



Q Power solid state biological methanation

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POWER

CONCRETE SOLUTIONS FOR FIGHTING CLIMATE CHANGE

- Founded in 2019
- 15 + years of R&D
- Over 50 patents
- Unique and efficient biological methanation technology



The benefits on Q Power biocatalytic methanation

The heart of the Q Power process is the patented bioreactors. Unique structure and process enable the best process efficiency in the market, leading to low lifecycle costs. Due to the efficiency of the Q Power process, **the estimated annual electricity savings are significant** compared to other solutions.

Unique biological process.

Low energy losses and high plant efficiency 81%.

Robustness.

Methanation is tolerant to impurities, enabling variable input feeds.

Scalability.

The modular design allows redundancy and easy capacity increase.

Easy to operate.

Process stability and a high level of automation ensure easy operation.

Low operational costs

Minimized need for lifecycle maintenance due streamlined technical solution.

Efficiency has a particularly significant impact on operating expenses of synthetic fuels because the **cost of energy** makes up a large portion of the price of the synthetic fuel produced.

Over 15 years of Power-to-X experience

1st generation
methanation module
modular design

2017

ST1 methanating
CO₂ side stream
**from bio-
ethanol** production

2019

Strategic **Power-
to-Methane**
cooperation begins
with Kerava Energy

2021

P2X Solutions and
Q Power agree on the
**first industrial-scale
(3MW) e-methane**
production facility

2022-

2nd generation
Methanation reactor
design started. Aiming
for wider capacity,
more efficiency and
less steel

2023

Synferm Pilot in
Sweden. **Syngas**
methanation with
Cortus Energy

2024

2007 →
MTT, LUKE

Piloting, Commercializing

Industrial Scale

Electrolyzer test
platform built and
operated at Qvidja

2018

A successful pilot:
**low-quality
landfill gas**
methanized in Salo

2020

The world's smallest
methanation plant:
**Wärtsilä @ Dubai
World Expo**
Demonstration unit

2021

Waste-to-Energy
pilot at **Fortum's**
Riihimäki waste
incineration plant

2022

**H₂ and CO₂
solutions'**
commercialization,
engineering and
design

2023 -2024

**First industrial
scale eMethane
plant** running in
Harjavalta

2025



HARJAVALTA

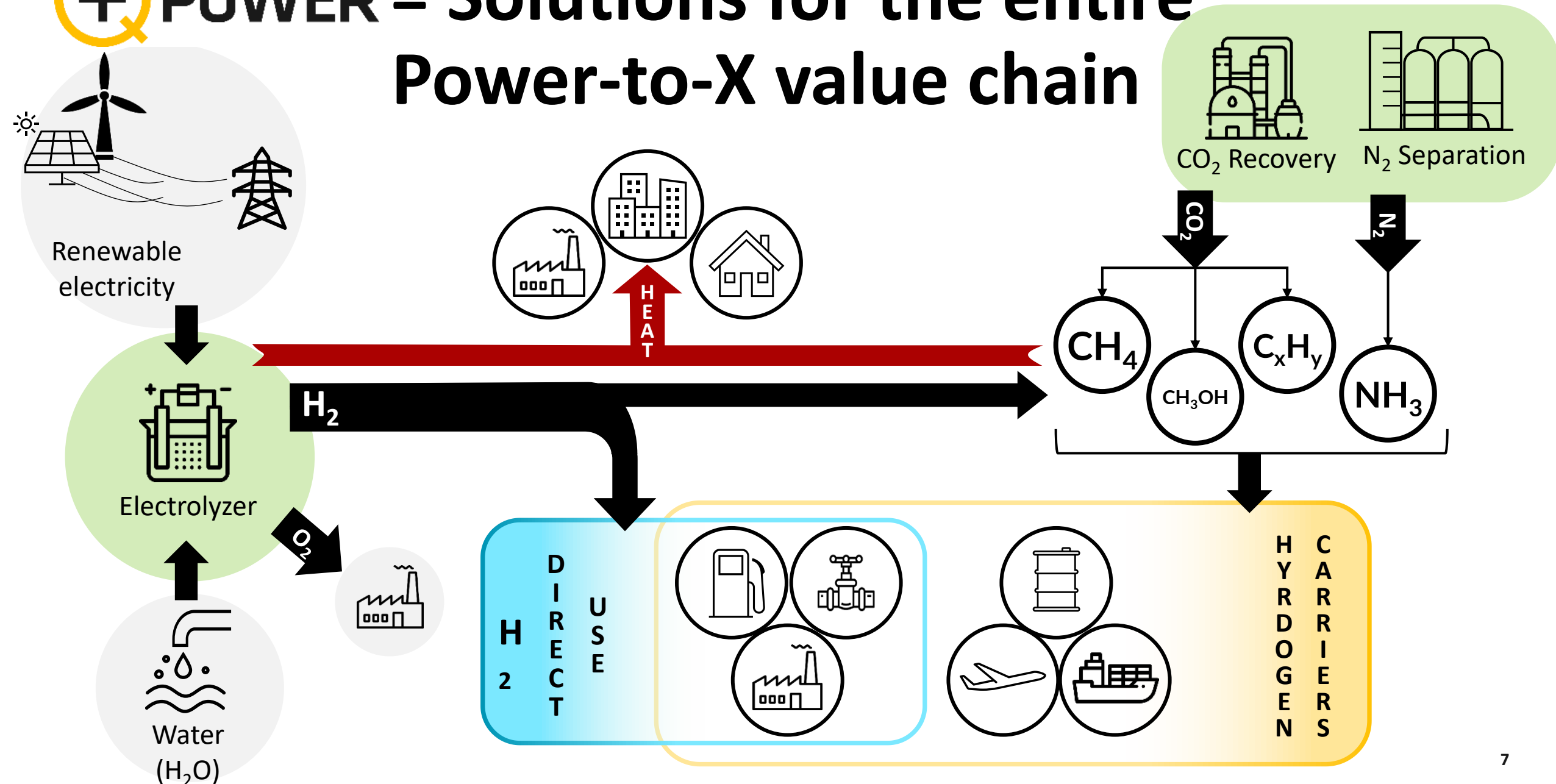
Finland's first industrial-scale methanation plant

P2X-Solution Harjavalta methanation plant delivery

Mechanical completion
achieved and cold
commissioning done in 2024.
Hot commissioning and
commercial use during 2025



POWER = Solutions for the entire Power-to-X value chain



How Q Power supports Customers in taking part in the Power-to-X value chain?

By offering effective solutions in the field of Power-to-X

