EVOLOH

Low-cost electrolyzer stacks for H_2 production

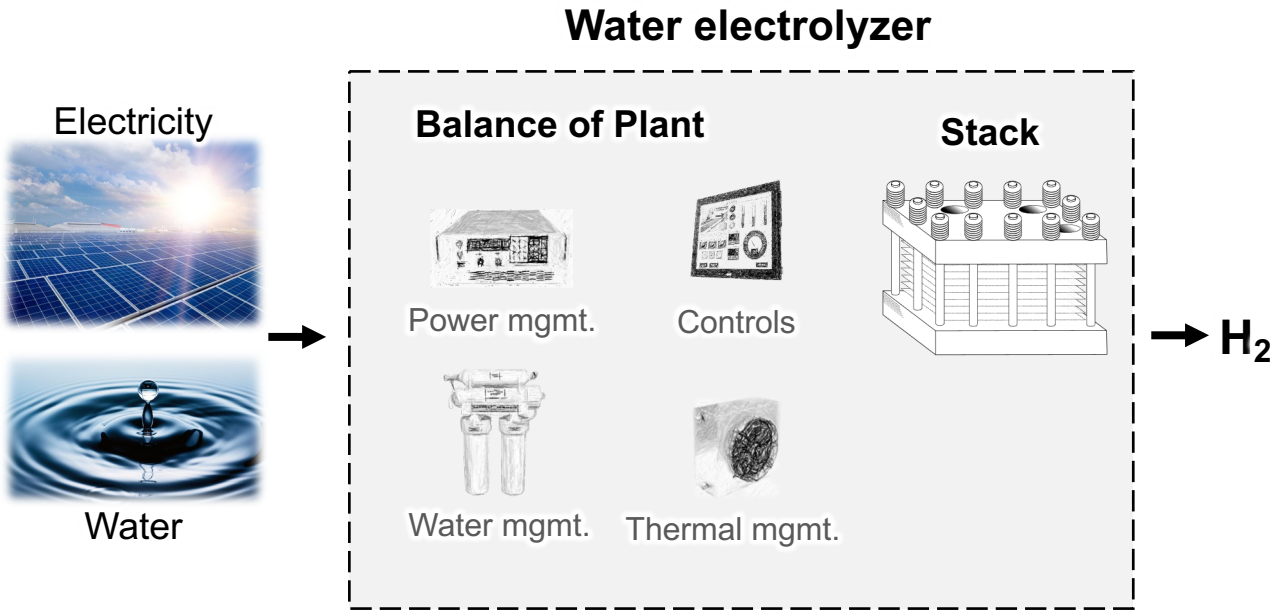
CONFIDENTIAL

Prepared for CERA Week

3/7/23

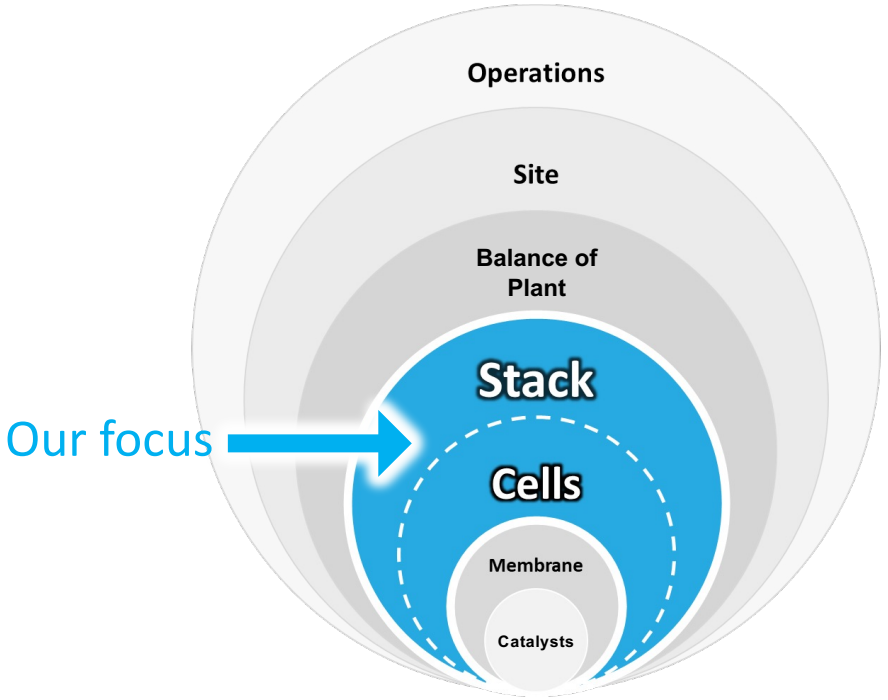
COMPANY OVERVIEW

The **world needs green H_2** to reach its climate goals. Electrolyzer **stack supply** is the bottleneck.



OUR SOLUTION

High-speed manufacturing of low-cost, compact, electrolyzer stacks.



BUSINESS MODEL

- Direct sale of stacks to system integrators
- Manufacturing in partnership

TEAM

Leadership Team

Dr. Jimmy Rojas
Founder & CEO
MIT; Stanford; VC experience; invented IP for Accion Syst (>$85m raise).

Scott Blanchet
COO
Stanford; >25yrs fuel cell industry; ex-CTO Nuvera Fuel Cells; >265 patents.

Dr. Art Shirley
CCO
Princeton U.; >30yrs H_2 industry; ex-VP of H_2 Air Liquide; Linde.

Tim DiNicola
Head of Finance
>20yrs in Finance/M&A in Defense, Life Science and Fuel Cells

Bryan Bestvater
Head of Manufacturing
>30yrs manufacturing executive at Siemens, Plug Power and Nuvera.

Kristin Brief
BE Fellow, Corp. Dev.
20yrs Corp. Development executive and experienced entrepreneur

Breakthrough Energy | NUVERA FUEL CELLS | Air Liquide | NUVERA FUEL CELLS | PLUG POWER | Breakthrough Energy

Massachusetts Institute of Technology | fuelcellenergy | Linde | BAE SYSTEMS | SIEMENS | Ambri

Stanford University | gm | bp | LOCKHEED MARTIN | NUVERA FUEL CELLS | ENERNOC

Tech development	*Project development*	*FP&A*	*Manufacturing*	*Entrepreneurship*
Fundraising	*Operations*	*Business development*	*Accounting*	*Tech development*	*Business development*
Entrepreneurship				

TEAM

Advisory Board

Tom Baruch
Renowned investor: 18 IPOs, 10 “unicorns”, 10 M&A; BEV; Exxon Mobil.

Baruch Future Ventures
Breakthrough Energy
8VC

Fundraising
Networking
Business Dev

Dr. Arun Majumdar
Founding director ARPA-E; Breakthrough Energy Ventures; Stanford Dean.

U.S. Department of Energy
Breakthrough Energy
Stanford University

Networking

Allan MacKenzie
Chairman at NextHydrogen; Private equity investor

NextHydrogen
Western University · Canada
Stanford University

Fundraising
Networking
Business Dev

Dr. Naomi Boness
Stanford; ex-Chevron; Stanford Hydrogen Initiative.

Chevron
Ambient Fuels
Stanford University

Business Dev
Networking

Dr. Gary Wnek
Prof. Polymer Chemistry

Massachusetts Institute of Technology
Case Western Reserve University Est. 1826
Rensselaer

Tech: Polymers

Dr. Ian McKay
Gates Ventures; Form Energy; Serial entrepreneur

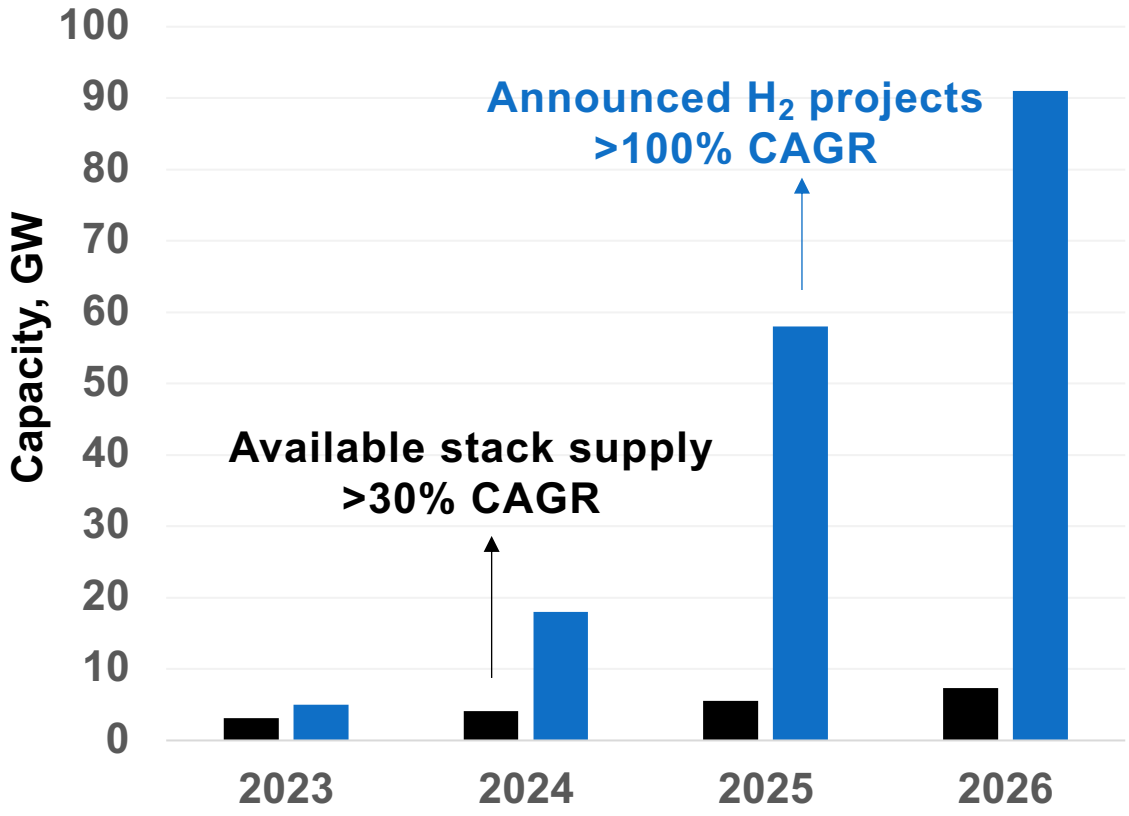
Gates Ventures
Form energy
Stanford University

Tech: Catalysis

… and other technical advisors.

PROBLEM

Electrolyzer supply cannot meet demand



IEA, *Energy Technology Perspectives 2023*
Bloomberg NEF

- Real-time tracking of H_2 projects shows rapidly growing demand/supply difference.

  - "***We're seeing 2–3-year lead times for stacks***"
  - "***You can't get stacks […] lead times are 4-5 years***"

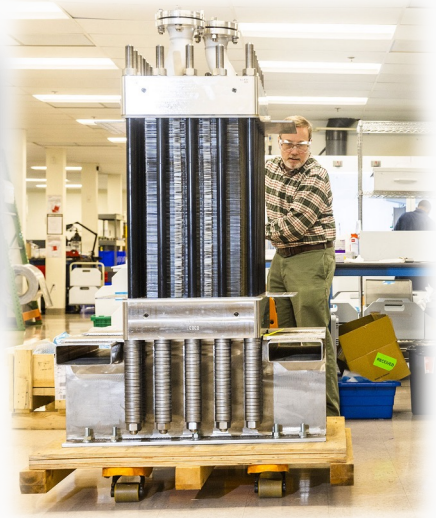
- Large EPCs

PROBLEM

Existing technology **will not scale**

PEM Electrolyzers

Expensive, Limited, Insecure



ITM POWER Energy Storage | Clean Fuel · PLUG POWER · Cummins · nel · SIEMENS · Hydrogen is now. H-TEC SYSTEMS · elogen · ohmium

Alkaline Electrolyzers

Complex, Heavy, Inflexible

nel · thyssenkrupp · McPhy · AsahiKASEI · Cummins · GREEN HYDROGEN SYSTEMS · John Cockerill · Hydrogen pro · LONGi

(1) From Platinum Group Metals Catalyst Supply Chain Deep Dive (Fig. 13a): https://www.energy.gov/sites/default/files/2022-02/PGM%20catalyst%20supply%20chain%20report%20-%20final%20draft%202.25.22.pdf

SOLUTION

The most **comprehensive solution** in the industry

10x
lower cost compared to competitors' future projections.

50%
higher performance thanks to cell design breakthrough.

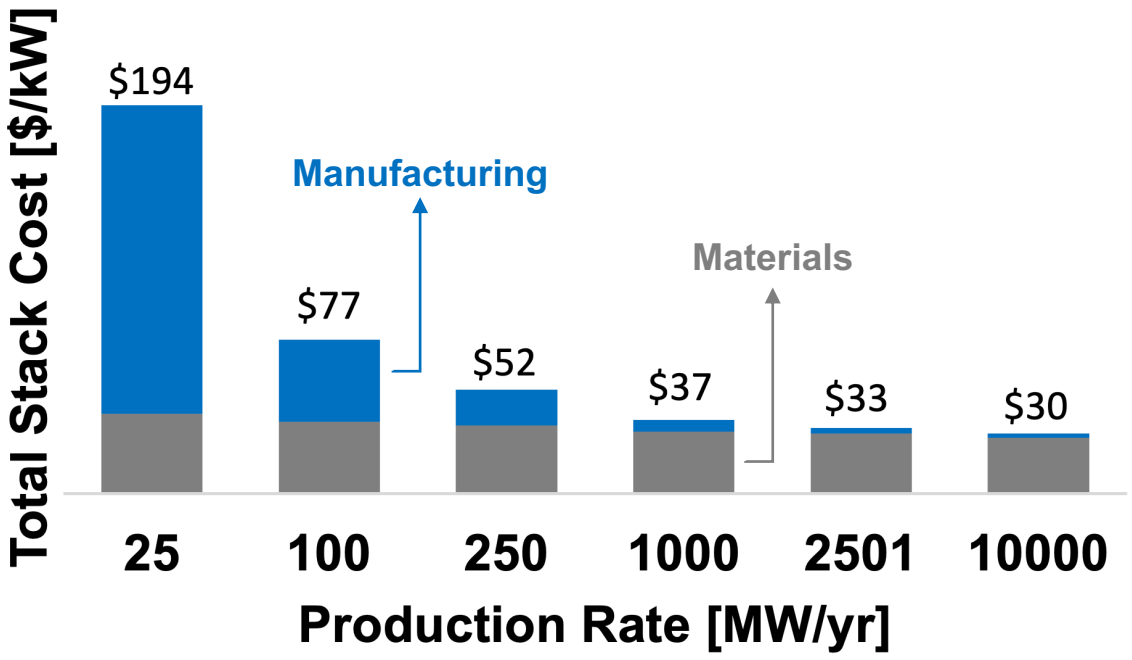
>50x
lighter than state-of-the-art multi-MW stacks

>4x
lower factory cost *vs* competitors' future manufacturing plants.

100%
Domestic supply chains

SOLUTION

Lowest-cost stack in the industry
as found by third-party cost assessment



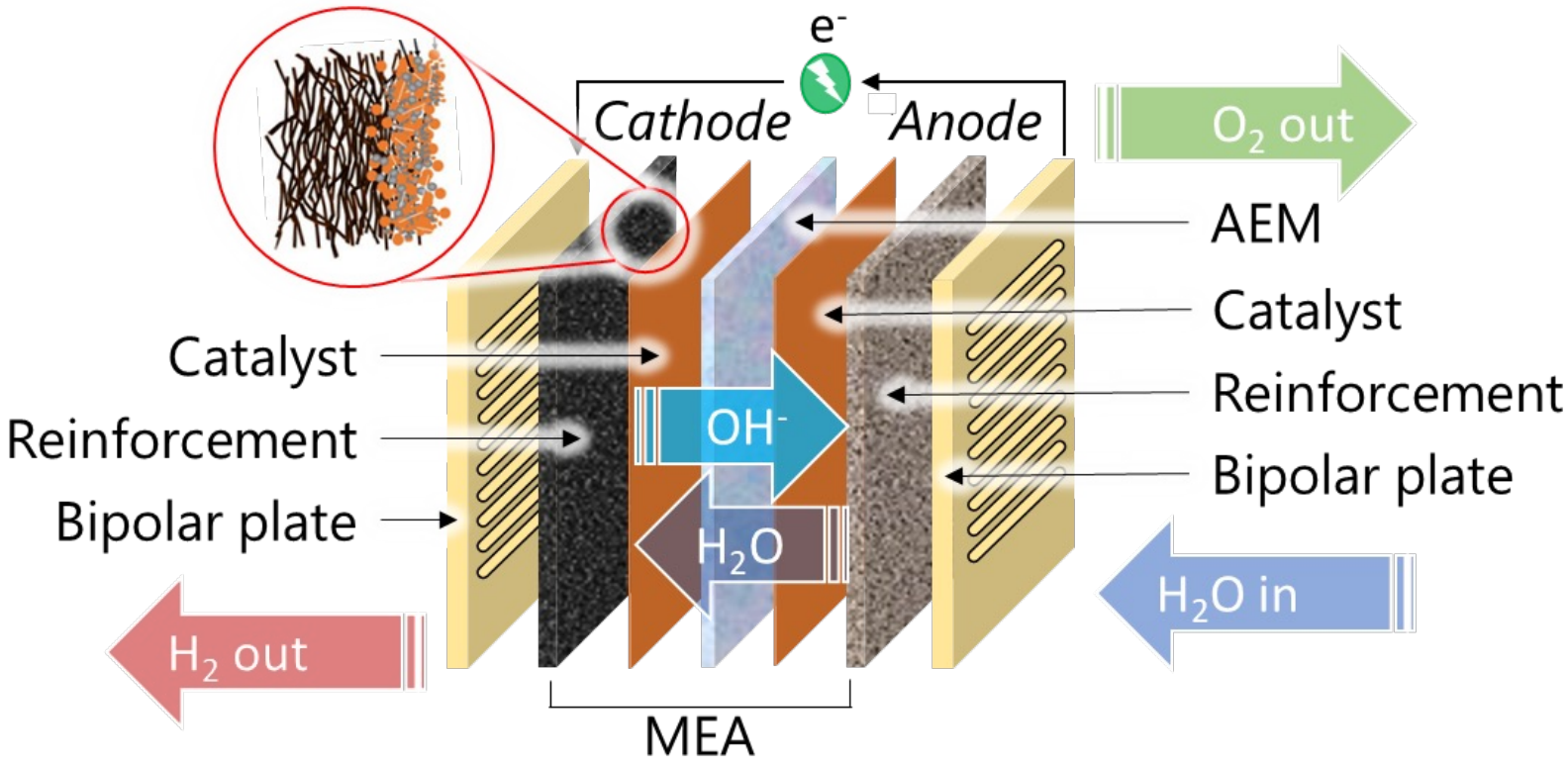
PEM and AWE stacks sell today for $800-900/kW, and $400-500/kW, respectively.

- Only abundant, non-toxic materials.
- New stack; new electrodes.
- Pure-water AEM technology.
- New manufacturing processes.

Full report in the data room.
No Warranty reserve, no markup.

INTELLECTUAL PROPERTY

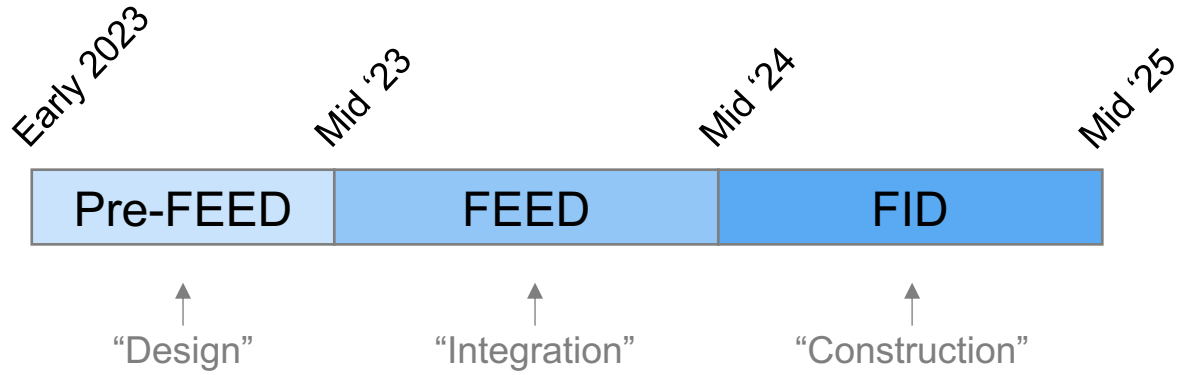
Novel **Chemistry**. Novel **Design**.



SOLUTION

Large EPC & EvolOH begin design of **3.75GW/yr.** stack factory

Low-risk, novel manufacturing processes adapted from battery & solar industries.



>4x
lower factory cost *vs* competitors' future manufacturing plants.

>4x
lower square footage

100%
Domestic supply chains

SOLUTION

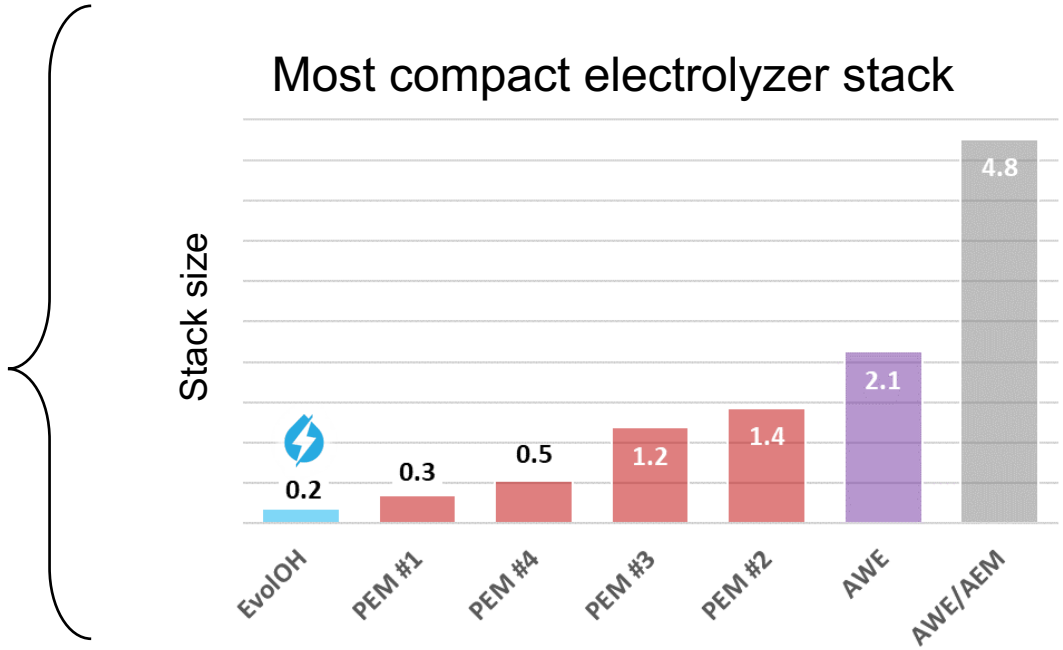
Allowing the **system integrator** to reduce costs

EVOLOH

Our customer

No corrosive liquids	→	Cheaper water mgmt. unit
Pressurized H_2	→	Cheaper compression units
Compact units	→	Cheaper shipping & installation
Standard power requirement	→	Cheaper & widely available power supplies

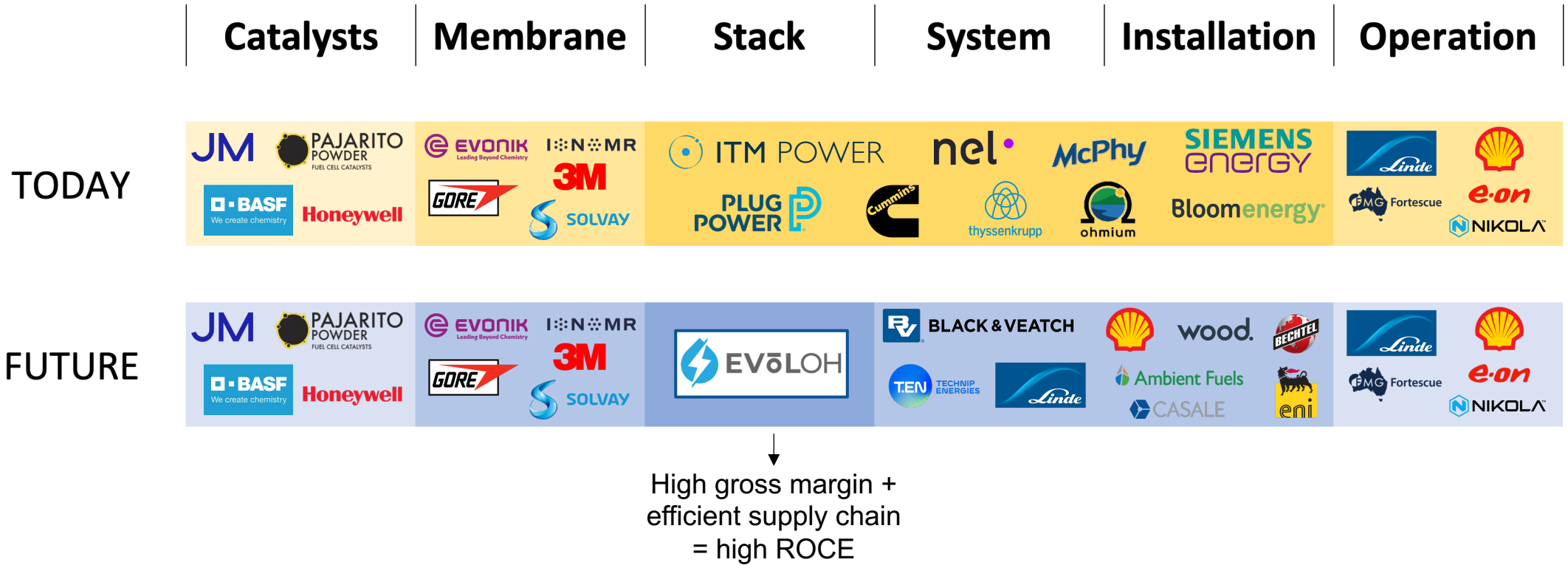
…and more



At least 50% higher power density compared to best state-of-the-art PEM

BUSINESS MODEL

Maximizing return on capital employed with a unique position in the industry's value chain



2023

Current support & next steps

Breakthrough Energy

Baruch FUTURE VENTURES

SoCalGas

Collab Fund

arpa·e

CALIFORNIA ENERGY COMMISSION

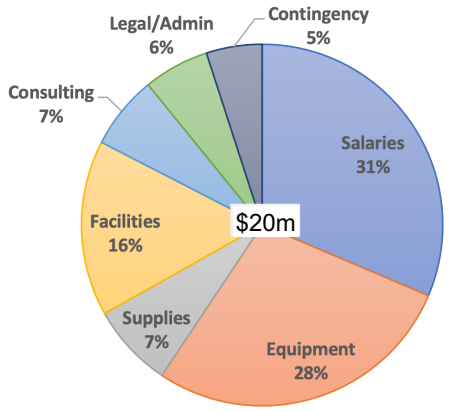
URBAN US

NSF

WASHINGTON Clean Energy Testbeds

SERIES A

- $20m, 18 months
- Closing in Summer 2023



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