

Aspire to a cleaner, brighter future



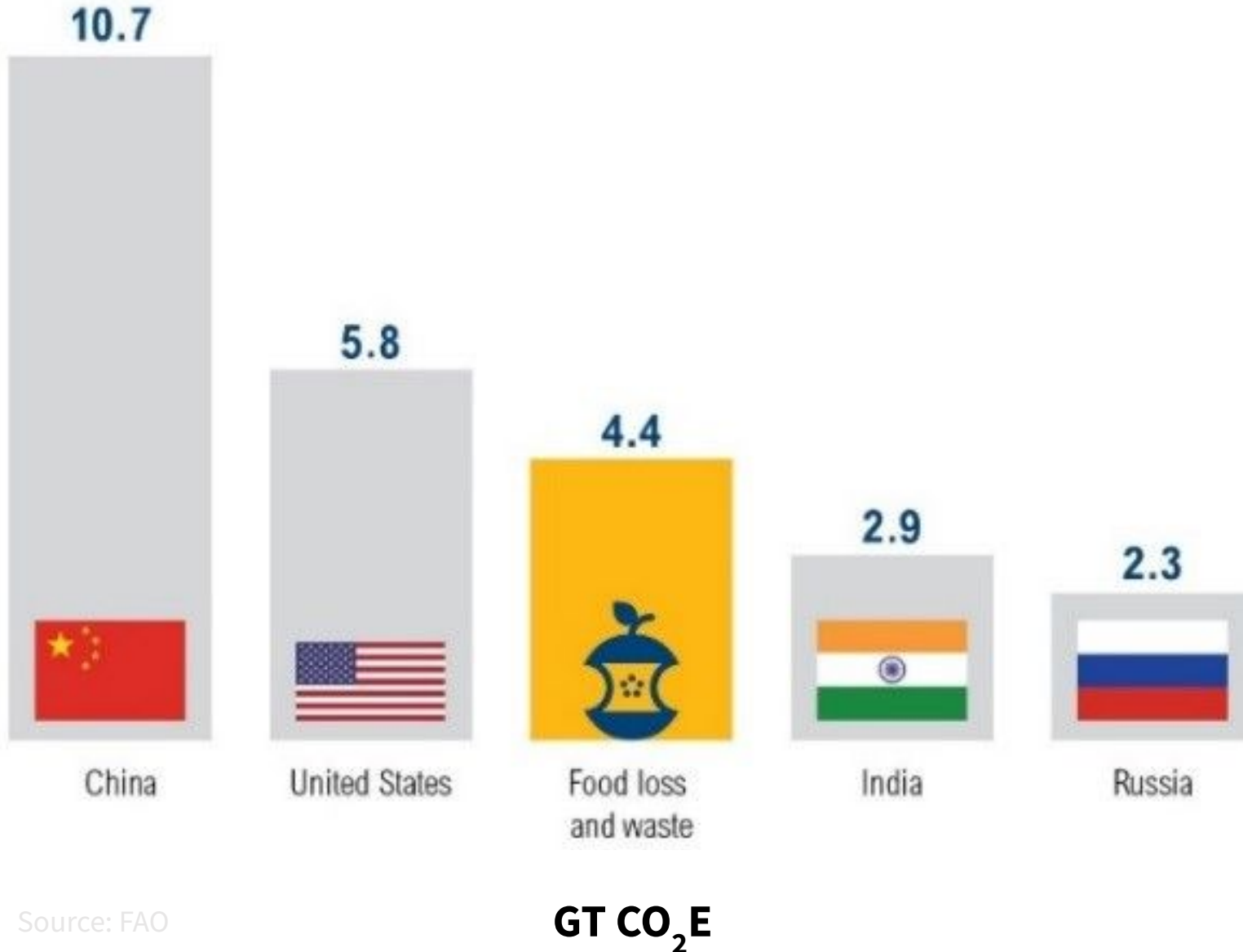
Turning organic waste into renewable hydrogen

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www.electroactive.tech

Problem: food waste



Source: FAO

>1B

Tons of food waste produced globally every year

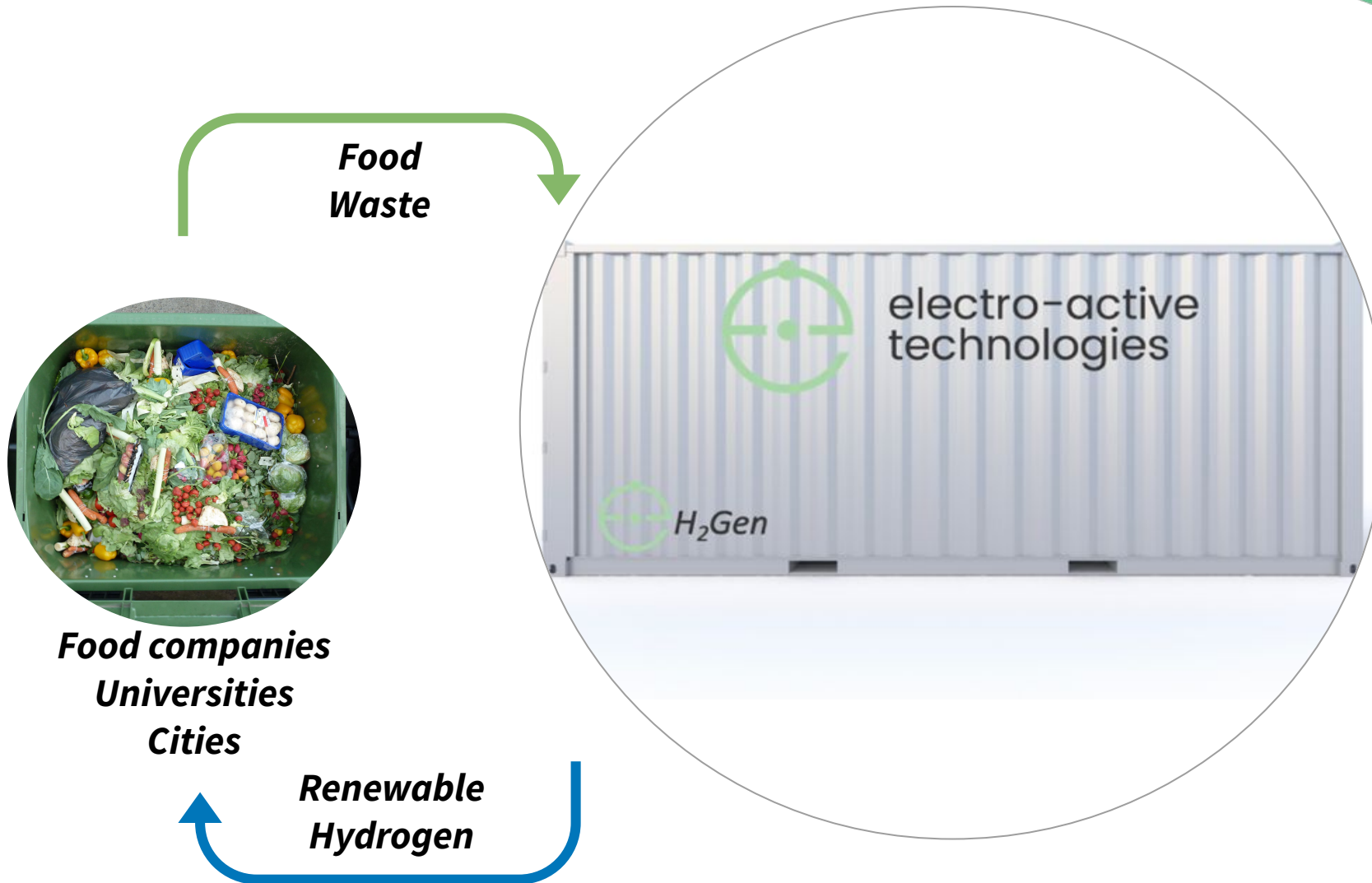
8%

Of global GHG emissions are due to food waste

\$2.5T

In economic, environmental, and societal costs

Onsite food waste to hydrogen

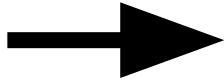


- Technology packaged into modular system
- Scalable to meet customer needs
- Adaptable to almost any organic waste stream
- Drastically reduces downstream waste transportation

Process flow



Food waste



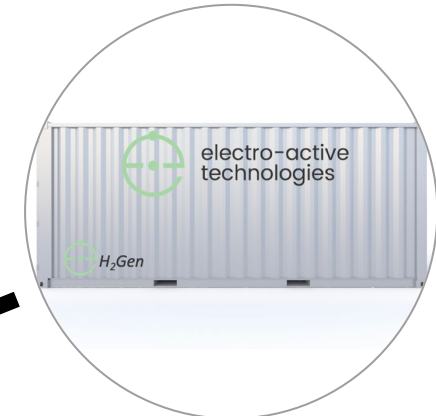
Feed hopper



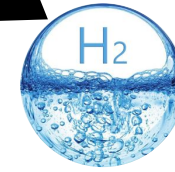
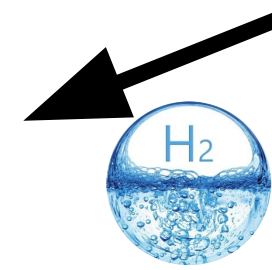
Squeeze/press

Compost etc.
Solids (20% by wt.)

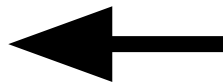
Liquid (80% by wt.)



eH₂Gen System



Purification/compression



Storage



End-use

Growing hydrogen applications



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Forklifts



Backup/continuous power



Fleets and transport

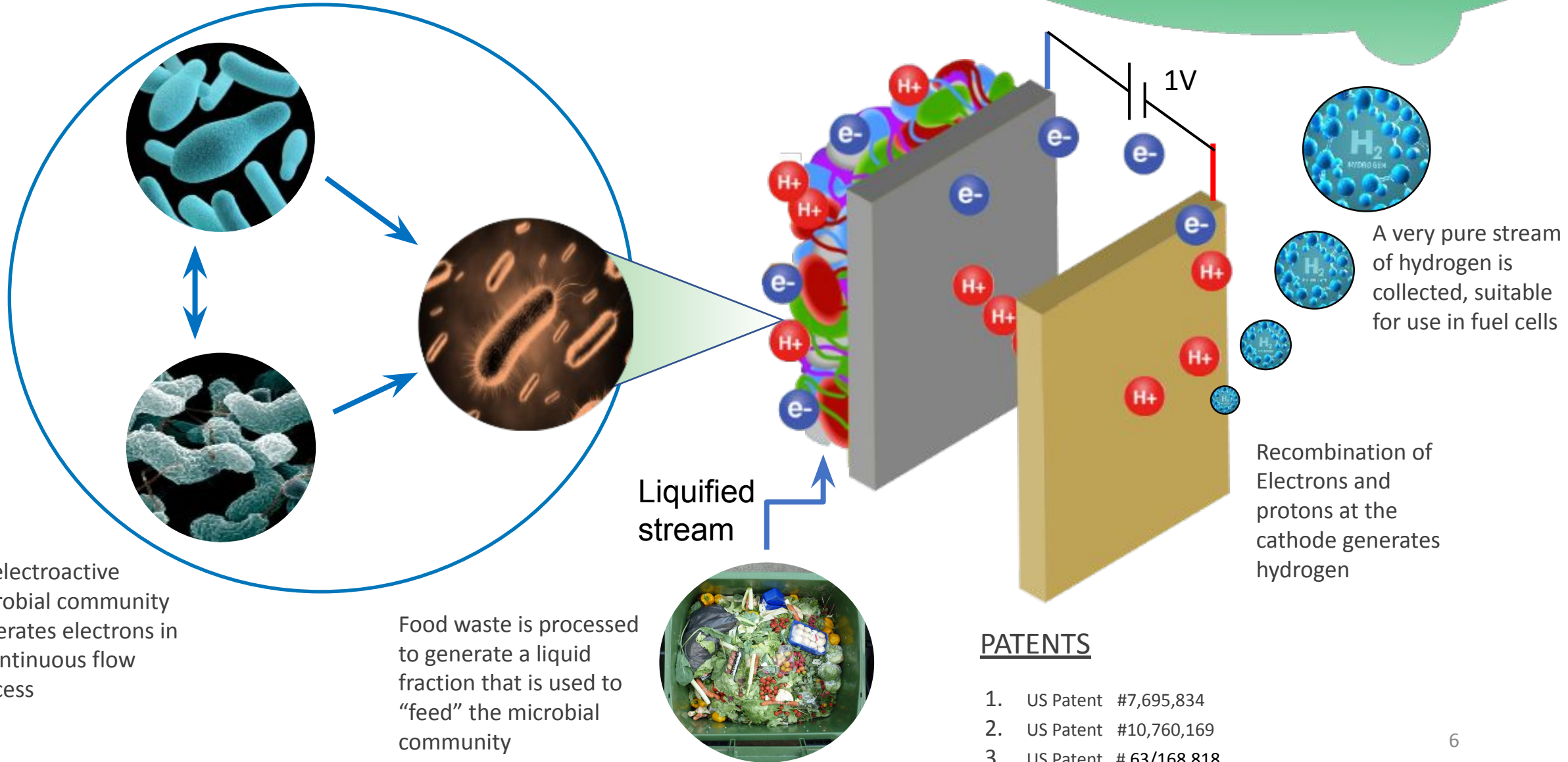


Novel biological-electrochem process

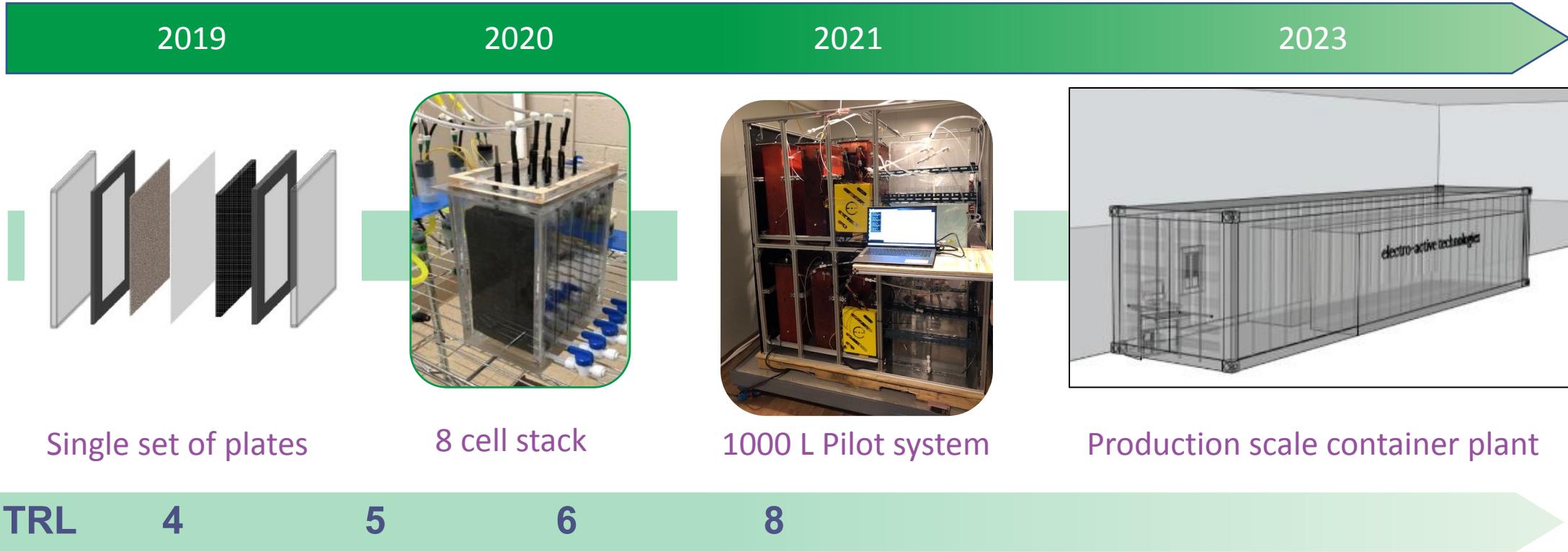
10+ Years of R&D at Oak Ridge National Laboratory



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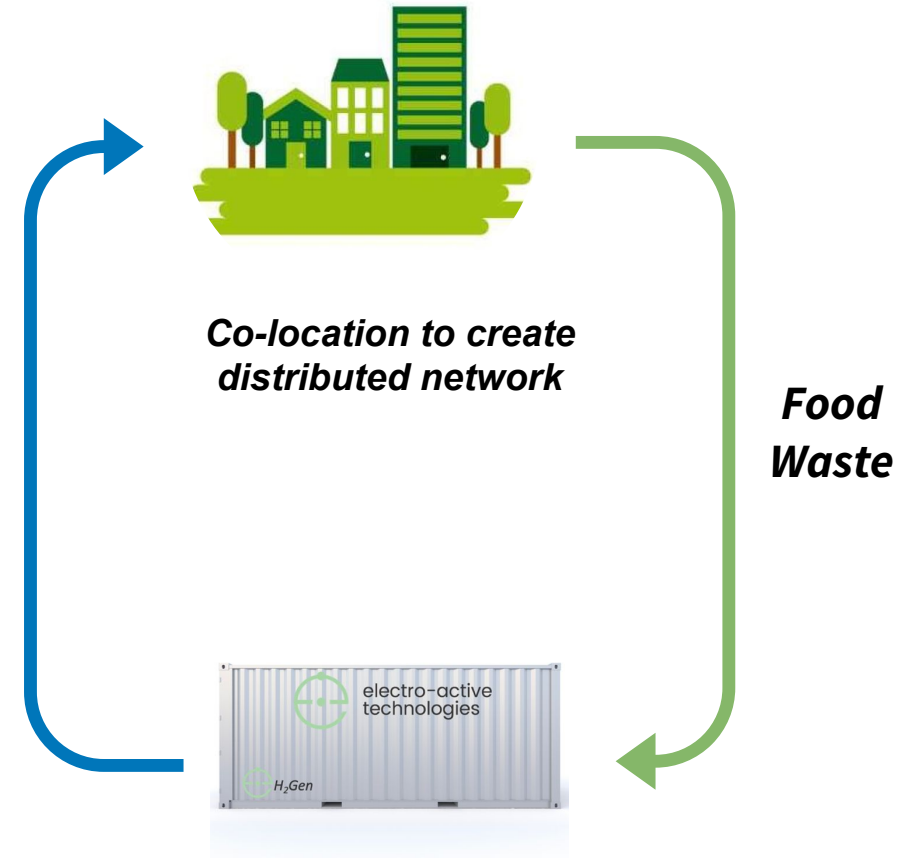
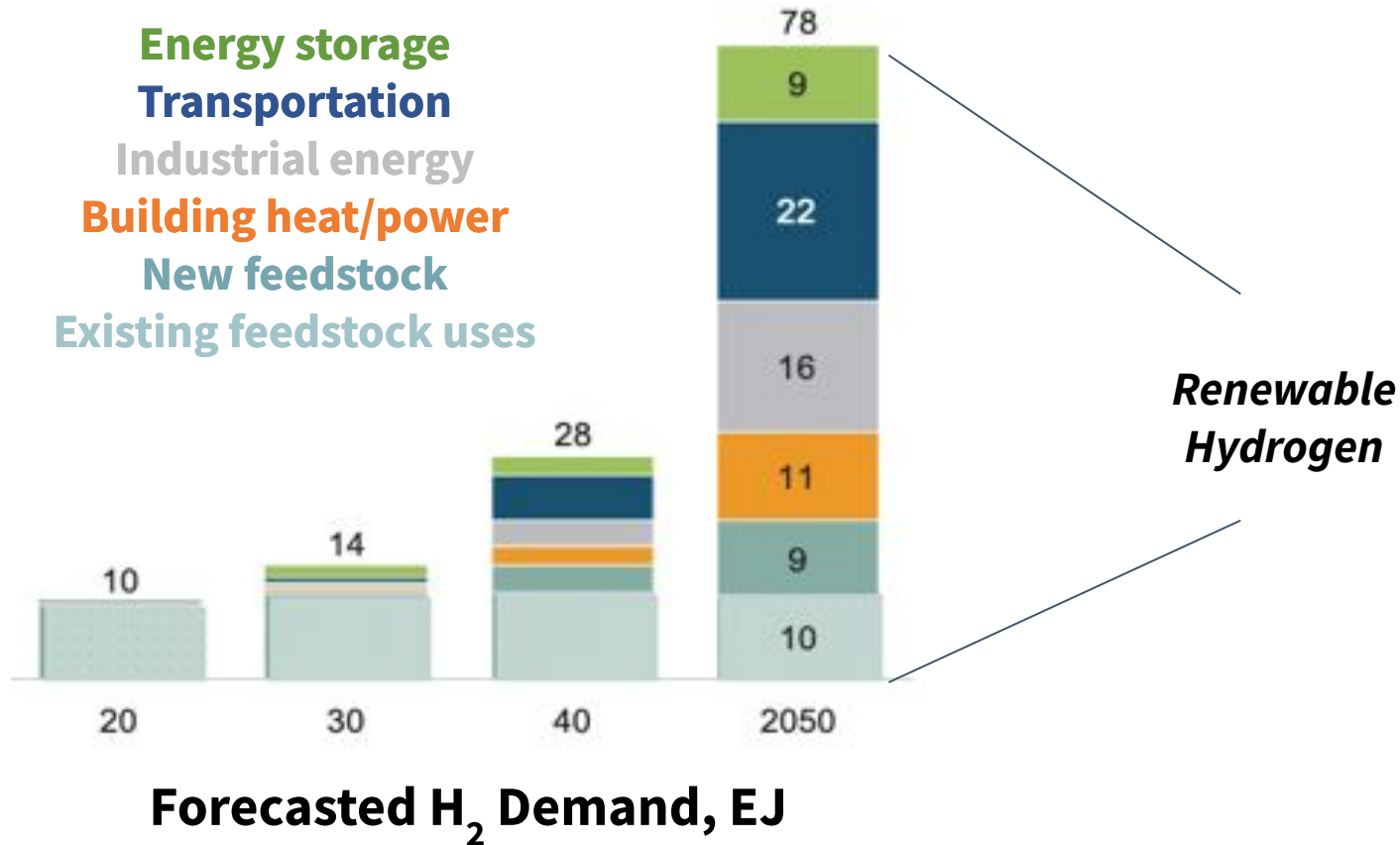
Scale-up



Stack approach, replicating units to make larger systems

Scale to container plants in the next two years

Addressing two needs with one technology

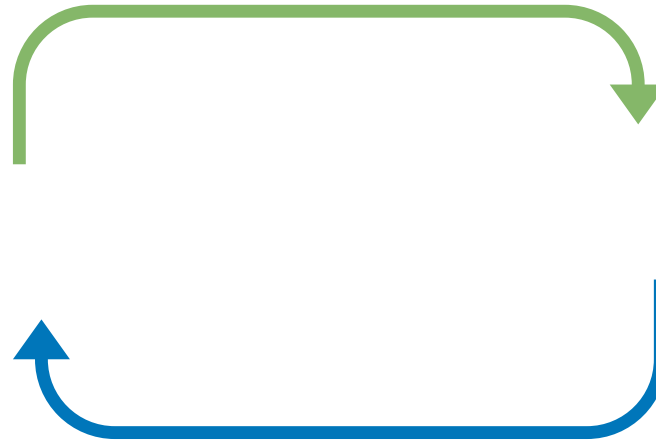


Hydrogen has massive potential for decarbonization across industries, waste to hydrogen pathway can unlock this

Electro-Active dual impact



Food Waste



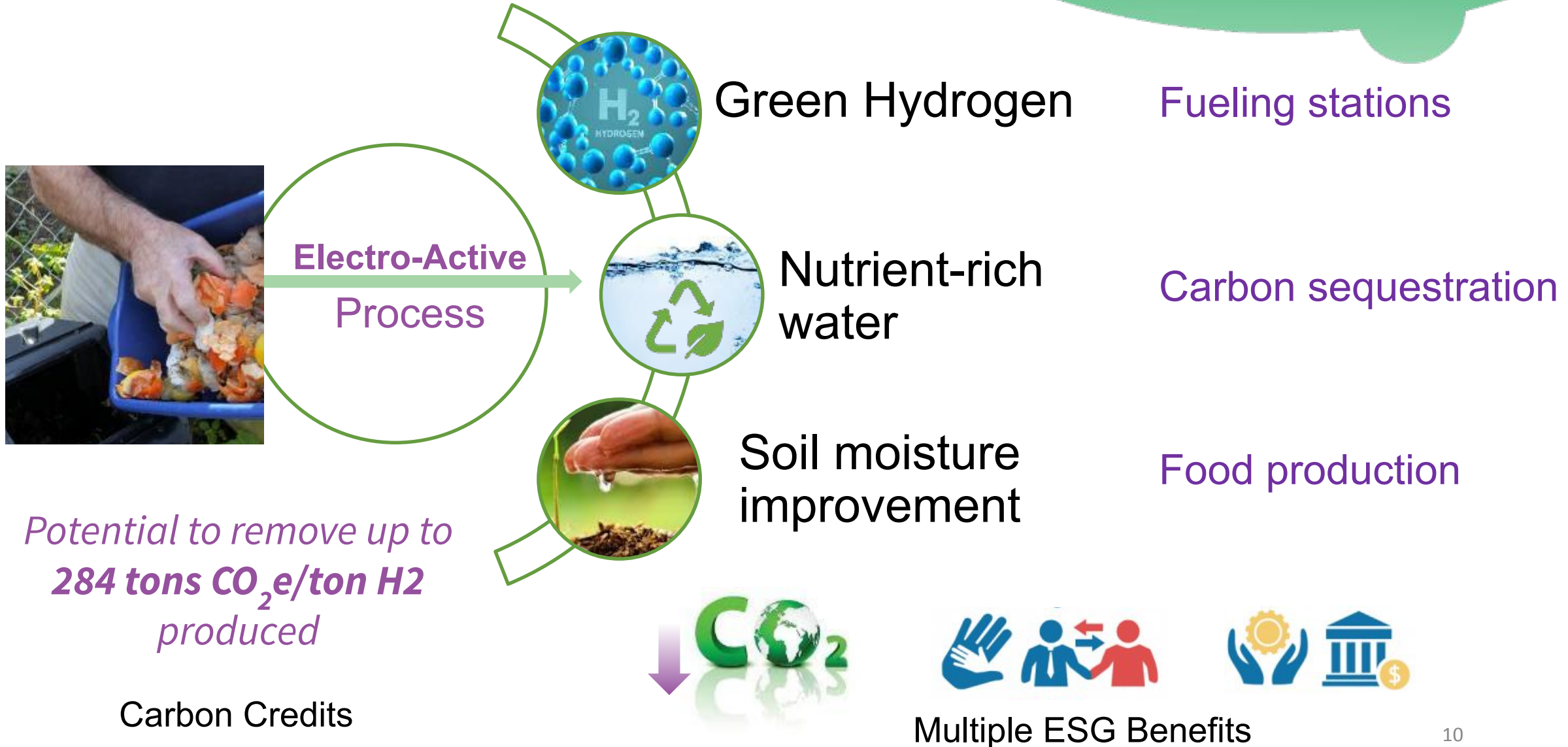
Renewable Hydrogen

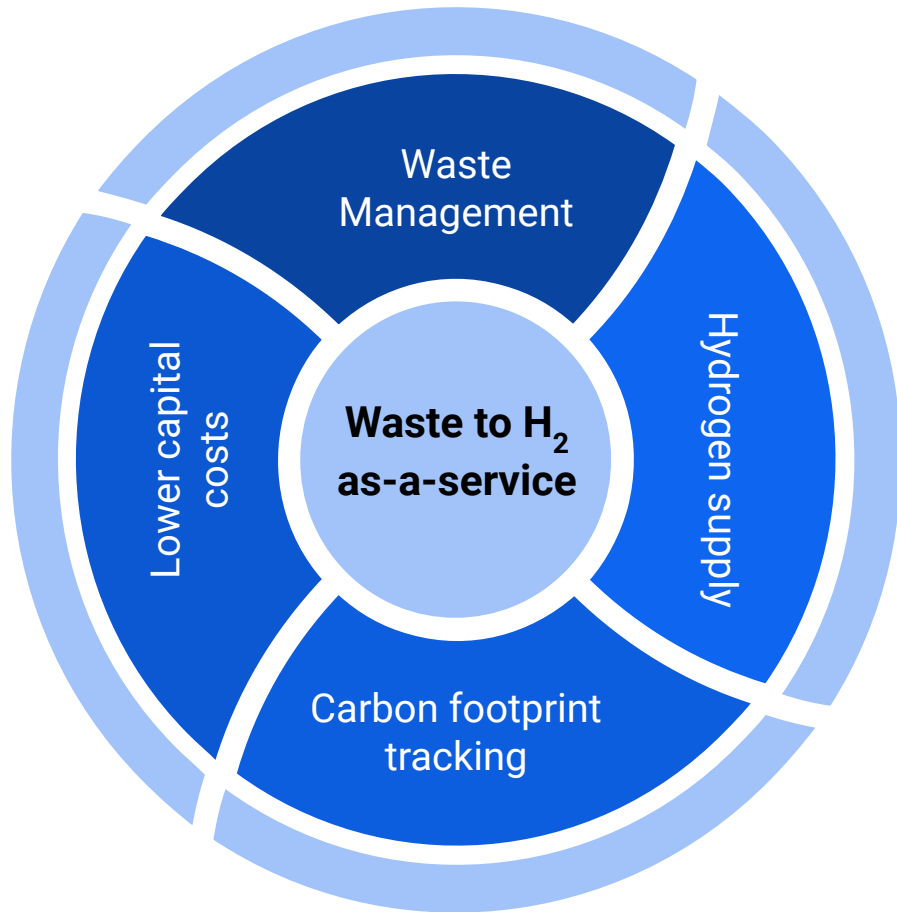


Abating emissions from waste transportation and landfills

Offsetting transportation and use of fossil fuels

A holistic approach towards a circular and inclusive economy



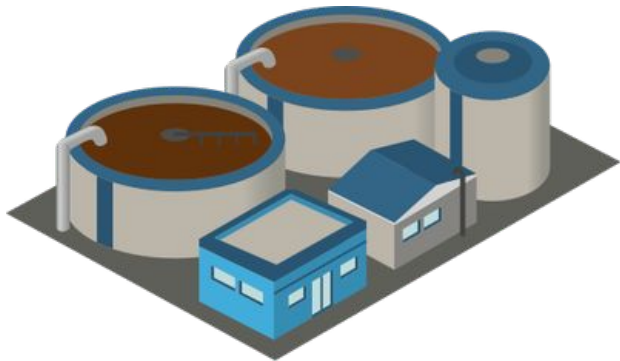


\$fee/ton food waste

- Service model reduce burden on customer and enables immediate savings
- Waste management solution and hydrogen supply with carbon footprint tracking
- Pilot pipeline: Municipal food waste (Korea), winery (CA), utility (TN), grocery chain (NY)

Competitive advantages

Anaerobic Digestion



EAT system requires 49% less Capex to process same amount of food waste, and 61% less Opex

Electrolysis



EAT system requires 43% less electricity to produce 1kg, and provides waste management

Gasification



High CapEx, low tolerance for moisture in feedstock, negative perception with incineration

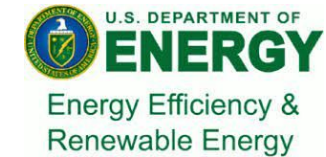
Traction and Progress



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NREL Outstanding Venture Award



2019

2020

2021

2022

*\$250k note
\$450k grant*

\$1.4M seed phase I

\$1M DOE grant

Raising \$1.2M

Bench-top

Alpa prototype

Beta prototype

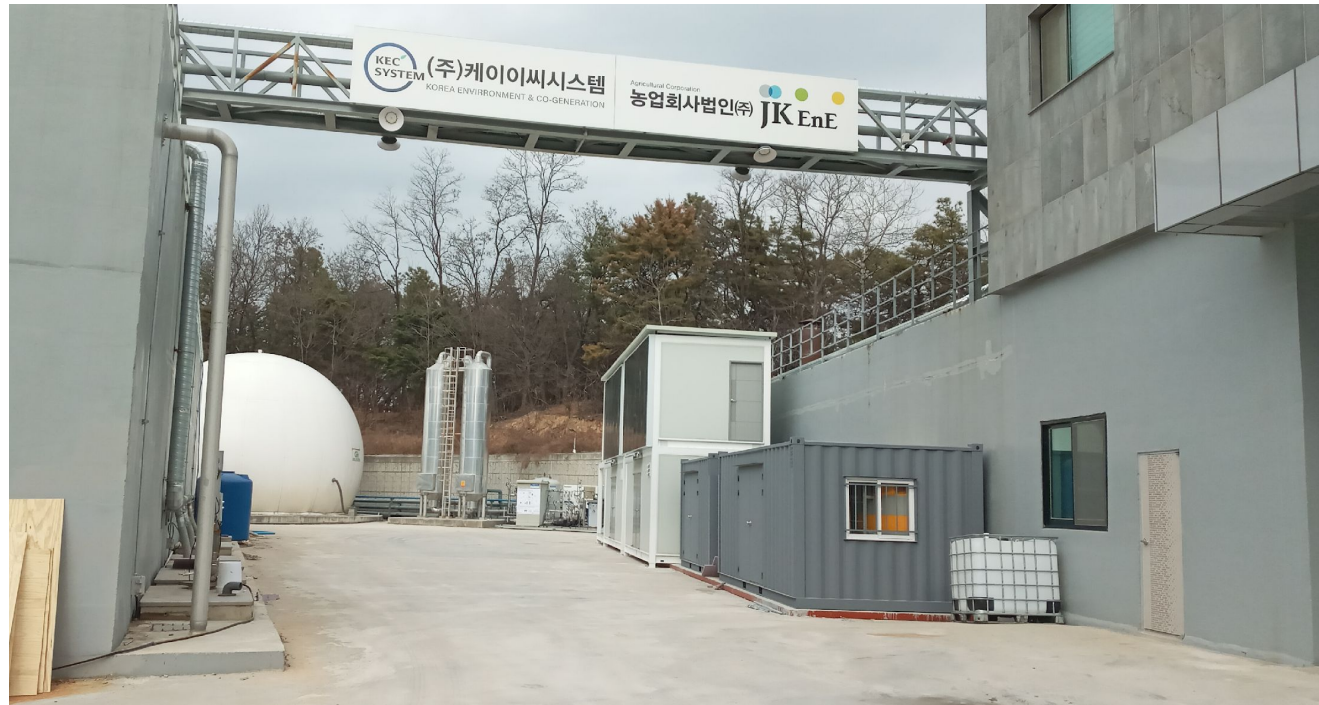
Pilots

Customers

South Korea project



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*Co-location at food waste treatment
plant, commenced Jan 2022*

Why California?



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- **Vast feedstocks**
 - Food processing waste, Agricultural waste, source separated organics
- **Climate policy driving decarbonization**
 - Needs in food industry, transportation sector
- **Developing ecosystem**
 - SB1383, LCFS incentives, Existing hydrogen FC market
 - Ideal for first pilot and market entry
- **Vision for project**
 - Demonstration of MVP (m³ pilot unit) in Los Angeles with multiple stakeholders



CALIFORNIA
ENERGY
COMMISSION



Thank you!



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