



Feed the world, Fuel the world

Revolutionizing Ammonia Production for a Sustainable Future!



Who we are;

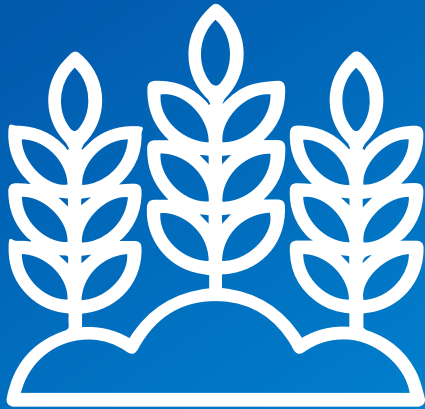
3 KEY WORDS to describe Tsubame BHB

1. Deep-tech startup out of institute of Science Tokyo, in cooperation with Prof. Emeritus Hosono and Prof. Kitano
2. Innovative catalyst & process
3. Flexible & small-scale ammonia process



Context: Why Ammonia Matters?

Existing Market 200 mill. tons annual production.



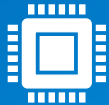
87% Fertilizer



Chemical
fibres



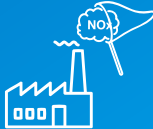
Chemical
products



Semiconductor
nitride film



Food
additive



NOx detoxification

New Market



Marine Fuel



Power
Generation

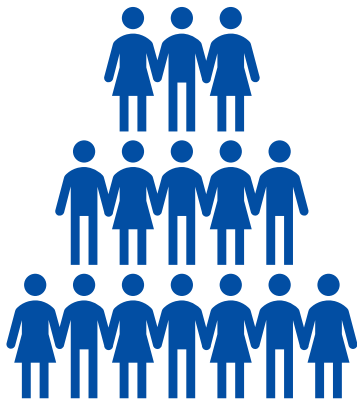


Hydrogen
Career

We need more Ammonia to *Feed and Fuel* the growing world population

World population

9 billion in 2050

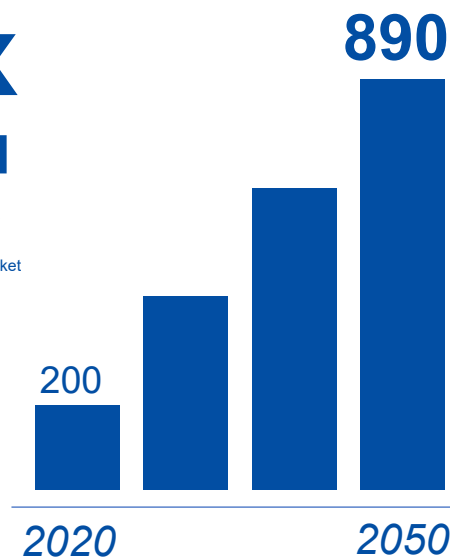


Ammonia market forecast (mill. tons)

4.5x

**Demand
by 2050**

source: IRENA and IHS Market

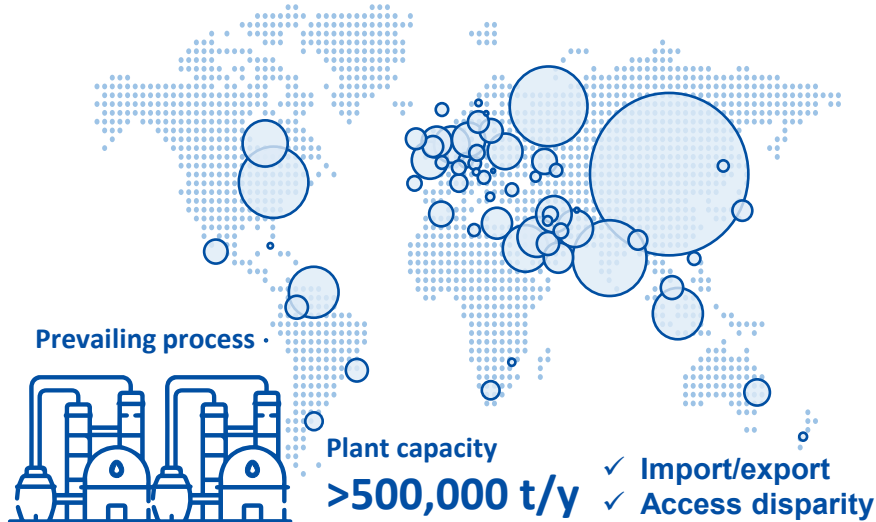


Challenge & Solution

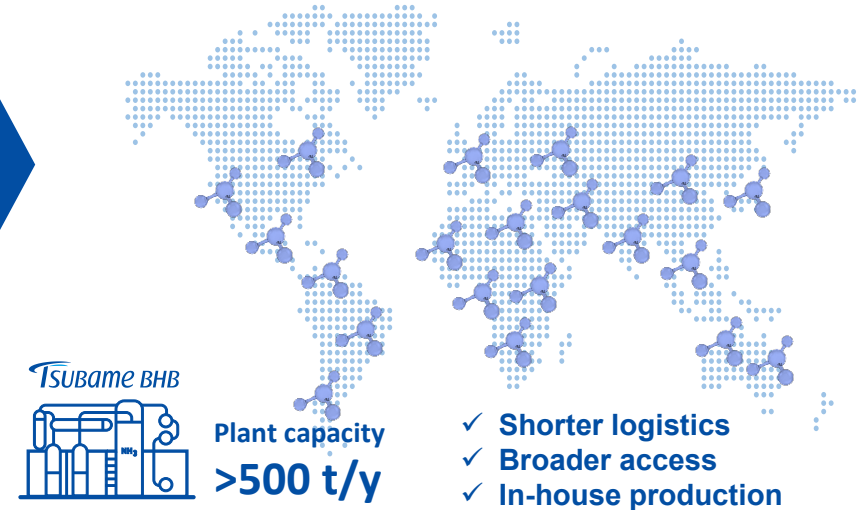
Tsubame BHB drives Transformation of Ammonia Production

Centralised to distributed = Improved Access

Uneven distribution of production site in wealthy & oil rich Areas

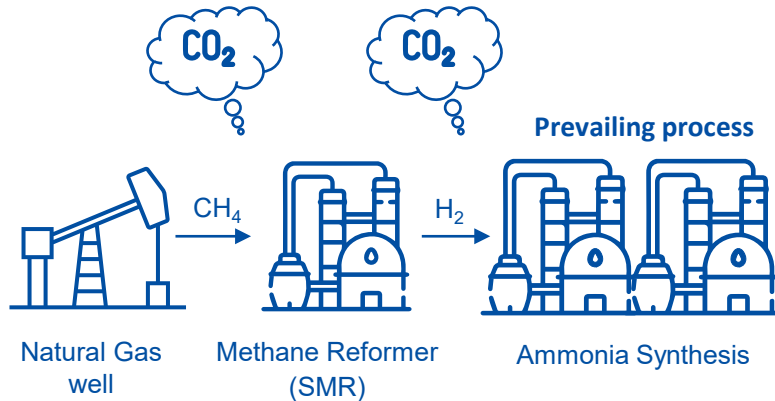


Distributed production with small-scale modules anywhere ammonia is needed



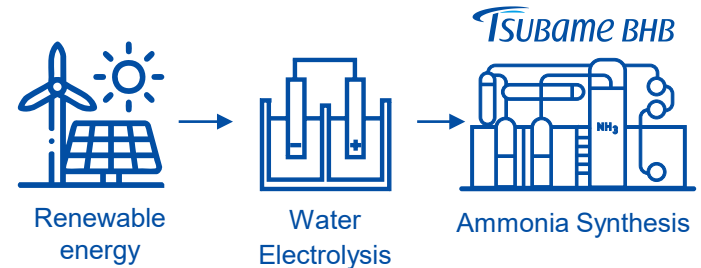
Large- to Small-scale = Grey to Green

**Responsible for 1-2% of
World Total CO₂ Emission**
from production only



✓ Supply chain dedicated for large scale production

**Decarbonise
ammonia production**
by renewable energy & Tsubame's
small-scale module combination



✓ Matching scales of green energy, hydrogen and ammonia

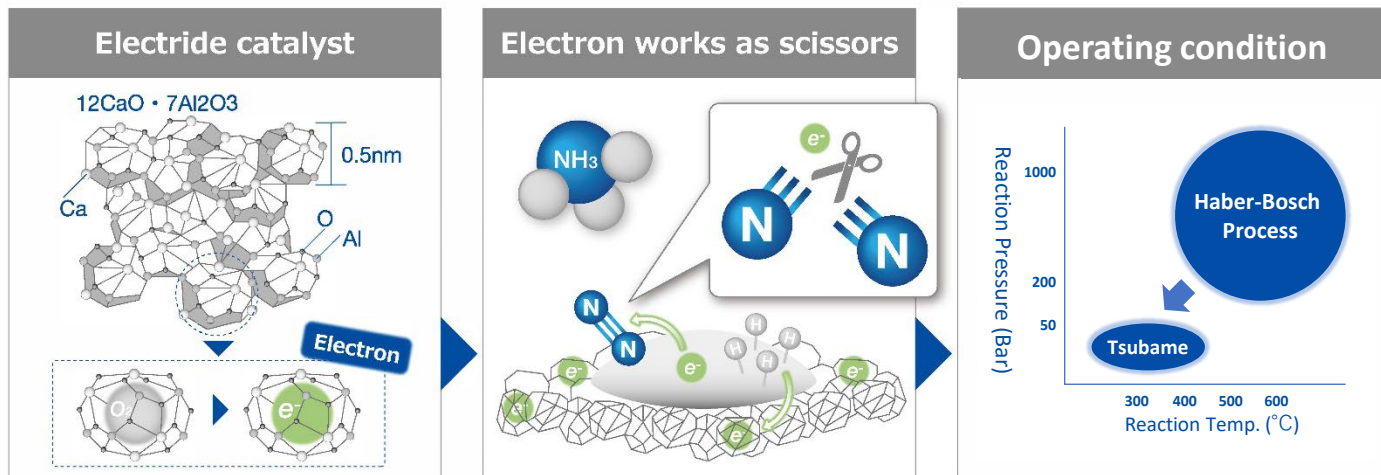
Tsubame BHB's business and technology

Innovative Ammonia Synthesis Catalyst



Electride Catalyst

Catalyst is the key for synthesis
at lower temperature and pressure



Milder condition enables plant at smaller scale

Flexible Ammonia Production as clients need

Modular System

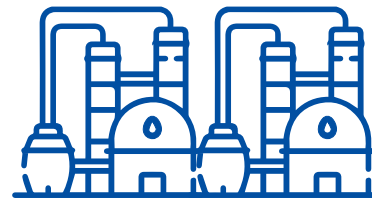
for fertiliser & Industrial application



- ✓ Capacity: 500t/y, 5,000t/y, 20,000t/y
- ✓ Availability: On sale

On-site construction system

for energy application



Catalyst



Basic Design

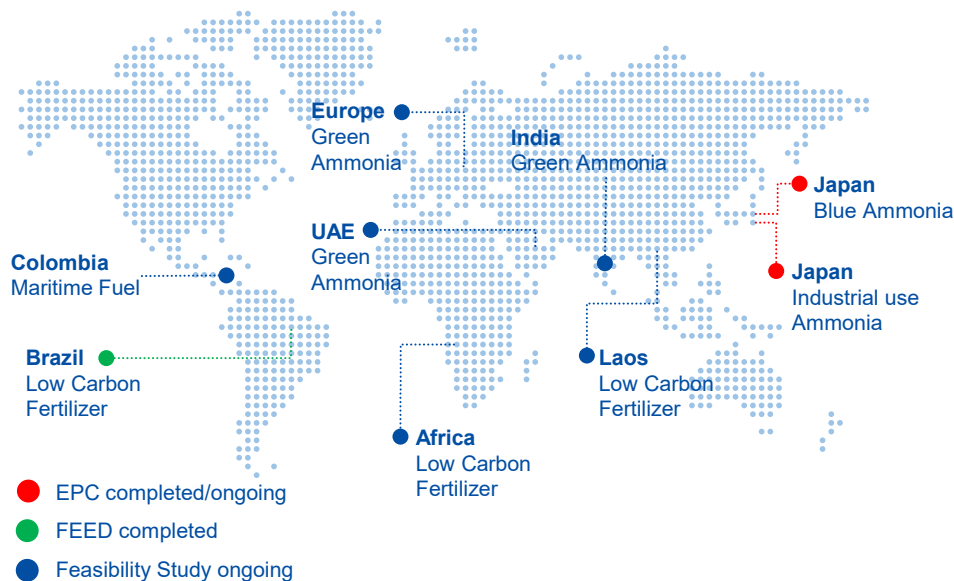


License

- ✓ Capacity: 100,000~1,000,000t/y
- ✓ Availability: Start offering 2030

First 2 plants soon to be online in Japan, More to come with global clients

Our Global footprint



Blue Ammonia Plant

Country: Japan
Capacity: 500t/y
Client: INPEX
Project: Clean Hydrogen/Ammonia
Completed: 2025 End



Ammonia Plant

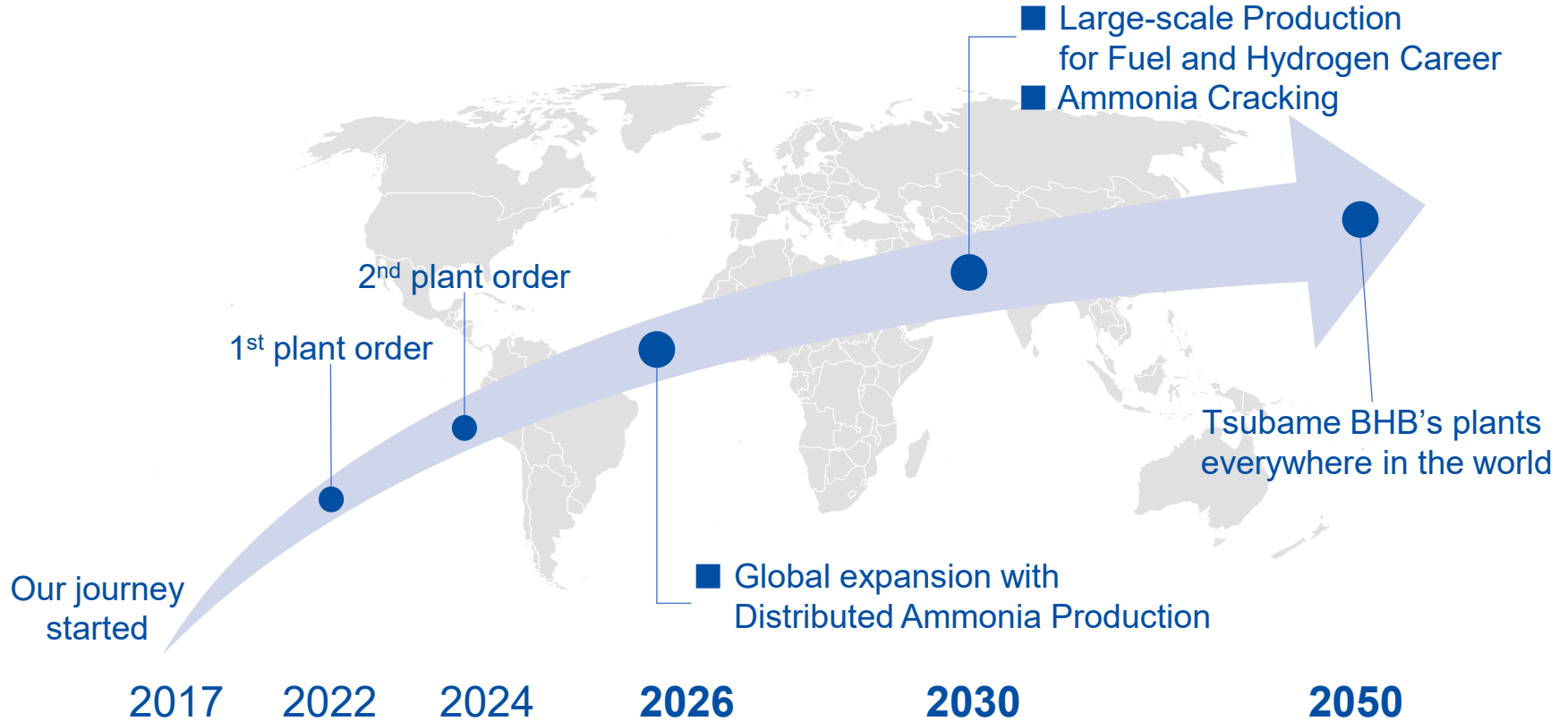
Country: Japan
Capacity: 500t/y
Client: Confidential
Application: Industrial
Operation: 2026 August



Ammonia for Low Carbon Fertilizer

Country: Brazil
Capacity: 5,000t/y
Client: Sugarcane industry
Application: Low Carbon Fertilizer
Feasibility Study: on-going

Our Growth Strategy



TSUBame BHB
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Thank you for listening