

Tsubame BHB's ammonia synthesis facilities to INPEX's Kashiwazaki Hydrogen Park begins trial production

Tsubame BHB Co., Ltd. (Head Office: Yokohama, Kanagawa Pref.; CEO: Koji Nakamura), announced that it has initiated trial operations in small, low-temperature, low-pressure ammonia synthesis facilities using Tsubame BHB's original electrified catalyst technologies, and has confirmed production of ammonia during the trial operation of ammonia manufacturing facilities on a commercial scale. The ammonia synthesis facilities introduced on the "Blue hydrogen and ammonia production and utilization demonstration project" (Kashiwazaki Hydrogen Park) undertaken by INPEX Corporation were ordered and implemented by Daiichi Jitsugyo Co., Ltd., and represent the first order for Tsubame BHB's commercial facilities.



Image: Small ammonia synthesis facilities installed at INPEX as Tsubame BHB's first commercial facilities

■ Producing ammonia using low-temperature, low-pressure processes

Tsubame BHB is unique in that it offers production processes at a lower temperature and lower pressure than the conventional Haber–Bosch process, enabling on-site production close to the demand.

The facilities being introduced to this project have the following features:

- Ammonia production capacity of 500 tons/yr.

- Compact design enabling on-site installation

This will be the first case in Japan for the demonstration of next-generation ammonia production using blue hydrogen (derived from Japanese natural gas) as a raw material.

Demonstration tests conducted by INPEX are the first model of “local production, local consumption” in Japan (based on INPEX’s announcement), encompassing the full range of processes, from the production of blue hydrogen and ammonia to the recovery and underground storage of CO₂ (carbon capture, utilization, and storage (CCUS)), the supply of power using hydrogen power generation, and supply of ammonia to users.

Tsubame BHB has delivered small synthesis facilities using original low-temperature, low-pressure ammonia synthesis processes, enabling on-site production where it is needed.

These facilities have received an outstanding response from INPEX for outstanding process safety and their ability to dramatically reduce pressurization power for the raw material gas. INPEX’s

*Ref:press release “Kashiwazaki Hydrogen Park Opens in Kashiwazaki, Niigata Prefecture, Japan - To Support Blue Hydrogen and Ammonia Production and Utilization Demonstration Project -”; November 21, 2025

■ Comment from the CEO

It is a great honor to report that we have confirmed trial production of ammonia using Tsubame BHB’s first small commercial ammonia facilities on INPEX’s blue hydrogen and ammonia production and utilization demonstration project said Tsubame BHB CEO Koji Nakamura. This is a very meaningful project, and the first of its kind in Japan. By introducing Tsubame BHB’s facilities, I hope that we can gather data that will contribute to further increasing the competitiveness of ammonia production, and advance the introduction of large-scale blue ammonia production facilities for future energy applications.

■ Future developments

In the future, in addition to the model with an annual production capacity of 500 tons, as introduced on this project, Tsubame BHB is also planning to roll out models with a 5,000-ton annual production capacity. The company has already received orders for two units in Japan, and is involved in ongoing discussions and collaborations aimed at introducing similar units in Brazil, Africa, and India.

By expanding on-site production in the future, the company will contribute to reducing ammonia transport and storage costs, as well as to reductions in greenhouse gas emissions, and will strive to achieve its vision of “Leveraging original technologies to

resolve critical issues faced by humans in relation to food and the environment, and achieving a sustainable society.”

■ About Tsubame BHB Co., Ltd.

Tsubame BHB is a deep tech company with a Vision of “Leveraging original technologies to resolve critical issues faced by humans in relation to food and the environment, and achieving a sustainable society.” Its goal is to contribute to building structures for the on-site production of ammonia at distributed plants, using technologies that synthesize ammonia at low pressures and low temperatures. Established in 2017, it uses electrified catalyst technologies developed by Professor Emeritus Hosono from the Institute of Science Tokyo (formerly the Tokyo Institute of Technology). It currently focuses its efforts on the overseas rollout of business mainly in countries in the Global South.

■ Major awards and achievements

Tsubame BHB has received accolades and recorded achievements on a societal and global level as a Japanese startup company.

In January 2025, Tsubame BHB was chosen to be a part of “2025 Global Cleantech 100,” comprising 100 promising global cleantech companies selected by the Cleantech Group. This is the first time* that a Japanese company has been chosen, and it means that Tsubame BHB’s low-temperature, low-pressure ammonia synthesis technology has been recognized as a globally innovative technology.

In 2023, Tsubame BHB had an exhibit at COP28 (in Dubai, United Arab Emirates), and at COP30, held in November of 2025 (in Belém, Brazil), it was selected as one of the companies exhibiting in the Japan Pavilion hosted by the Ministry of the Environment. Tsubame BHB’s technologies are recognized as concrete solutions that support decarbonization and climate adaptation, on the front lines of global climate change countermeasures.

Tsubame BHB is gradually building a new industry centered around distributed ammonia production plants and on-site production models, and is contributing to increased robustness in energy, chemical, and food infrastructures through process innovations that are not dependent on transport or storage.

*Quoted from CNET Japan, latest trends in global Cleantech (2025)

■ Company overview

Name: Tsubame BHB Co., Ltd.

Representative Director and CEO: Koji Nakamura

URL: <https://tsubame-bhb.co.jp/>

Head office: 2-3-12 Shin-Yokohama, Kohoku-ku, Yokohama, Kanagawa Pref.
Shin-Yokohama Square Building, 6F

Established: April 2017

Outline of business:

- R&D, sales, and facilities maintenance related to on-site ammonia supply systems
- R&D, manufacturing, and sales involving synthetic ammonia catalysts
- Manufacturing and sales of ammonia and ammonia-related products

Inquiries

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