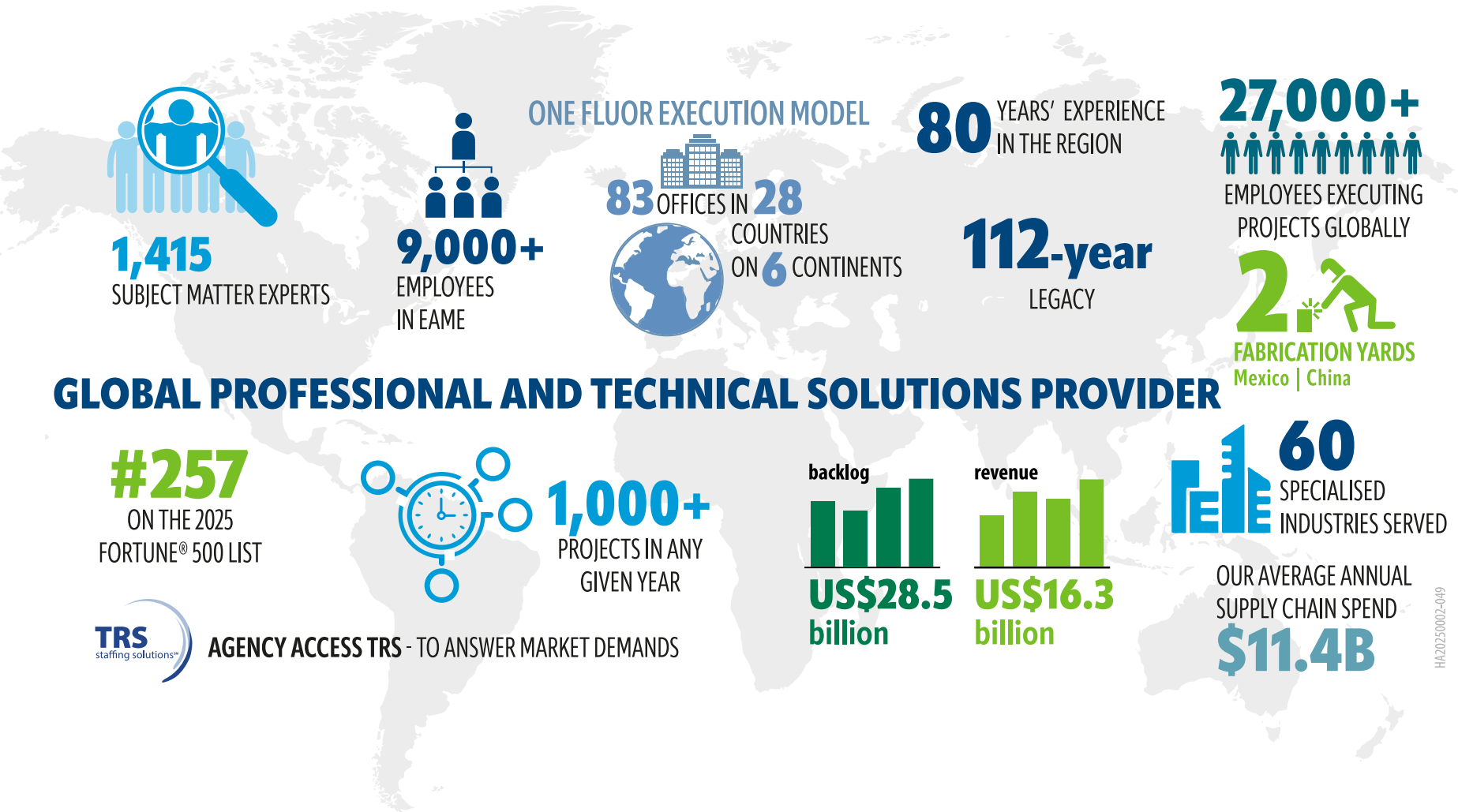


FLUOR HIGHLIGHTS: CARBON CAPTURE AND GREEN HYDROGEN

Buck Brouwer, Process Director

Hamburg, 21 Oct 2025

FLUOR AT A GLANCE



OUR CLIENT MARKET PORTFOLIO



MISSION SOLUTIONS

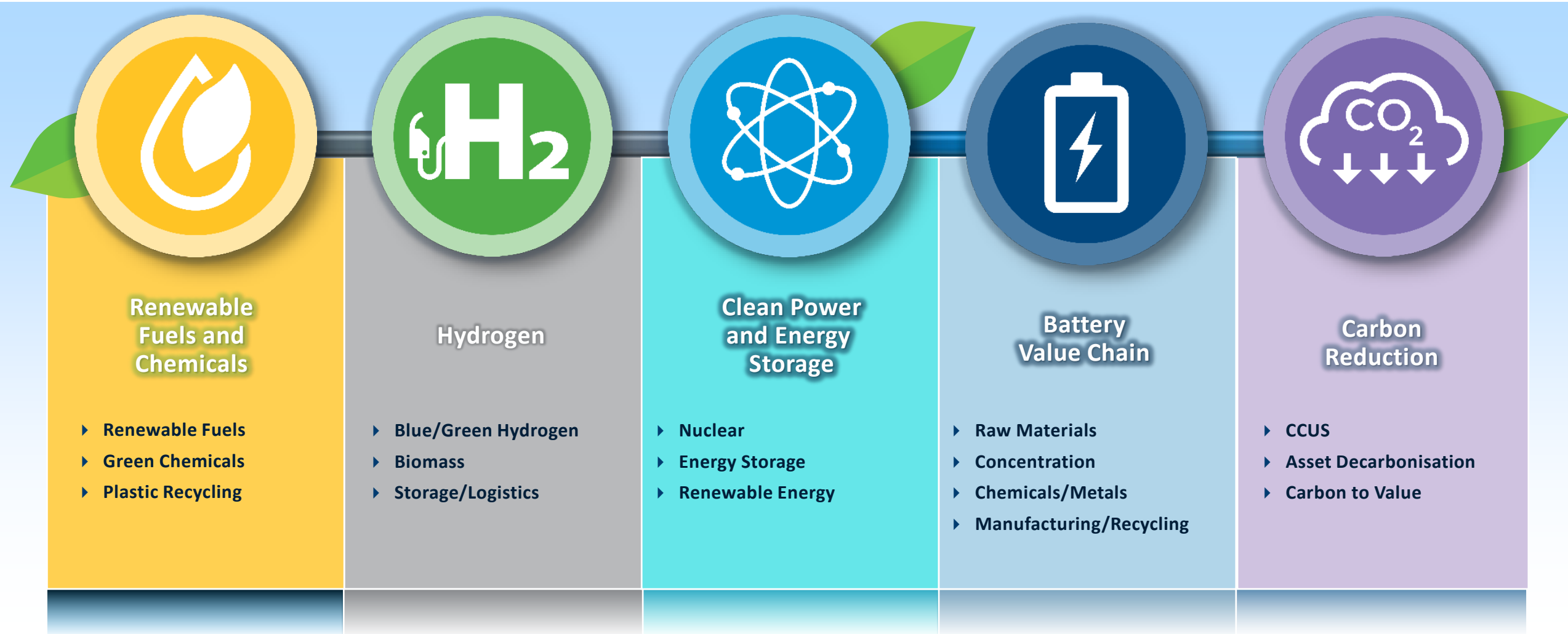


URBAN SOLUTIONS



ENERGY SOLUTIONS

SUSTAINABLE SOLUTIONS FOR A CLEAN ENVIRONMENT

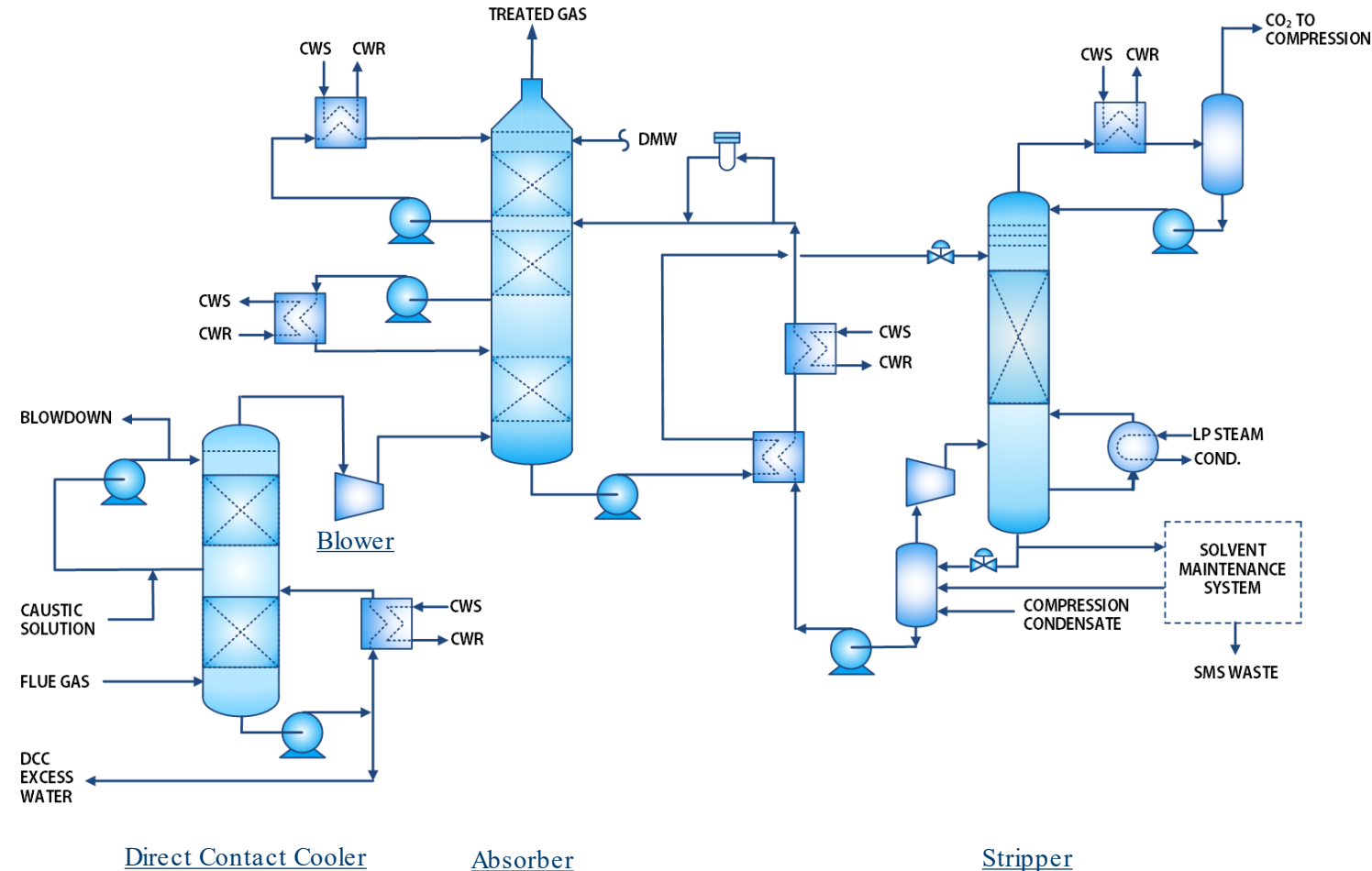


CARBON CAPTURE TECHNOLOGIES

-
- The diagram illustrates a CO₂ capture process. Dehydrated Feed Gas enters from the left and passes through a compressor. The gas then enters an Absorber. The gas exiting the Absorber goes to a Hydraulic Turbine. The gas from the Hydraulic Turbine goes to a Recycle Compressor. The gas from the Recycle Compressor goes to an MP Flash Drum. The gas from the MP Flash Drum goes to an LP Flash Drum. The gas from the LP Flash Drum goes to a Vacuum Compressor. The gas from the Vacuum Compressor goes to a Vac. Flash Drum. The gas from the Vac. Flash Drum goes to a Booster Pump. The gas from the Booster Pump goes to a Dry Treated Gas stream. A Dry CO₂ stream is also shown exiting the process.

ECONAMINE FG PLUSSM (POST-COMBUSTION CAPTURE)

- ▶ Commercially proven, proprietary technology
- ▶ Technology is designed for capturing CO₂ from low pressure gas streams containing oxygen
 - CO₂ : 3% to 25% by volume
 - O₂ : 1% to 15 % by volume
- ▶ 30+ plants licensed to date
- ▶ Fluor has experience with a wide range of flue gases including refinery process units, gas turbines, hydrogen plants, cement production plants, WtE plants etc.



GREEN HYDROGEN PRODUCTION

WATER FOR GREEN HYDROGEN

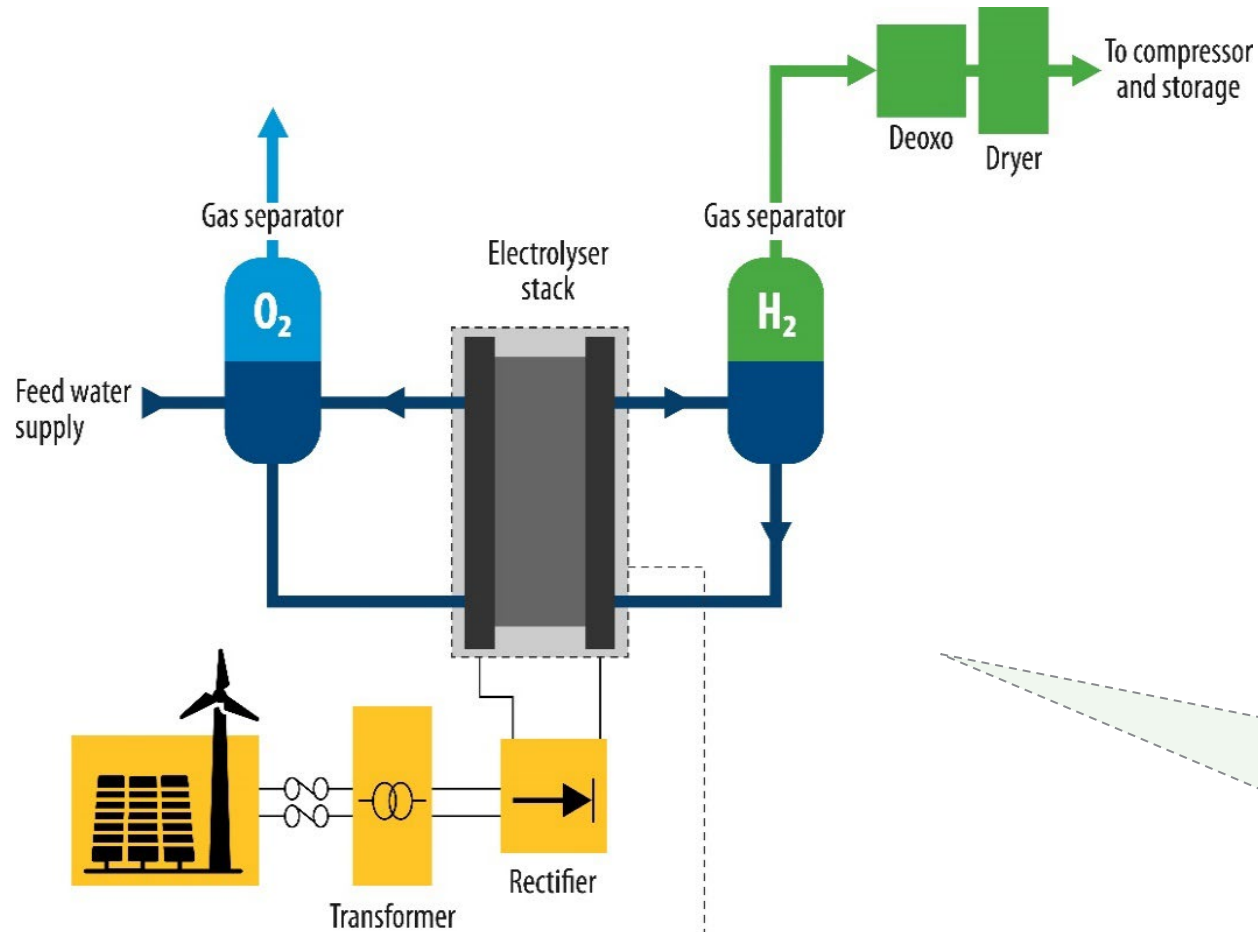


Image Credits: IRENA, Green Hydrogen Cost Reduction

- ▶ Both water and power need to be supplied at low cost with high reliability
- ▶ Water purification is second important driver for implementation
- ▶ High-quality water requirement

Green H₂

- ▶ Electrolyser at 100-Megawatt capacity:
 - consumes roughly **500 tpd Water**
 - produces roughly **50 tpd Hydrogen**

WHERE CAN FLUOR ADD VALUE?

- Carbon Capture Technologies
- Global Water group expertise
- Familiar with CO₂, Hydrogen and many other technologies
- Integrate with existing facilities
- Use low level heat
- Reuse/recycle water
- Hybrid Cooling

VISIT US AT
BOOTH NUMBER 6C40

FLUOR[®]

LISTEN TO
Samiya Parvez
Energy Self-Sufficient CO2 Capture for
Blue Hydrogen Production
22 OCT 12:30

Thank You

CONTACT DETAILS:



BUCK BROUWER
PROCESS DIRECTOR
FLUOR FELLOW UTILITIES & OFFSITES
+31 23 543 2079
BUCK.BROUWER@FLUOR.COM

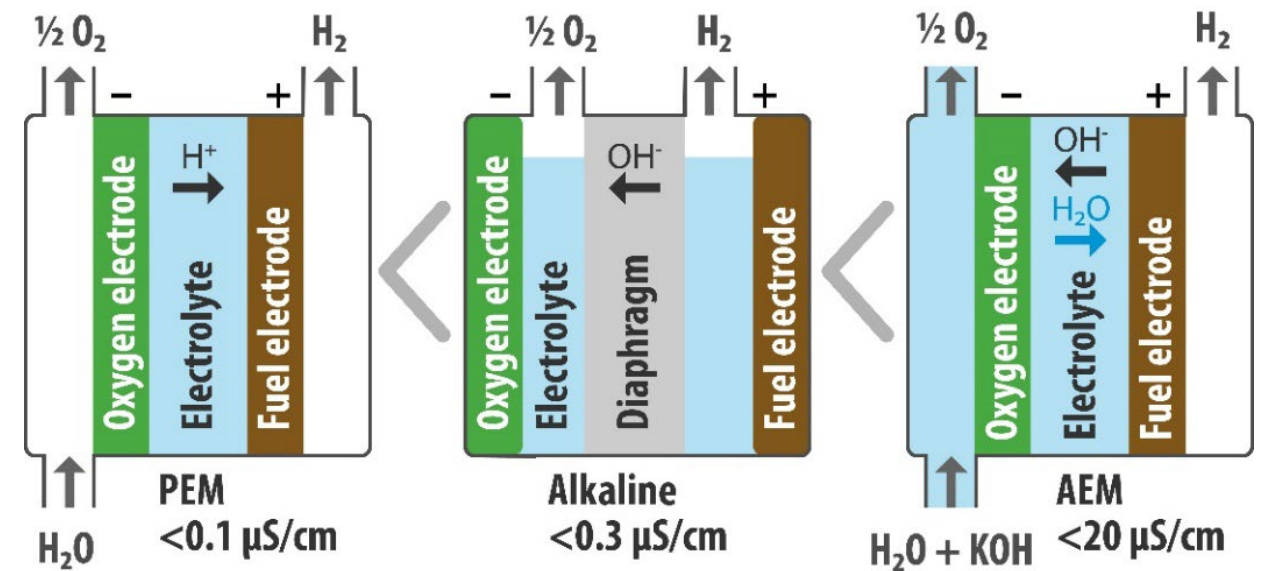


FEED WATER REQUIREMENT FOR ELECTROLYSIS

Water

- ▶ Green Hydrogen production involves three forms:
 - Proton Exchange Membrane (PEM)
 - Alkaline Electrolysis
 - Anion Exchange Membrane (AEM)
- ▶ Low conductivity
 - $<1 \mu\text{S/cm}$ is acceptable
 - $<0.1 \mu\text{S/cm}$ is recommended
 - Up to $5 \mu\text{S/cm}$ may be viable
- ▶ Sustaining high water quality will positively impact the electrolyser life cycle and will reduce the degradation

Water (cond.) requirements for PEM, Alkaline, AEM



Source : <https://www.differ.nl/news/SCALE>