

Green Hydrogen from Chile

IRENA Innovation Week 2018

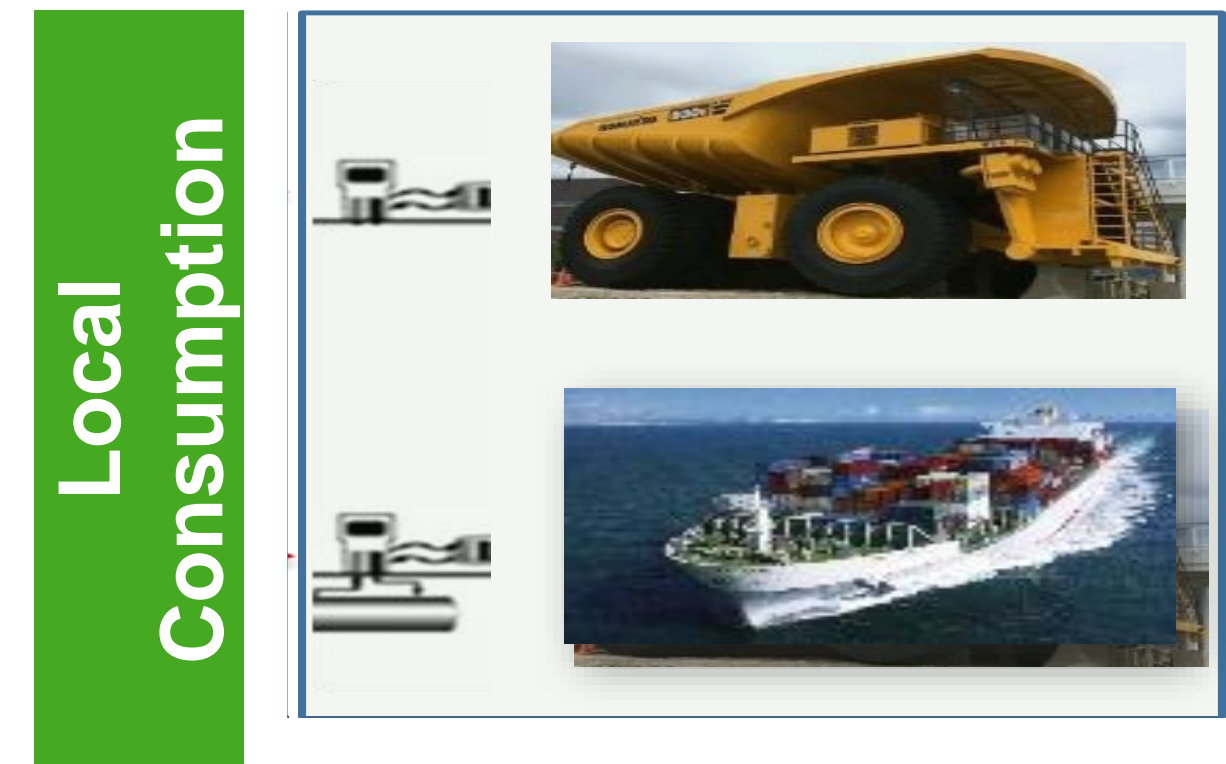
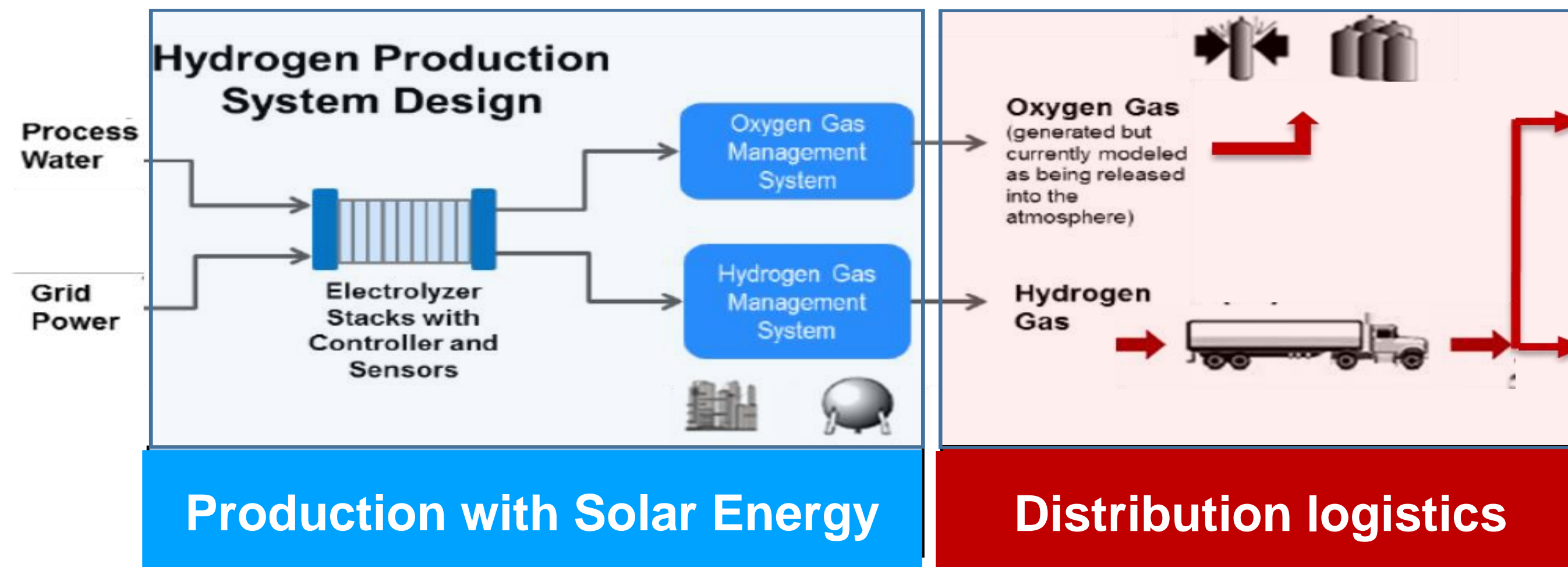


COMITÉCORFO

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CORFO'S INNOVATION STRATEGY – GREEN HYDROGEN

- **1st local consumption:**
 - Introduce green hydrogen in the industrial customers (Today worldwide: Amonia 54%, Refinery 25%, steel and glass 3%; food industry 2%)
 - Dual Combustion and Fuel cells in Mining fleets (shipping fleets and public transpor)
 - Energy Storage
- **2nd Long term** ➔ supply international demand (i.e. Japan)



Local Consumption

Exportation



TECHNOLOGICAL CONSORTIUM – HYDROGEN IN MINNING TRUCKS

DUAL HYDROGEN-DIESEL COMBUSTION FOR MINER EXTRACTION TRUCKS



5-year budget: MMUSD 20
(MMUSD 5.8 Corfo contribution)

FUEL CELLS FOR MINING FLEETS, ON UNDERGROUND MINING



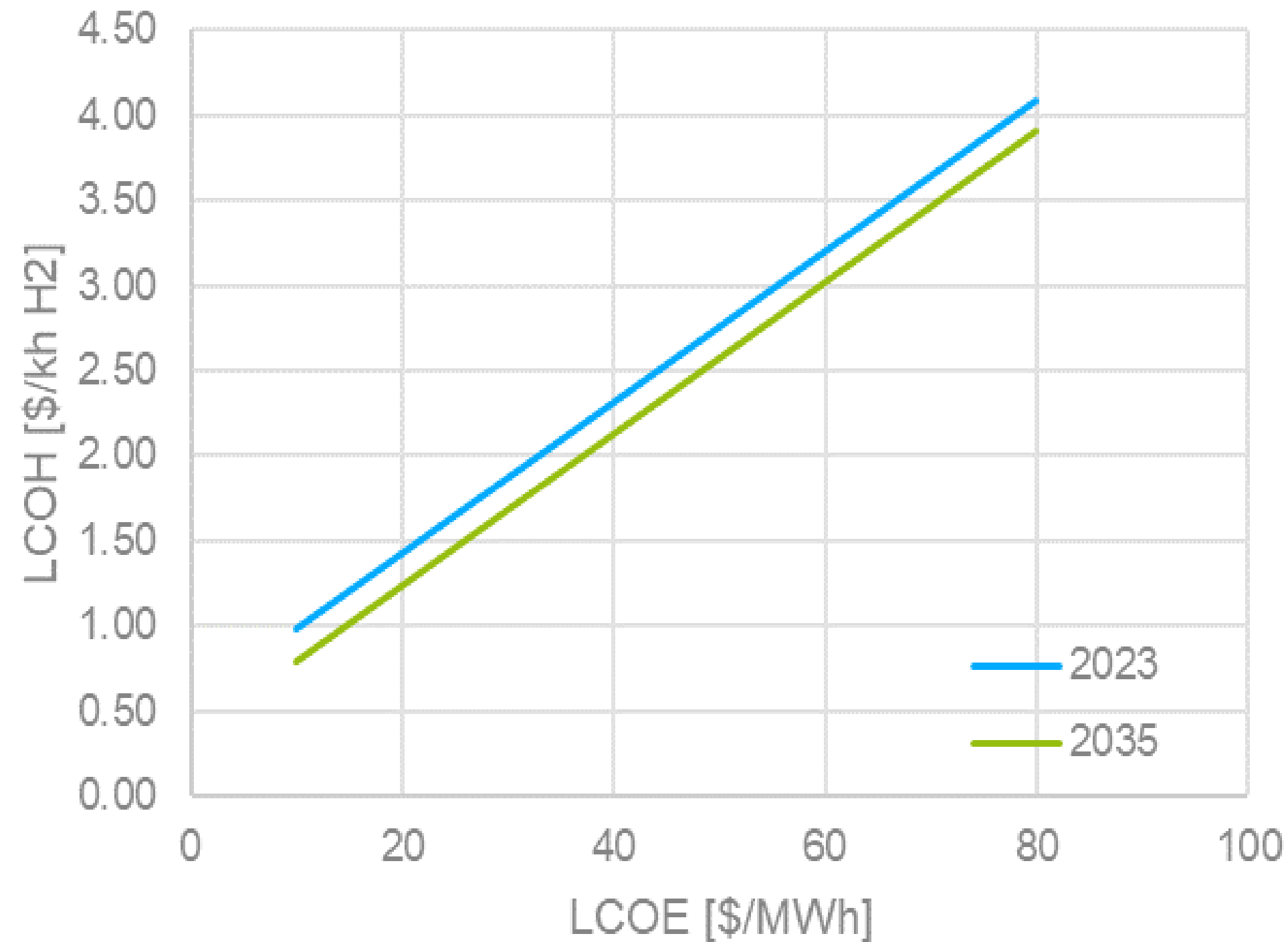
5-year budget: MMUSD 2.2
(MMUSD 1.1 Corfo contribution)



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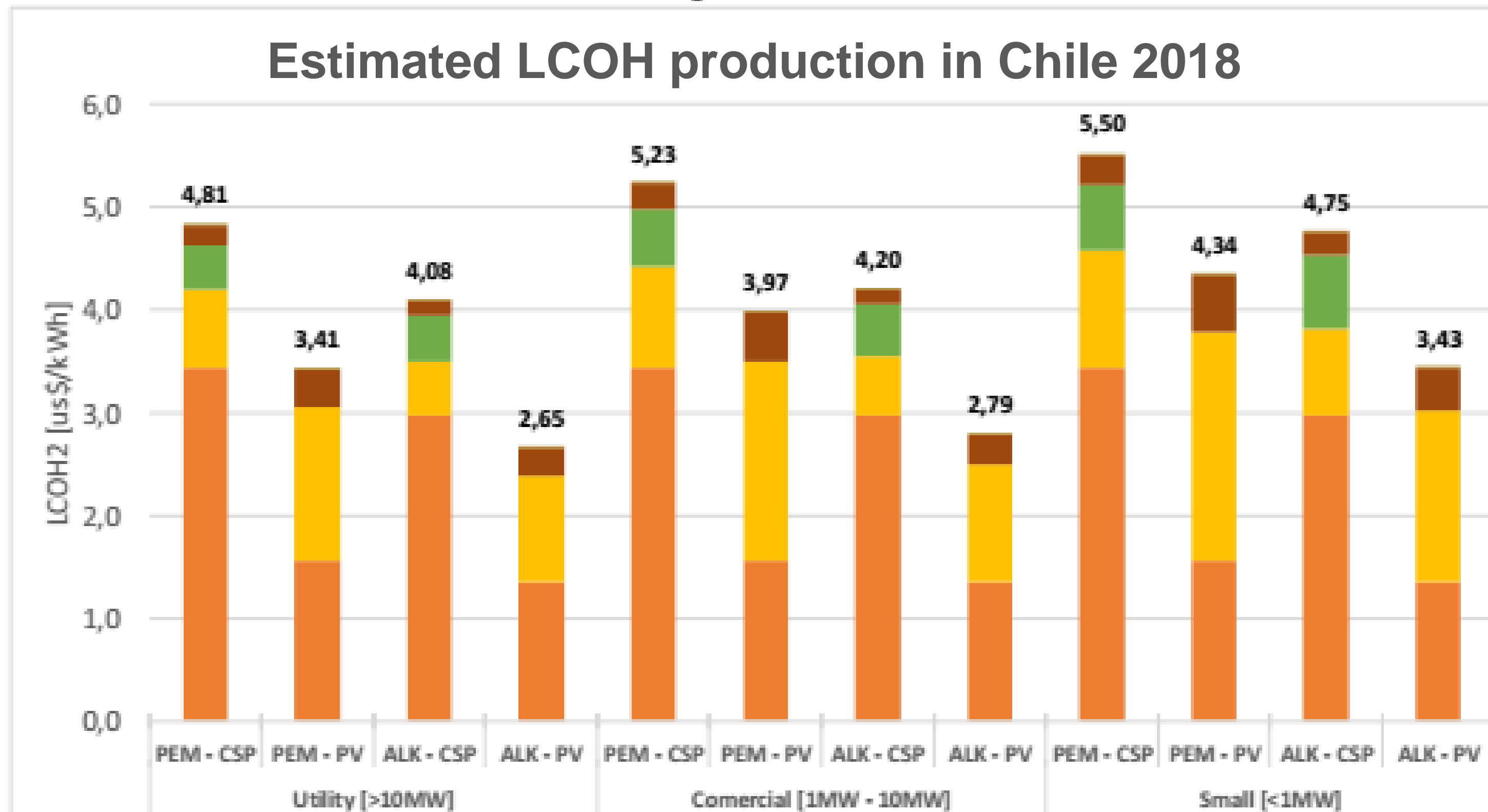
INNOVATION FOR A 100% RENEWABLE ENERGY SYSTEM.



Chile has the opportunity, even by 2023, to produce hydrogen at a competitive price due to the low cost of PV energy

LCOH [\$/kg _{H2}]	100 % RES - 2023	100 % RES - 2035
LCOH _{bajo} basado en LCOE _{H2, bajo}	1.80	1.30
LCOH _{alto} basado en LCOE _{H2, alto}	3.03	2.86

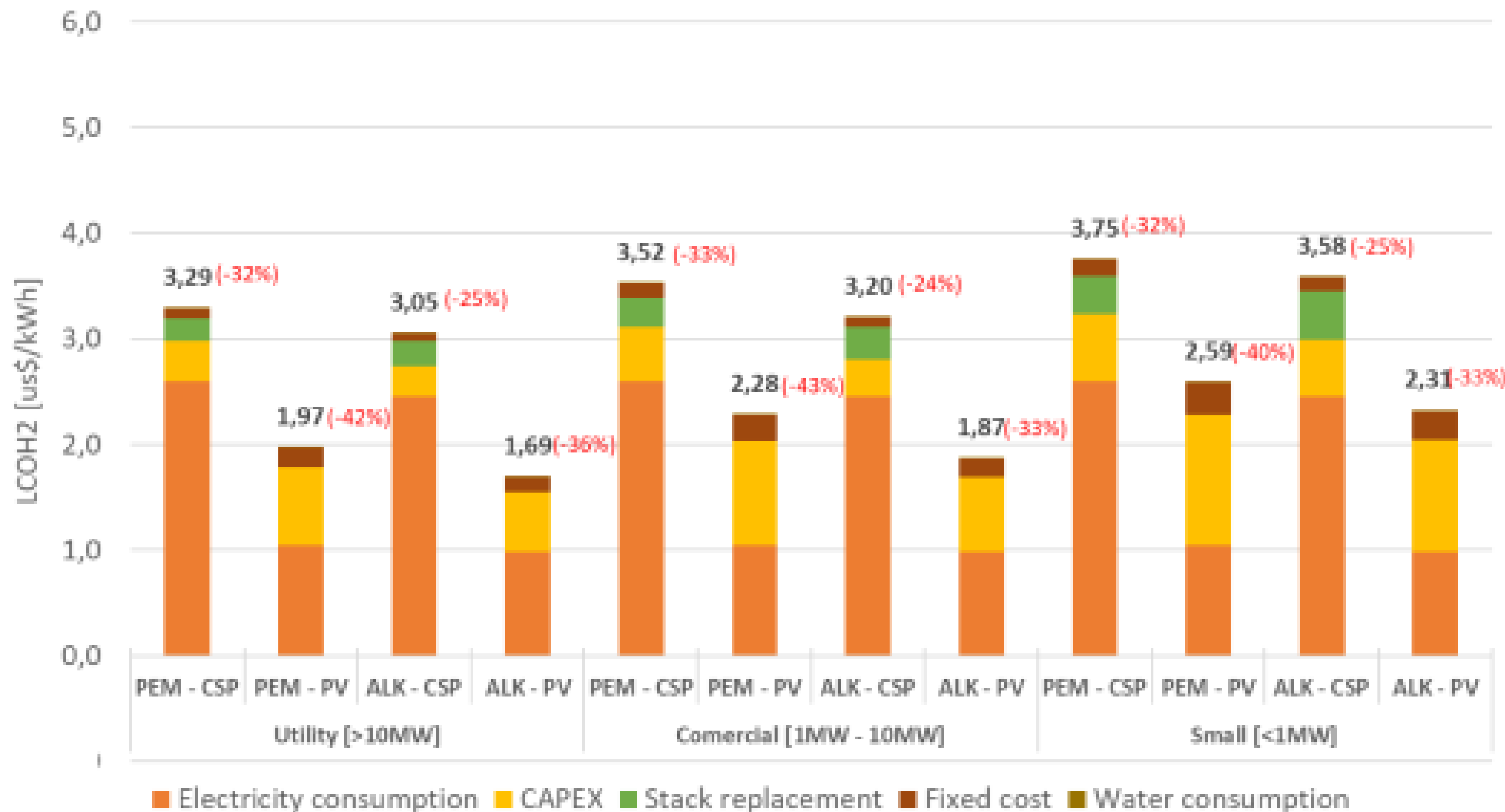
COST ANALYSIS OF SOLAR HYDROGEN PRODUCTION IN CHILE



The results indicate that the most efficient production mechanism in terms of LCOH is through the supply of FV (8-18h) for both electrolysis technologies (PEM and Alkaline)

COST ANALYSIS OF SOLAR HYDROGEN PRODUCTION IN CHILE

Estimated LCOH production in Chile 2025



The alkaline electrolyser is more competitive for this case study (on - grid) with 2.65 US\$/kg for 2018 and 1.69 US\$/kg for 2025.

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Green Hydrogen from Chile IRENA Innovation Week 2018 Bottling the Sun



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