Finnish company offering patented biological Power to Methane technology converting green hydrogen and CO_2 into renewable e methane seeks partners in Japan and Europe for demo, scale up, and commercial deployment

Summary

Profile type
Business Offer

Company's country
Finland

POD reference
BOFI20260407009

Profile status
PUBLISHED

Type of partnership
Commercial agreement

Targeted countries
- **Sweden**
- **Norway**
- **Denmark**
- **Japan**
- **Spain**
- **Germany**
- **Latvia**
- **Lithuania**
- **Estonia**

Contact Person
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Term of validity
7 Apr 2026
7 Apr 2027

Last update
7 Apr 2026

General Information

Short summary

Finnish Power to Methane company offers patented biological methanation that converts green hydrogen and CO_2 into renewable e methane. Its high efficiency (~81%), low temperature, catalyst free, modular systems enable direct replacement of fossil gas in existing infrastructure. The company seeks partnerships with gas utilities, energy and LNG actors, industrial CO_2 emitters and integrators in Japan, Nordic, Baltic, Germany and Spain for demonstration, scale up, and commercial deployment.

Full description

Finnish technology company is specialized in Power-to-X and biological methanation solutions that convert renewable electricity, green hydrogen, and captured CO_2 into synthetic methane (eMethane). Their patented methanation bioreactors use naturally occurring microbes to produce methane with high efficiency (up to ~81% from hydrogen to methane) at low temperatures, at near-atmospheric pressures and without rare metals or toxic catalysts.

The company delivers scalable and modular methanation systems, enabling efficient energy storage and replacement of fossil fuels in existing gas infrastructure e.g. city gas systems and industries that require high temperatures such as chemicals, steel, paper & pulp. It has demonstrated its technology in Finland's first industrial scale e-methane plant.

Solutions are suitable for industrial CO_2 emitters, renewable power producers, biogas plants, waste facilities, and e fuel developers aiming to replace fossil natural gas with renewable methane.

The company offers:
- Proven biological methanation technology converting green hydrogen and CO_2 into renewable methane
- High efficiency, modular, and scalable reactors suitable from pilot to industrial scale
- Techno-economic assessment and optimal system design tailored to local conditions and infrastructure

The company is seeking Japanese, German, Spanish, Nordic and Baltic partners to collaborate on the deployment, demonstration, and scaling of Power to Methane (e methane) solutions supporting transition toward carbon neutral gas supply.

Advantages and innovations

- Patented biocatalytic methanation using naturally occurring microorganisms instead of chemical catalysts
- Operates at low temperatures and pressures, reducing energy demand and improving system safety
- No rare metals or toxic catalysts, lowering environmental impact and supply chain risks
- High conversion efficiency (up to ~81% from hydrogen to methane)
- Strong tolerance to CO_2 impurities, making the technology well suited for industrial flue gases, biogenic CO_2 , and waste to energy applications
- Modular and scalable reactor architecture
- Produces synthetic methane chemically identical to fossil natural gas. Fully compatible with existing gas grids, LNG terminals, storage, and end use equipment
- methanation system able to receive raw biogas without any pre-purification - high levels of H_2 S tolerated along with siloxanes

Technical specification or expertise sought

Stage of development

Already on the market

Sustainable Development goals

- **Goal 11: Sustainable Cities and Communities**
- **Goal 9: Industry, Innovation and Infrastructure**
- **Goal 12: Responsible Consumption and Production**
- **Goal 7: Affordable and Clean Energy**
- **Goal 13: Climate Action**

IPR Status

IPR granted

IPR Notes

Partner Sought

Expected role of the partner

The company is seeking cooperation with:

- Gas utilities and city gas companies
- Energy companies and LNG value chain actors

- Industrial companies with CO_2 point sources (e.g. chemicals, steel, paper & pulp, waste to energy)
- Trading houses and energy solution integrators

A partner can bring:

- Access to CO_2 sources and/or green hydrogen
- Project sites or integration opportunities within existing gas or LNG infrastructure
- Joint interest in demonstration, scale up, or commercial deployment

Type of partnership

Commercial agreement

Type and size of the partner

- **Big company**
- **SME 50 - 249**
- **SME 11-49**

Dissemination

Technology keywords

- **06006011 - Fermentation**
- **06002003 - Enzyme Technology**
- **04005006 - Solid biomass**
- **06002008 - Microbiology**

Market keywords

- **06007001 - Other energy production**
- **06008 - Energy Storage**
- **06010003 - Energy for Industry**

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Sector groups involved

Media

PDF documents

QP Solutions for EEN.pdf
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Videos

Industrial scale biological methanation, first in Europe!