Tsubame BHB

Feed the world, Fuel the world.

Revolutionizing Ammonia Production for a Sustainable Future!

3 KEY WORDS to describe Tsubame BHB

University born Start-up

A Japanese Start-up from Institute of Science Tokyo, established April 2017

Electride Catalyst

The core of Innovative ammonia synthesis “Electride Catalyst”

Flexible & Distributed

Revolutionise Ammonia supply chain with Flexible & Distributed production system

Tsubame BHB supports the following United Nations Sustainability Development Goals (SDGs)

What's Ammonia?

Commodity chemical.

Annual production
200 mill. tons

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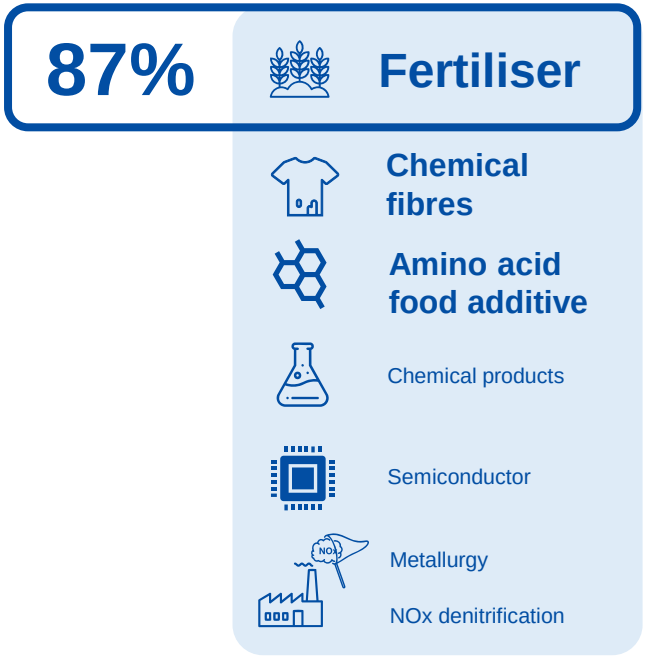
What's Ammonia?

Essential feedstock for fertilizer and other industrial uses.

Conventional



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What's Ammonia?

Growing expectation as CO_2 Free Fuel and Hydrogen career.

Conventional

87%

- Fertiliser
- Chemical fibres
- Amino acid food additive
- Chemical products
- Semiconductor
- Metallurgy
- NOx denitrification

New

CO_2 Free Fuel

- Maritime fuel
- Power generation

Hydrogen carrier

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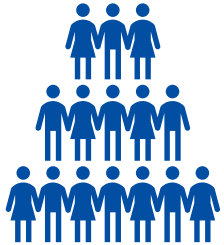
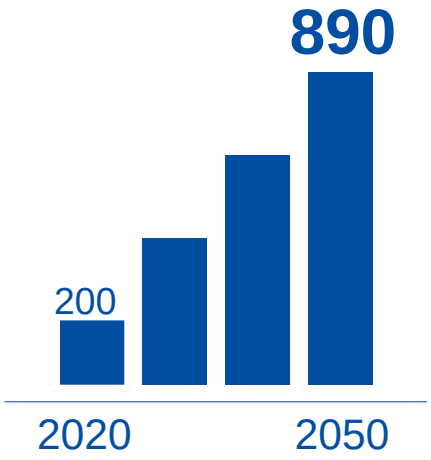
We need more ammonia



World population reaches 9 billion in 2050.

Ammonia market forecast (mill. tons)



Resource: IRENA and IHS Markit

We need more fertilizer and more fuel.

We need more ammonia.

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2 issues in Ammonia Industry

Production is limited in fossil fuel rich countries.

Significant amount of CO_2 emission in its production

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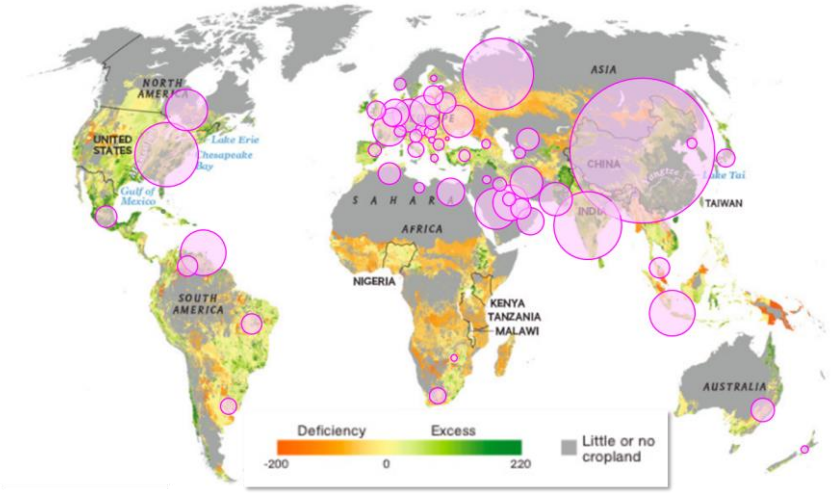
Ammonia issue

Production in fossil fuel rich country.



Ammonia Production country.

Resource: Tsubame BHB

Other countries depends on import.

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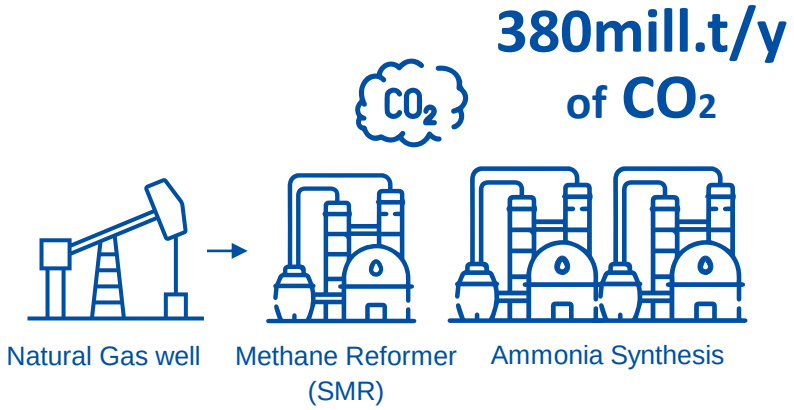
Ammonia issue

Currently 380mill.t/y-CO_2 emission in its production.

1~2% of the World Total CO_2 emission.



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Tsubame BHB's drives transformation

Production is limited in fossil fuel rich countries.

↓

Distributed production

Significant amount of CO_2 emission in its production

↓

Green Ammonia

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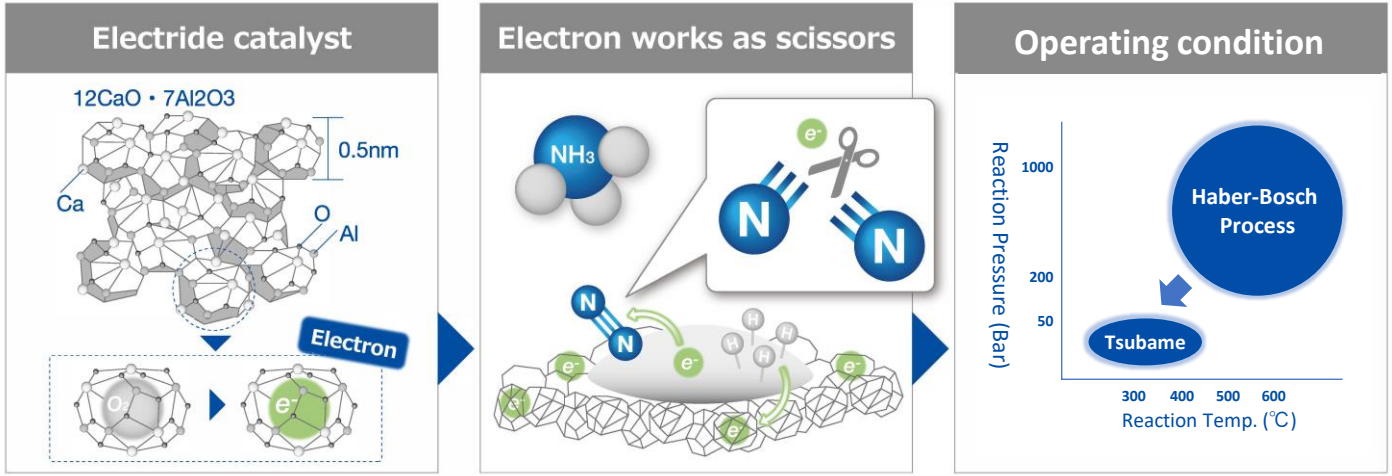
Our Core Technology

Electride Catalyst

Ammonia synthesis at lower temperature and pressure



Tsubame's Electride catalyst enables the ammonia synthesis reaction at around 300-400°C and 50-80 bars, a lower temperature and lower pressure than existing technology.
The ammonia synthesis reaction under mild condition has high potential to reduce energy consumption and plant cost.

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Flexible Ammonia Production responding to the client needs

	Distributed (Module system)	Large-scale Green Ammonia
Application	Fertilizer& industrial Products	CO2 free fuel Hydrogen career
Capacity	~100,000t/y	100,000t/y~ 1,000,000t/y

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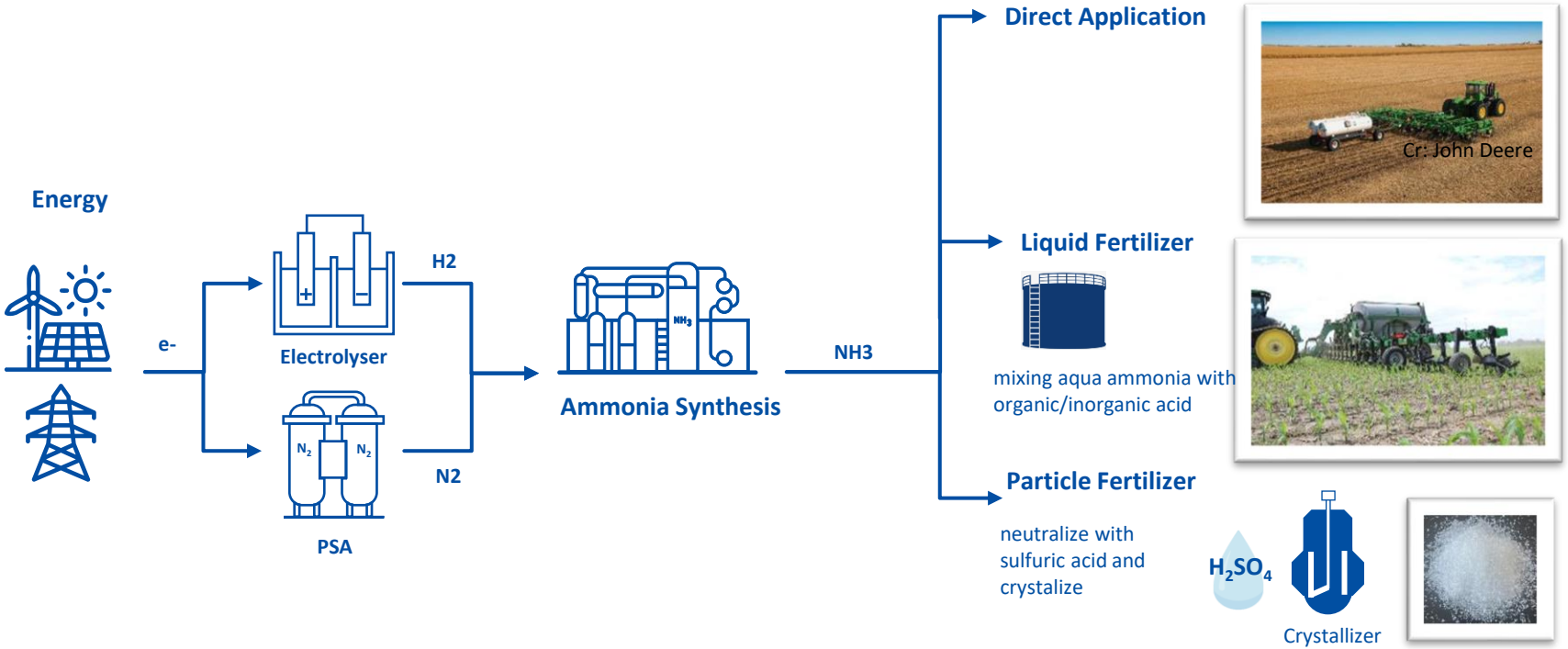
Low Carbon Fertilizer Production Model



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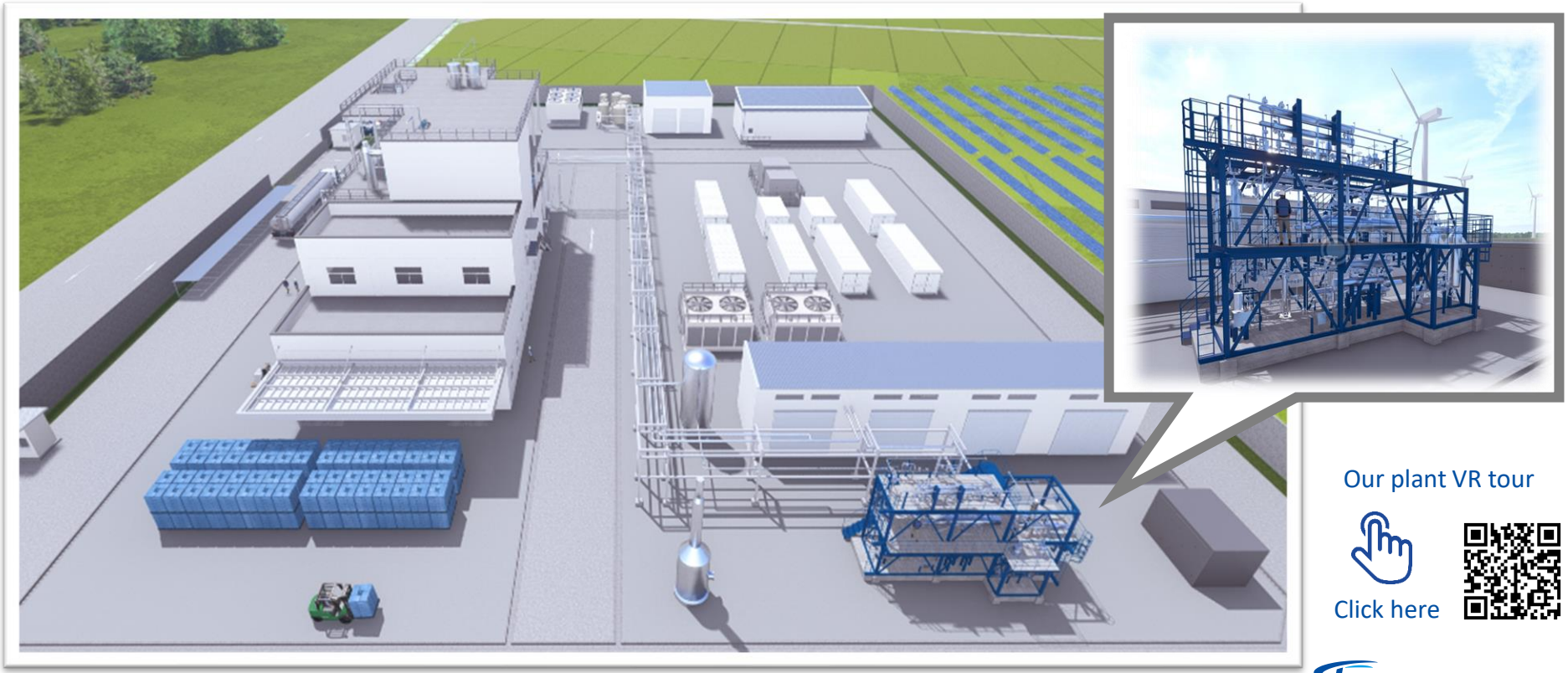
Distributed | Large-scale Green Ammonia

Low Carbon Fertilizer Plant Image



Our plant VR tour

Click here

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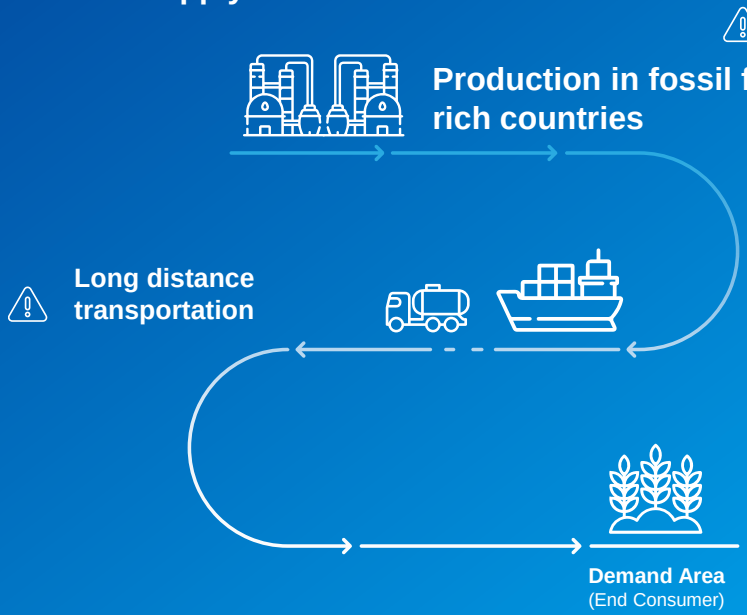
Distributed | Large-scale Green Ammonia

Stable Ammonia and Fertilizer Local Production

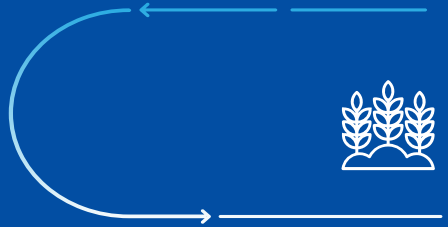
Current Supply Chain



Tsubame BHB's Solution

Distributed Production

Significant CO_2 reduction in transportation



in Demand Area
(End Consumer)

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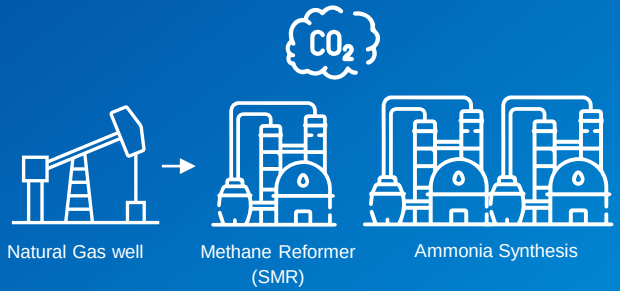
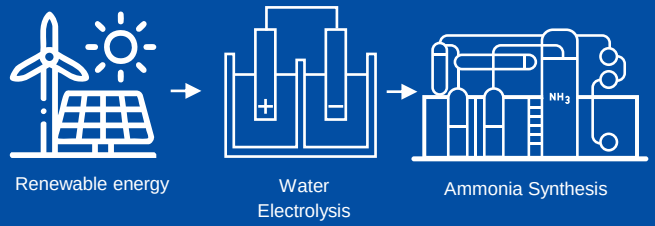
Distributed | Large-scale Green Ammonia

Green Ammonia Production for Decarbonization



Grey Ammonia production



Green Ammonia production

- ✓ 1.6~2.0t-CO_2/t-NH3 reduction.
- ✓ 380mill.tonnes-CO_2/y reduction.

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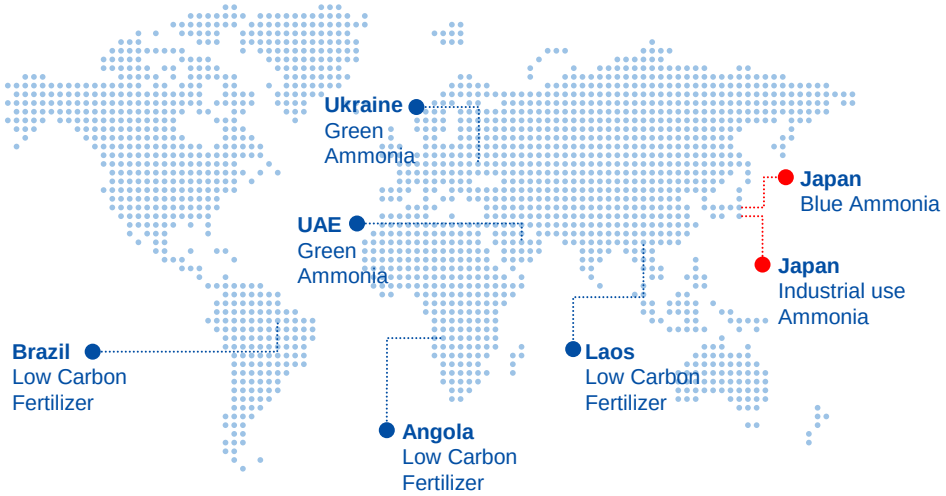
Two commercial plant orders in Japan.
Several projects under discussion with global client.



Blue Ammonia Plant

Country: Japan
Capacity: 500t/y
Client: INPEX
Project: Kashiwazaki Clean Hydrogen/Ammonia
Operation: 2025 August

Ammonia Plant

Country: Japan
Capacity: 500t/y
Client: Confidential
Application: Industrial
Feed: 2024 January-2024 June
Award: 2024 August
Operation: 2026 August

Ammonia for Low Carbon Fertilizer

Country: Brazil
Capacity: 5,000t/y
Client: Sugar and bioethanol factory
Application: Low Carbon Fertilizer
Feasibility Study: 2024 April

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Join us in building a sustainable future

Watch our Demo Plant Video Tour

Welcom to our plant VR tour

Contact us for partnership opportunities and investment inquiries:

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