}^-$

Source: U.S. Department of Energy and Wood Mackenzie.