### OSTETMEIET H2YDROGENSOLUTIONS

# **OHS Introduction**

Schweitenkirchen, 13<sup>th</sup> of September 2020 Dr. Markus Ostermeier, Peter Ostermeier

## **Executive Summary**

### **Ostermeier** H2YDROGENSOLUTIONS

#### VISION

We enable multi-family houses, residential quarters and medium-sized companies to achieve sustainable and renewable energy autonomy.

#### MISSION

**STRATEGY** 

We offer our customers a solution to store energy based on hydrogen  $(H_2$ - battery)

We integrate existing components

intelligently into a cost-effective overall



### PROBLEM & SOLUTION

Volatile and seasonally fluctuating renewable power generation needs the possibility of seasonal storage.



Our  $H_2$ -battery enables the longterm storage of electricity in the form of hydrogen.

#### MILESTONES



#### TEAM

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- Peter Ostermeier
- Managing Director
  Ostermeier GmbH
- Manufacturing expert



- Dr. Markus Ostermeier
- Expert Power-to-Gas
- Product developer

solution.

## Problem

There is no economic solution for residential and commercial units to be able to store seasonally generated electricity over a longer period of time.



# Solution & Technology



Our solution is modular, relies on proven components where available and in-house development where strategically sensible and necessary.

As a service we offer the plant design for the entire building via a building services planning company.

2	Development with partner, own production	Fine dryer	outside: storage	purchased part	3
1	purchased part	AC/DC- Inverter	Main control	Own development (later own EMS planned)	1
1	Stack 5-30 kW purchased part, own module integration, own production	Electrolysis Module	DC/DC- Inverter	purchased part	2
1	Own development, own production	Water treatment	Battery	purchased part with BMS	2
1	Development with partner, purchased part	Chiller	Fuel Cell	Purchased part from strategic partner Proton Motor	2
1 Completion 11/2020 2 Completion 06/2021 3 Completion 11/2021					

13/09/2020

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### Customers

Our customers either want to use the hydrogen directly on site or store renewable electricity seasonally on a hydrogen basis from summer to winter.

#### Direct use of H<sub>2</sub>

On-site production of  $H_2$  as required





On-site  $H_2$  production to replace gas cylinders

### Energy storage based on H<sub>2</sub>

Supplementing renewable energy production with a seasonal storage facility



Single family houses: Autonomous energy supply all year round



Power-to-X:

 $H_2$  as starting material for other hydrocarbons e.g. methane, methanol



Residential Quarters:

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Autonomous energy supply all year round



 $H_2$ -fueling station:  $H_2$  production on site and use as fuel



Medium-sized business: Autonomous energy supply all year round



# Founders

Together we have the competence and experience in theory and practice to turn the idea of a hydrogen storage solution into a series product.



Dipl.-Ing. Peter Ostermeier

- Apprenticeship as industrial mechanic with subsequent studies of mechanical engineering at the THI
- Since 2008 managing partner of Ostermeier GmbH
- Since 2013 additionally managing partner of Phoenix Thermal Solutions (PTS) GmbH



Dr.-Ing. Markus Ostermeier

- Study and doctorate at the TUM in the field of mechanical engineering
- Various positions in the Energy Division of MAN Diesel & Turbo
- Business area and product developer at a start-up for power-to-gas
- Teacher for product development at various universities

## Go to Market

**Ostermeier** H2YDROGENSOLUTIONS

With the presentation of the demonstration plant at our in-house exhibition in November, our business field hydrogen storage solutions will be presented to the public for the first time.







- H<sub>1</sub> Hydrogen is becoming increasingly important in our energy system and is now also perceived by politicians as important
- H<sub>2</sub> Many operators of photovoltaic and wind plants are looking for a practicable storage solution (after the end of EEG support)
- $H_3$  With our product we offer a solution that will be ready shortly
- H<sub>4</sub> We have the experience and the production infrastructure to start
- H<sub>5</sub> We offer you an attractive investment option with moderate risk

### Contact



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