



Green technology for sustainable eMethane







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# We use an ancient process to secure the future

## The archaea are:

-  ancient, natural and ubiquitous organisms
-  efficient converters of renewable hydrogen and CO<sub>2</sub> into renewable molecules
-  the biocatalyst in our patented technology makes a sustainable drop-in replacement for natural gas: **BioCat Methane**
-  part of our name: **Electrochaea**



CO<sub>2</sub>

H<sub>2</sub>



- confidential



# BioCat P2M Process USPs



Modular, scalable solution for commercial applications



Outstanding volumetric productivity and energy density



Proven load following capabilities



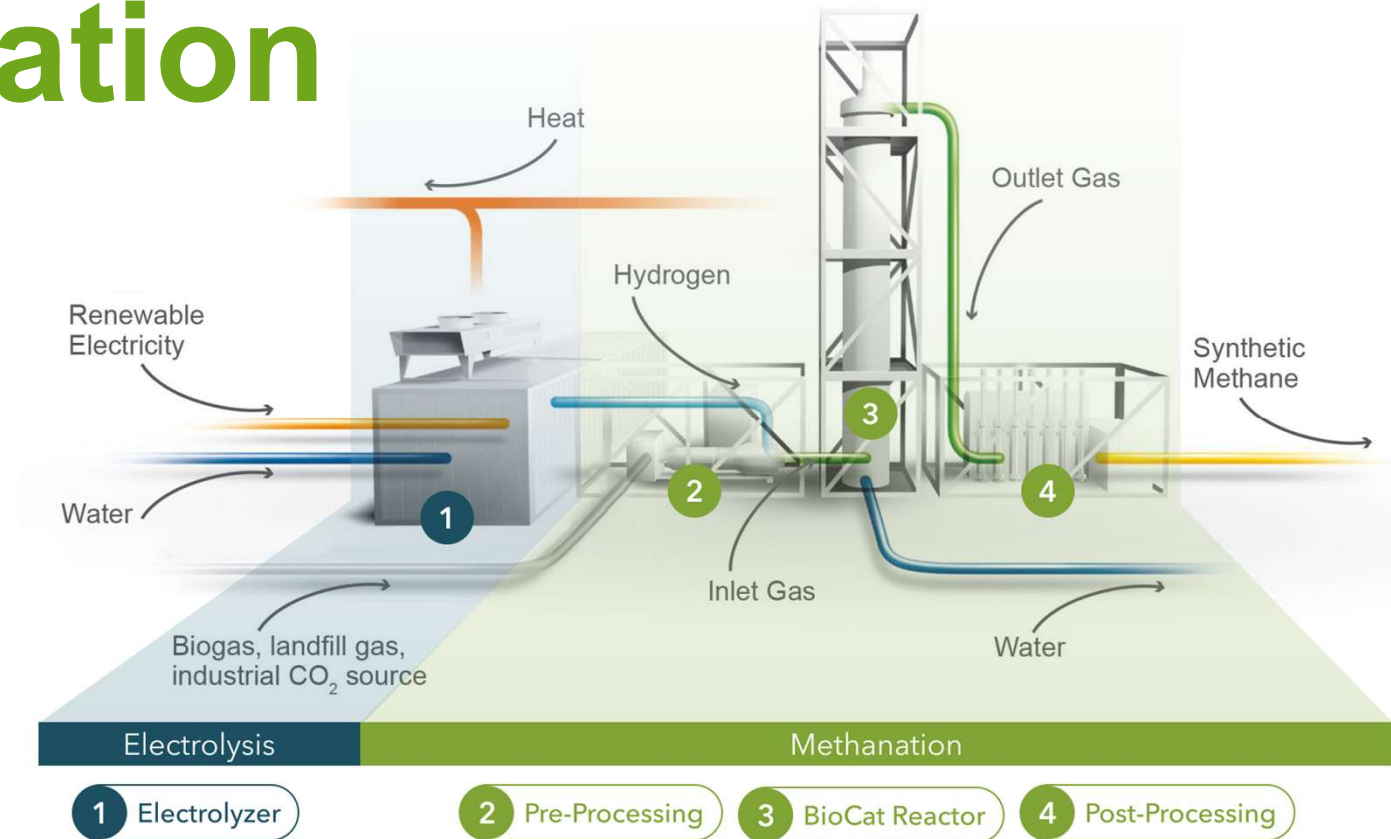
Superior 98.5% CO<sub>2</sub> conversion rate



Patented biocatalyst-based technology

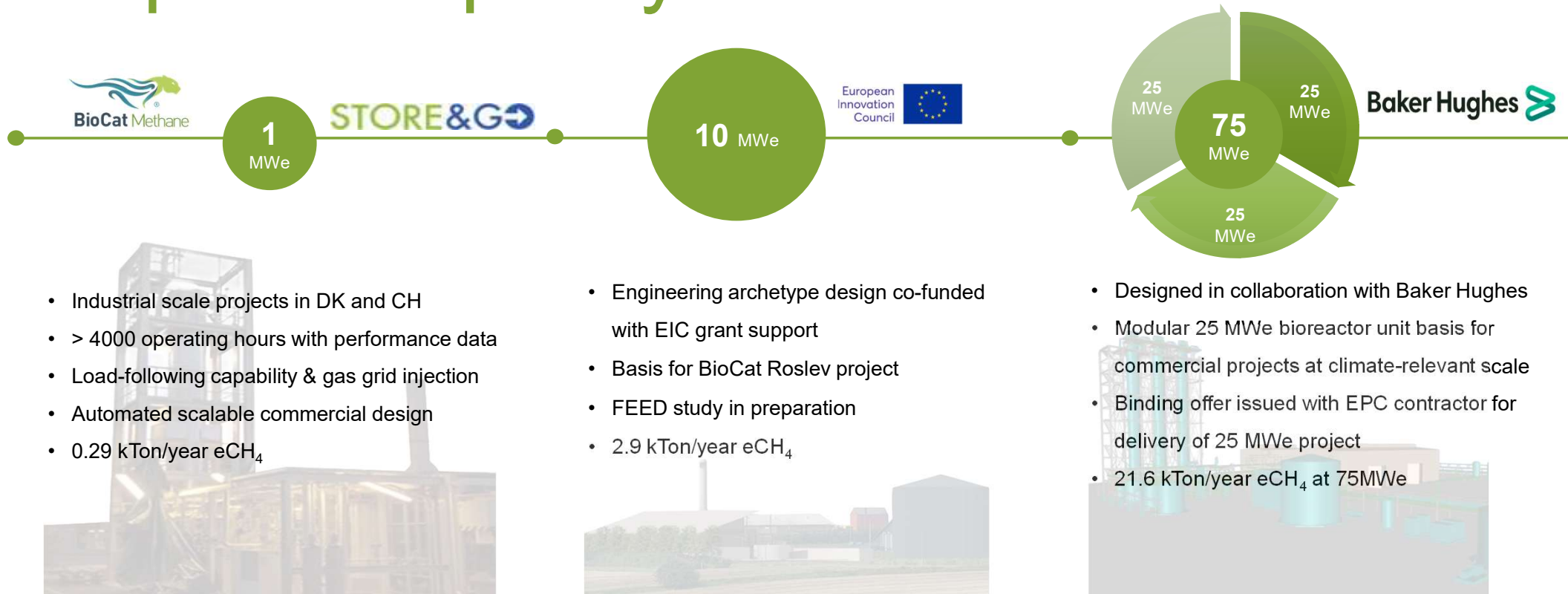
# Overview of a biomethanation plant

Innovative solution for producing eMethane from CO<sub>2</sub>/green H<sub>2</sub>





# Scaled for commercial production with proven quality



# Impact of a 250 MWe biomethanation plant

1,000GWh<sub>e</sub> + 185,000t CO<sub>2</sub>

250 MWe methanation system

12,500Nm<sup>3</sup>/h RNG



Energy of **~312,500 households**

Renewable power



**~103,000 passengers** flying from London to NY

CO<sub>2</sub>



Renewable natural gas

CO<sub>2</sub> mitigation

Renewable thermal energy



Yearly consumption of **~10,000 CNG cars**



**147mn km** with 1 CNG car (~3660x around the world)



CO<sub>2</sub> Mitigation of **~15mn trees**

Re-utilization of resources

**\*assumptions:**

- Heat and electricity for one year 3,200 kWh in a household with 4 person in Germany (2013)
- Consumption average CNG car: 4.5kg CNG/100km, yearly distance: 15 000km/year
- 8,000 h/a of operation, electrolysis included
- One beech binds 12,5 kg CO<sub>2</sub>/year
- CO<sub>2</sub> emissions calculator [www.atmosfair.de](http://www.atmosfair.de)

Reduction of CO<sub>2</sub> footprint

# Value creation



## Accelerated transport decarbonization

- Increasing demand for low-carbon fuels
- Compliance with regulatory and Scope objectives



## CCU market growth

- Rising demand for carbon capture & utilization
- Global gas grid decarbonization initiatives



## Long-term green energy storage

- Prevent renewable curtailment and revenue loss
- Transfer value across seasons and geographies
- Optimize renewable infrastructure and increase energy security



## Superior green hydrogen vector

- Safety and cost advantages vs. green ammonia and e-methanol
- Leveraging existing infrastructure minimizes timelines and costs

67

Jurisdictions

18

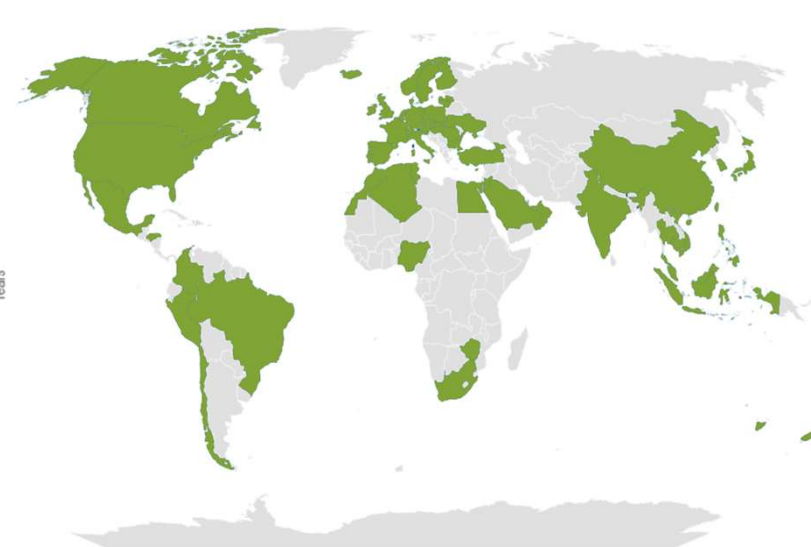
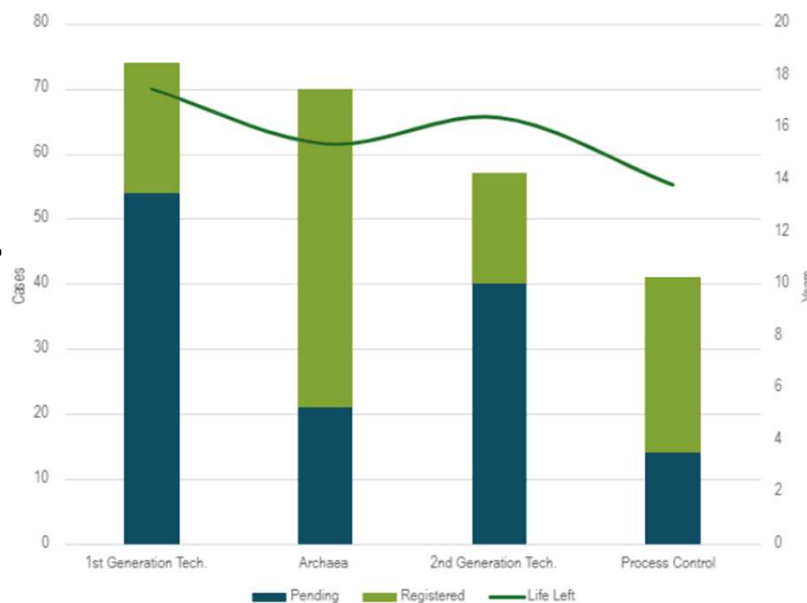
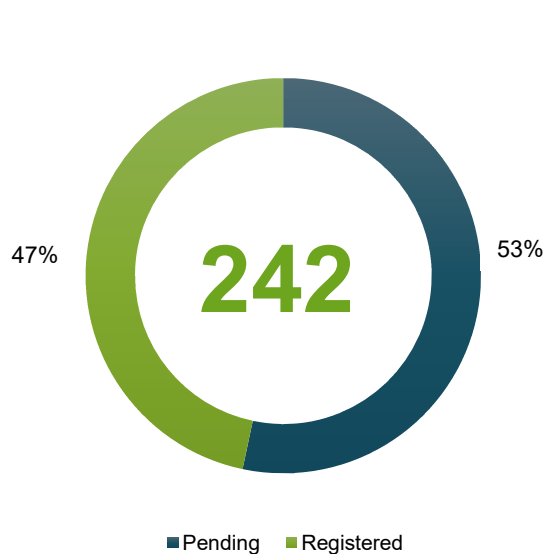
Patent Families

2042

 IP protection until

# Intellectual Property

## Patents & Applications



Countries in which patents are issued or pending



# Unified with a global responsibility

## wide range of qualifications

i.a. PhDs in BioTech & Engineering, MBAs in Economics, and CFAs in Finance

## Age Range of Employees

blend of experience, wisdom and fresh perspectives

25

70

~ 60 employees with 22 different nationalities and 3 international offices in DK, DE & USA

# Building a strong pipeline

## Key markets in 2030

Canada 🇨🇦

23.2 TWh / 2900 MWe

Switzerland 🇨🇭

3.2 TWh / 400 MWe  
import required

European Union 🇪🇺

40 TWh / >5000 MWe installations

United States 🇺🇸

26 TWh / 3250 MWe

Maritime

9.88 TWh / 1235 MWe

Japan 🇯🇵

2.8 TWh / 350 MWe



x TWh – renewable methane demand per year



x MWe – equivalent P2M installed capacity at  
8,000 h operation per year

# Join us

in our mission to green the gas grid  
and ensure a sustainable future

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