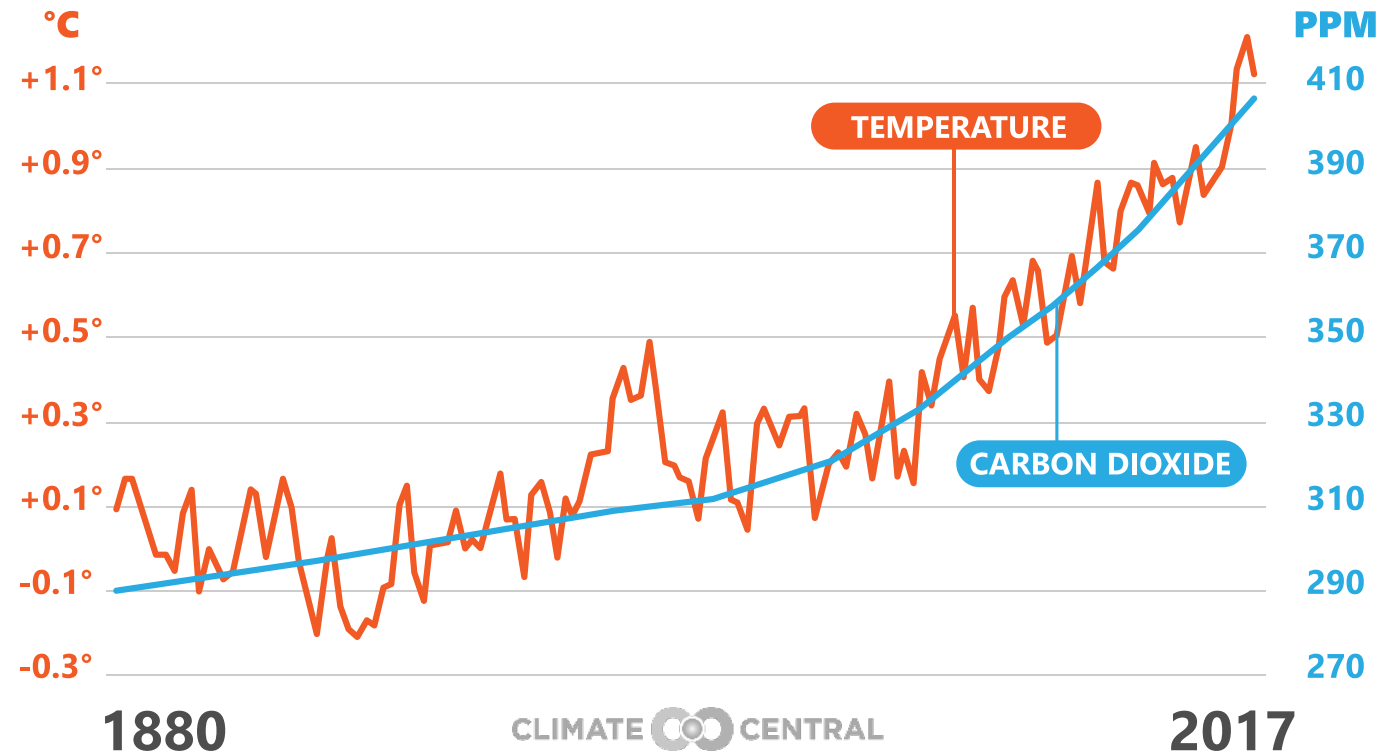


FIXING CO₂

CLOSING THE LOOP

Rising CO₂ levels

Goal: cut global CO₂ emissions in half by 2030

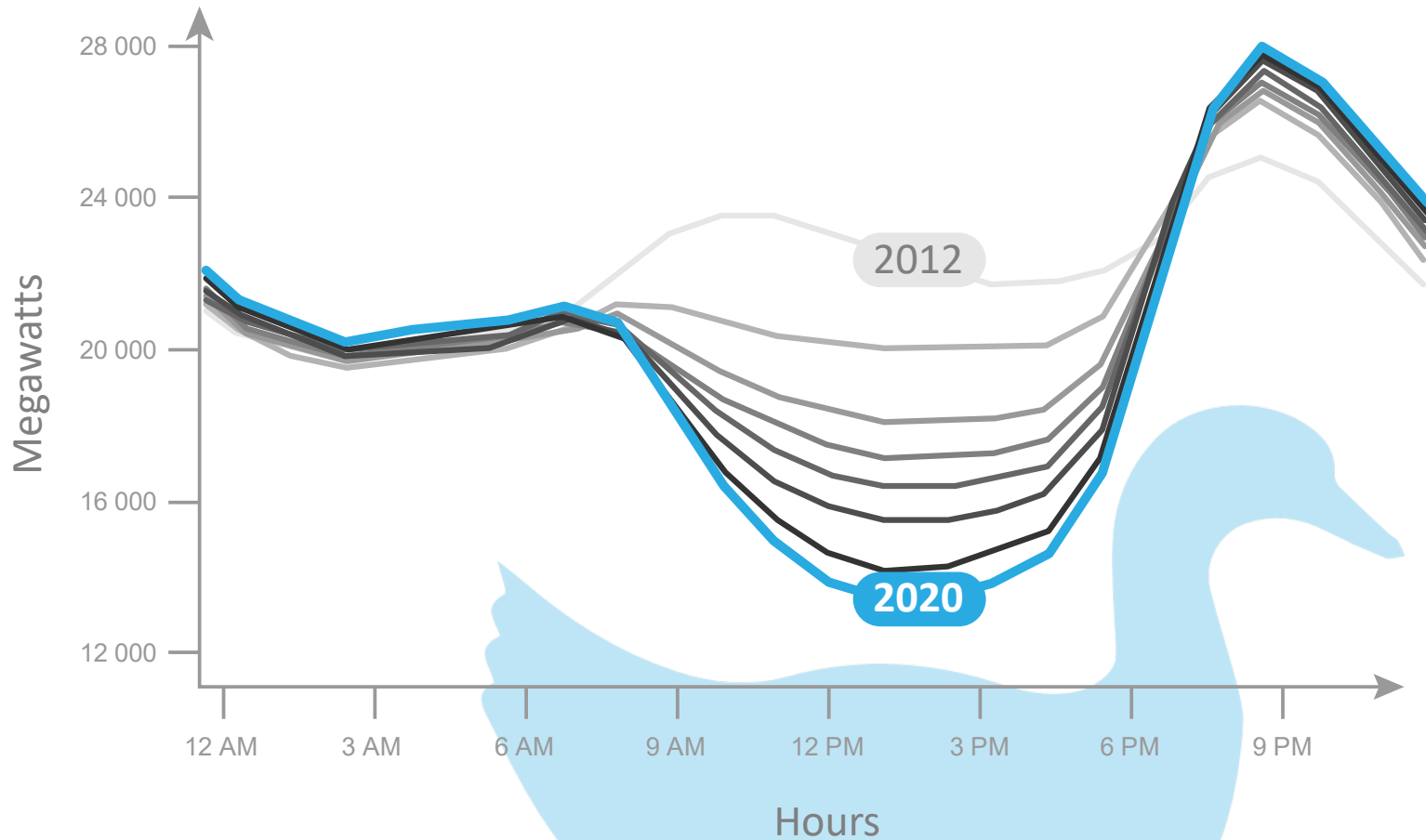


Global temperature anomalies averaged and adjusted to early industrial baseline (1881-1910)

Source: NASA GISS, NOAA NCEI, ESRL

Duck curve challenge

Solar + wind alone can't solve the problem



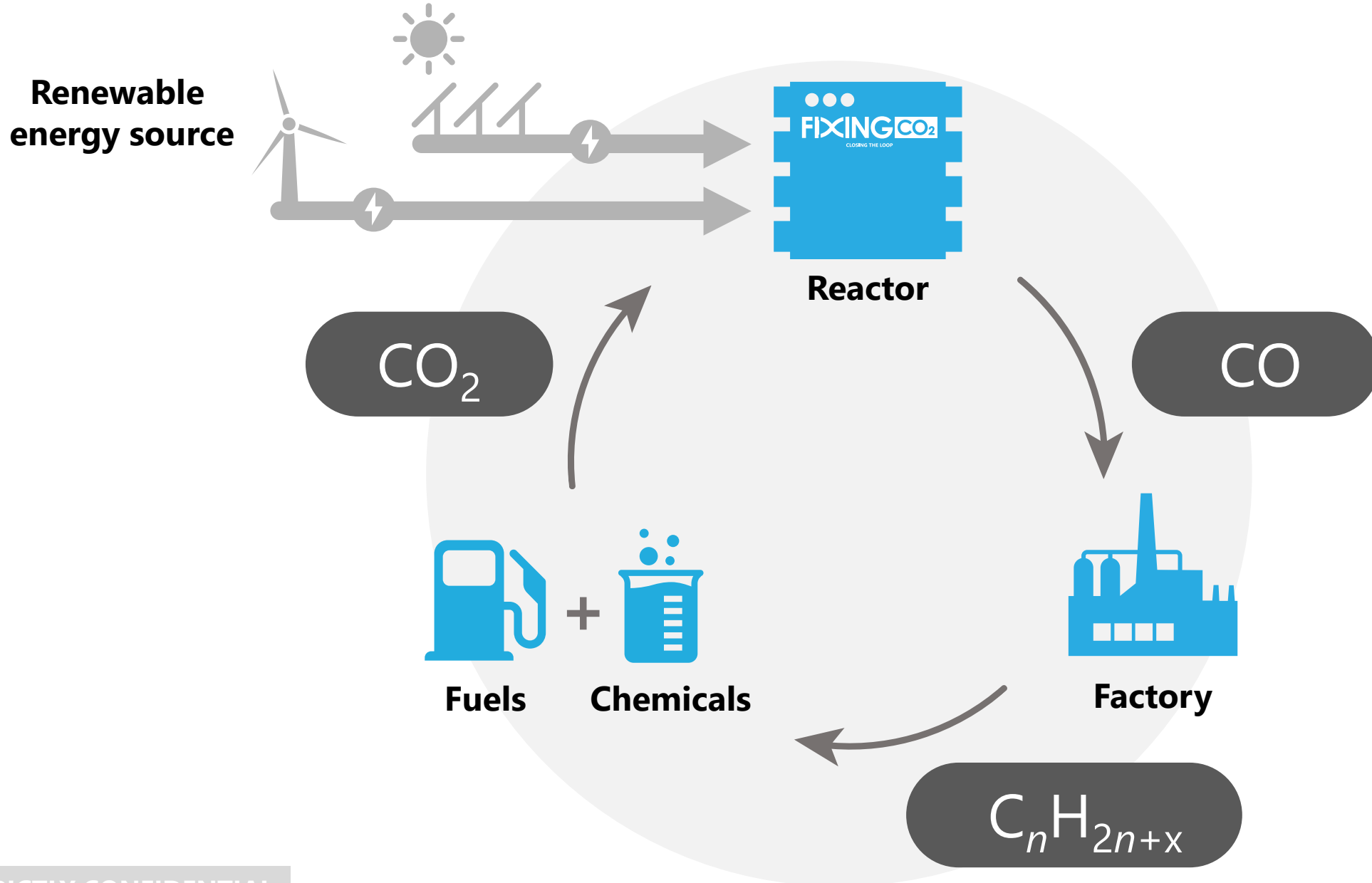
Problem:

- Solar energy production peaks in the middle of the day. Energy demand drops for other sources
- Energy grid is not flexible. Rapid increases/decreases in demand are hard to manage
- Storage (batteries) cost and supply can't meet the demand

Solution:

- **Use excess solar energy to electrochemically reduce CO₂**

Electrochemical CO₂ reduction



Our technology



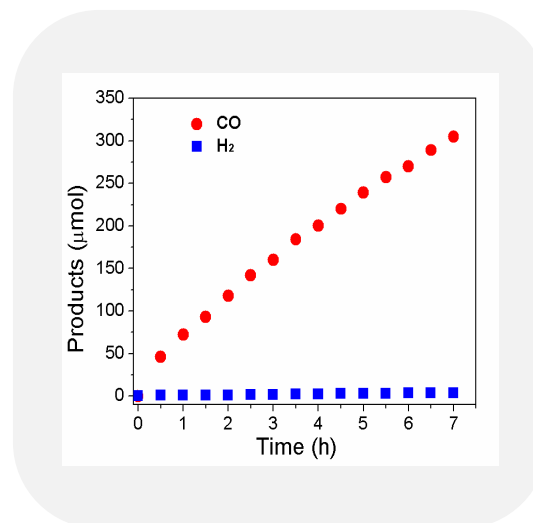
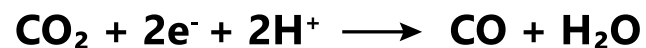
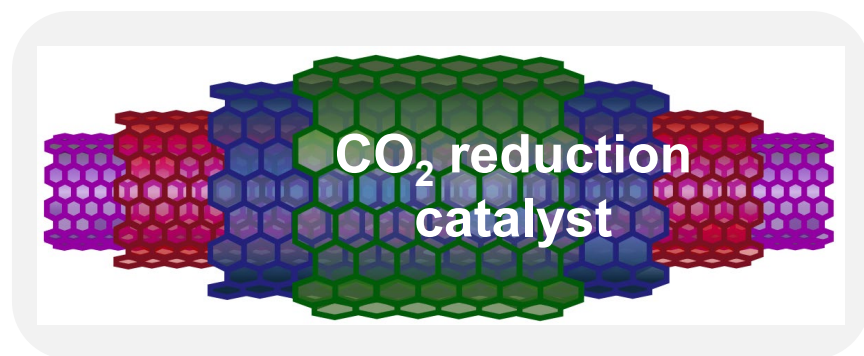
Novel catalyst for
CO₂ reduction to
CO



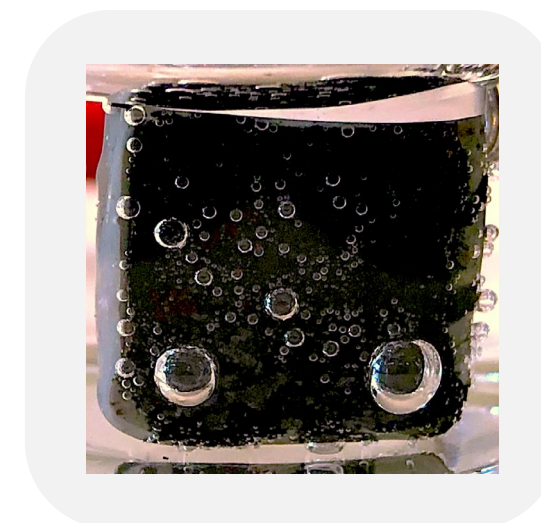
Demonstrates
exceptional
results



Patented
and
licensed



Selectivity for CO = 99%
-0.56 V vs. RHE

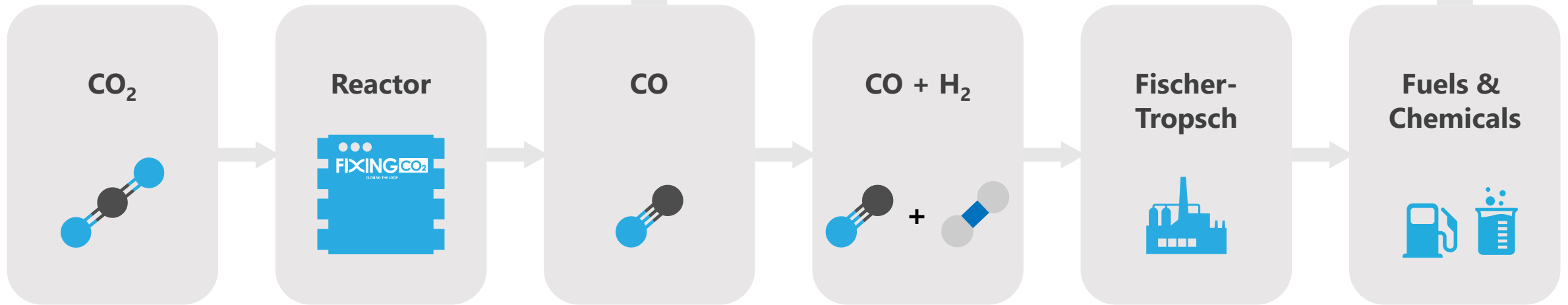


CO bubbles




Our technology

**\$3B
market**


**\$100B
market**



Competitive landscape: CO only

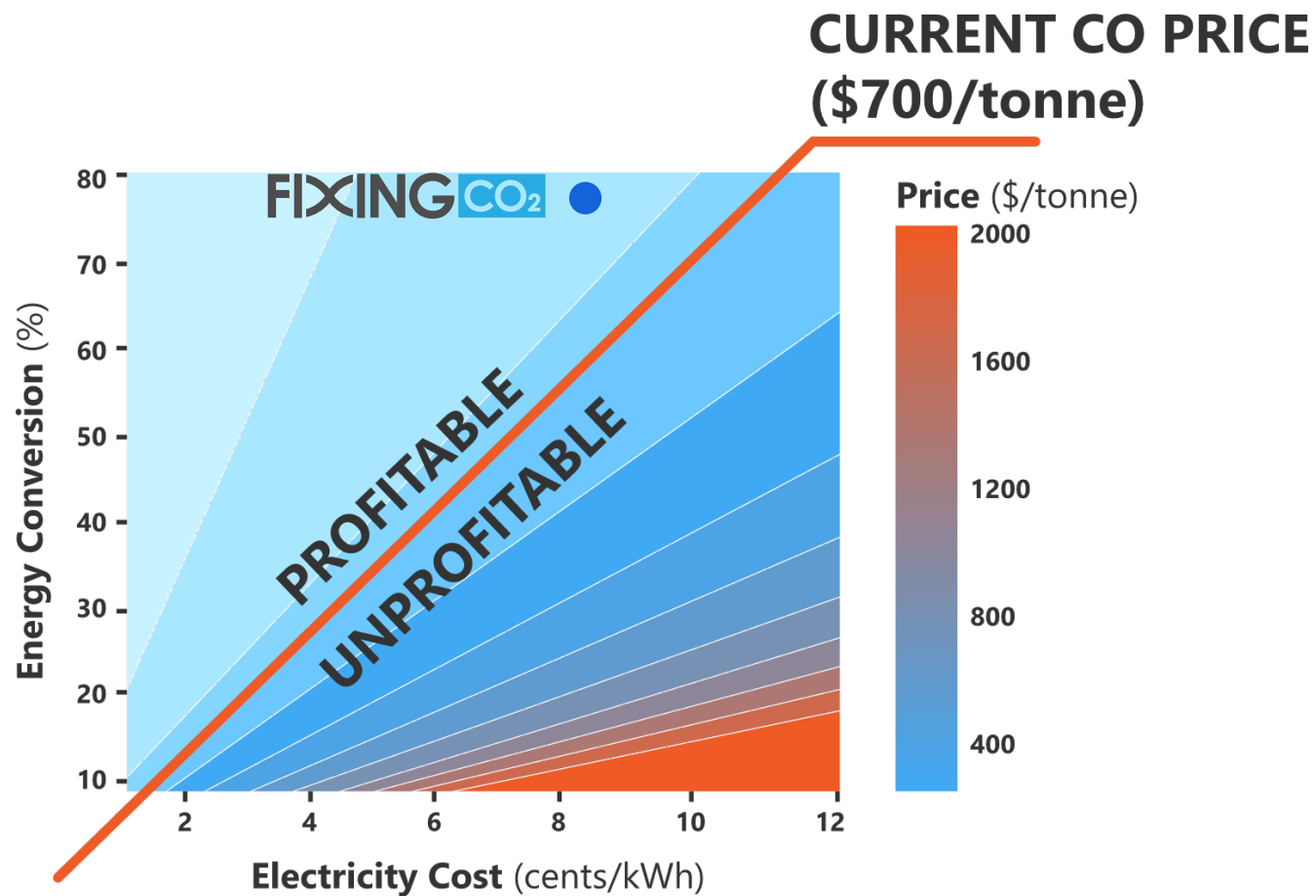
			
Selectivity (CO)	high	low	medium
Reaction media	cheap	cheap	expensive
Product focus	Reactor for CO conversion	Reactor for range of molecules	Membranes

Competitive landscape: CO₂ to fuels/chemicals

	Market size	Technologies		
CO (→ fuels)	\$ 3B (\$100B)	 <small>CLOSING THE LOOP</small>	— opus 12	 Dioxide Materials <small>The CO₂ Recycling Company*</small>
Methane	\$ 20B	 <small>smart energy conversion</small> 	 Audi 	 KRAJETE <small>Learning From Nature.</small> — opus 12
Methanol	\$ 0.1-0.2 B	 Mitsui Chemicals		CARBON RECYCLING INTERNATIONAL
C2 products: Ethylene + Ethanol	\$ 300B	Research stage – not ready for commercialization		

Point of profitability: CO market

Given electricity price projections and our catalyst's energy efficiency, after we scale the technology, we will be profitable on CO market. CO revenue base will allow us move to end products: fuels/chemicals



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