

# FUSION-FUEL™

## Casos de estudo de desenvolvimento de projeto em Portugal

João Delgado

Torres Vedras, 2 Junho 2023



## 01 – AGENDA

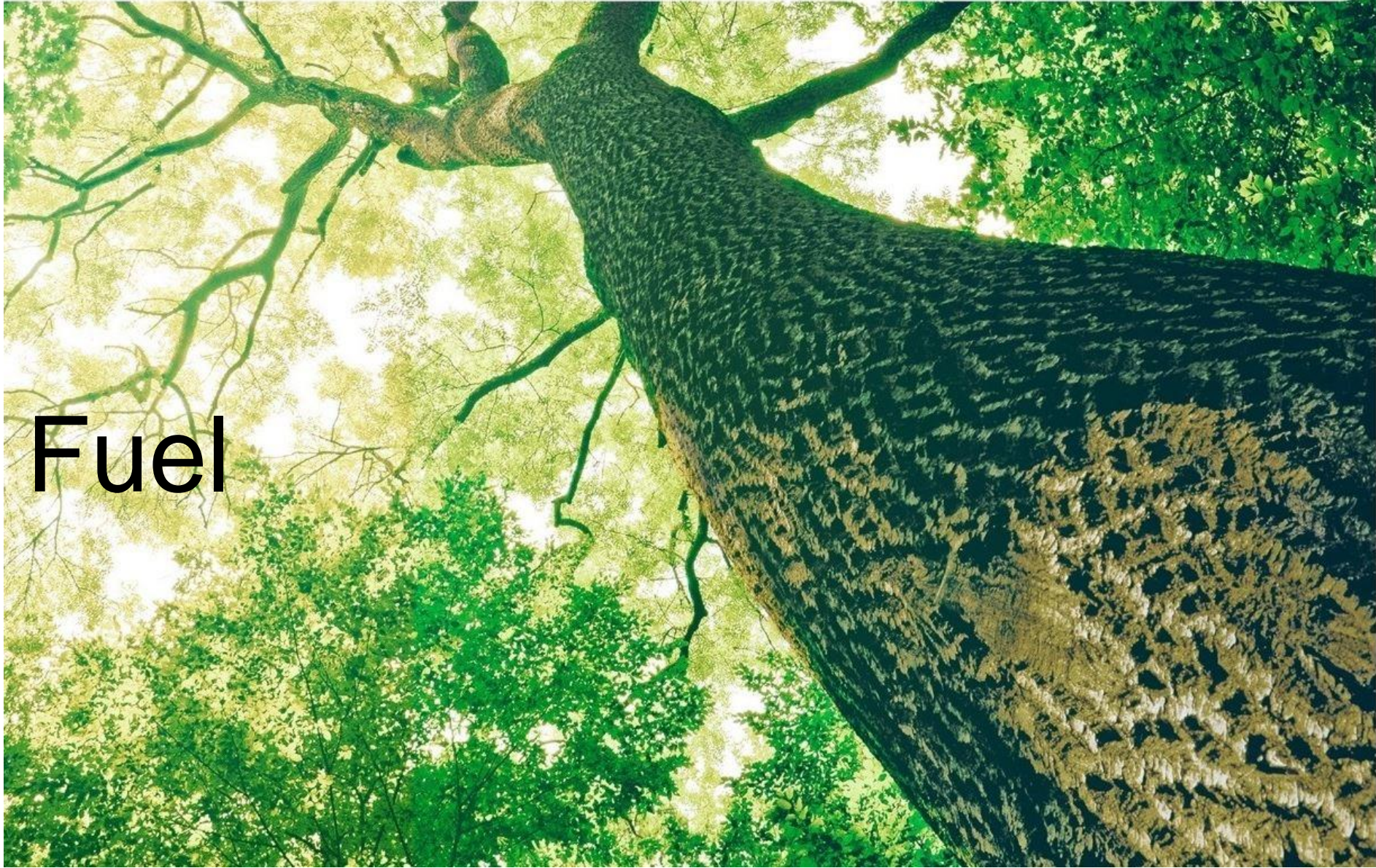
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1. Fusion Fuel at a glance
2. Technology
3. Project development pipeline in Portugal
4. Greengas project, Évora



01  
Fusion Fuel

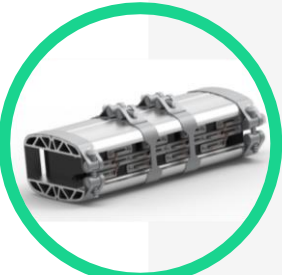




# 01 – FUSION FUEL’S BUSINESS MODEL

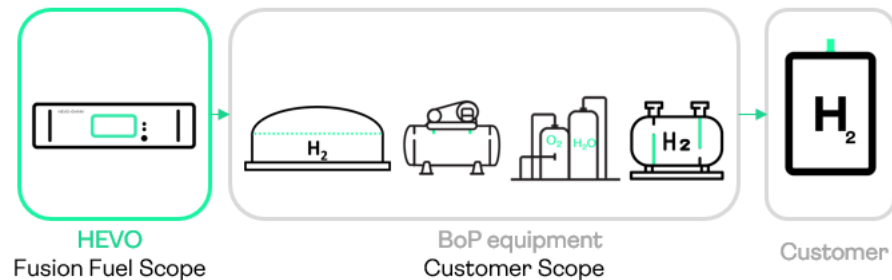
## Manufacturer of HEVO micro-electrolyzers at scale

- Manufacturing facility in Benavente, Portugal
- Ramping capacity from ~25MW to 250MW by year-end 2024; 500 MW end of 2025
- Continued R&D to improve performance and expand addressable market



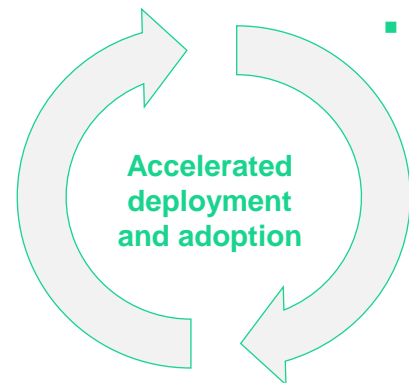
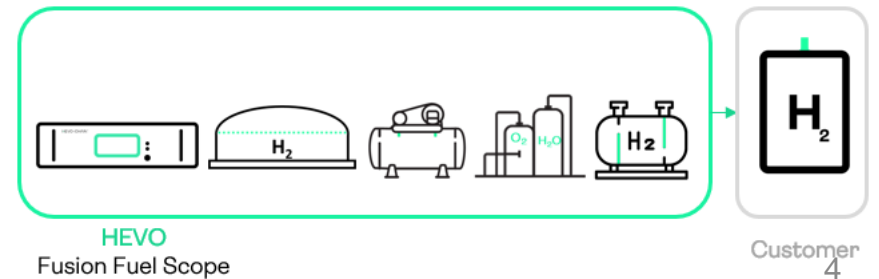
### 1 Technology Sales

- Fusion Fuel as **technology provider** for project developers of HEVO production units and technical support
- Revenues from sale of hardware and after sales maintenance and monitoring



### 2 Project Development and Production

- Fusion Fuel as **project developer** and operator, with scope including land securement, grant applications, licensing and permitting, EPC, and O&M
- Revenues from sale of clean hydrogen
- Potential gains from partial or total sale of projects





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# 02 TECHNOLOGY





## 02 – HEVO TECHNOLOGY DEVELOPMENT

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We are committed to building on the competitive advantage of our HEVO technology, continually reducing system cost and complexity while improving the efficiency and productive capacity



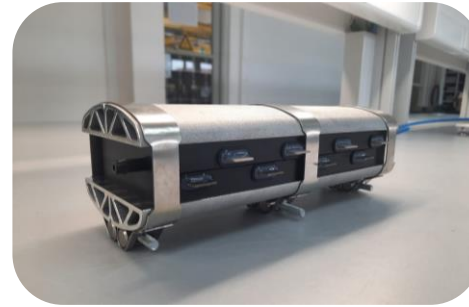
HEVO 2020

- 1 bar of unit output pressure



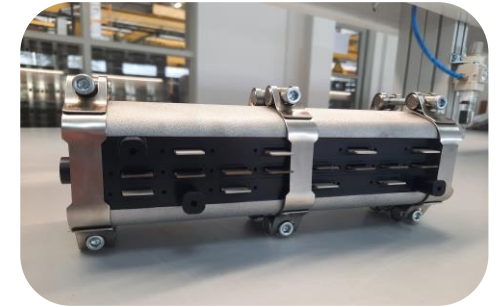
HEVO 2021

- 4-fold production increase per Hevo
- 1 bar of unit output pressure



HEVO 2022

- 6-fold production increase per Hevo
- 4 bar of unit output pressure
- ~12% increase in H<sub>2</sub> throughput
- ~50% reduction in cost vs. 2021

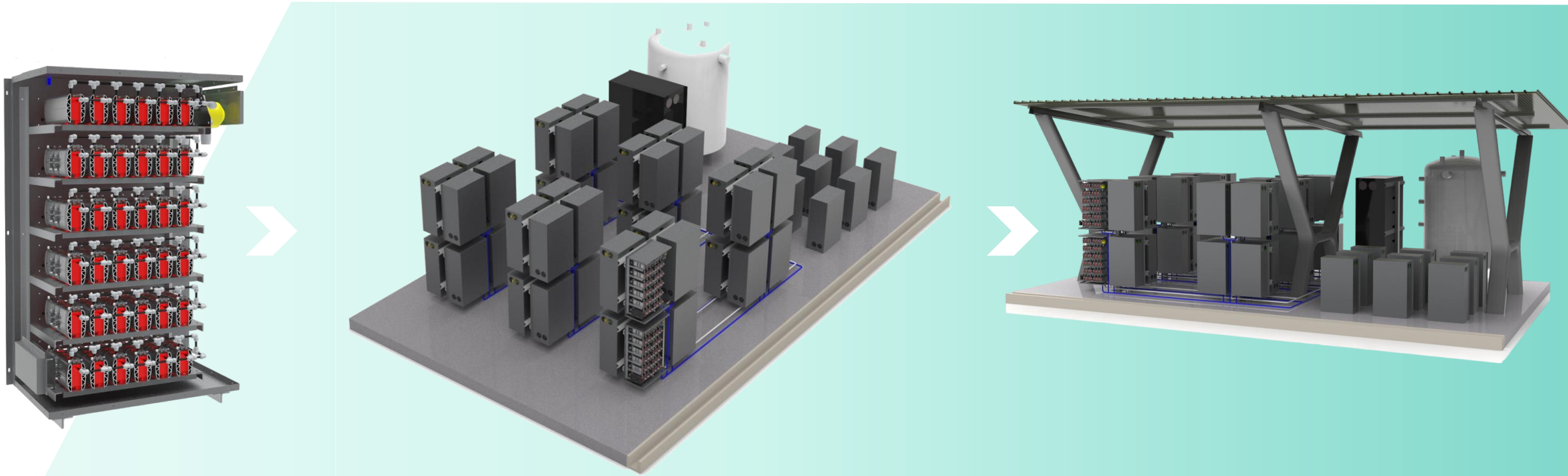


HEVO 2023

- 8-fold production increase per Hevo
- 4 bar of unit output pressure
- Addl. increase in H<sub>2</sub> throughput
- ~20% reduction in cost vs. 2022

# 02 – HEVO-CHAIN™ NON-CONTAINERIZED

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**HEVO-Chain**  
 Hydrogen Unit  
 36 Hevo Devices

**HEVO-Chain**  
 H2 Unit  
 8 x 20 kW H2 Units

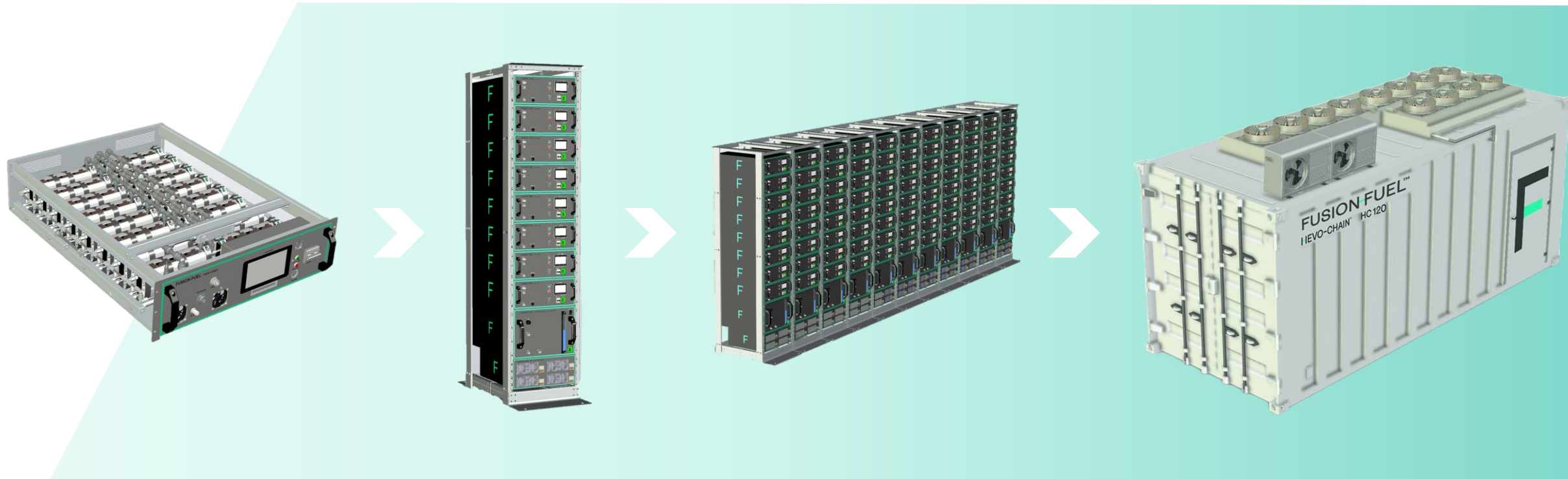
**HEVO-Chain**  
 Sizing  
 92 m<sup>2</sup>

**HEVO-Chain**  
 Power

**1.0MW**

# 02 – HEVO-CHAIN™

FUSION FUEL™



**HEVO-Chain**  
 Hydrogen Unit  
 16 Hevo Devices

**HEVO-Chain**  
 Rack Unit  
 8 Hevo H2 Units

**HEVO-Chain**  
 Rack Module  
 20 Rack Units

**HEVO-Chain**  
 Container 20 feet  
 Container 40 feet

**1.1MW**  
**2.5 MW**

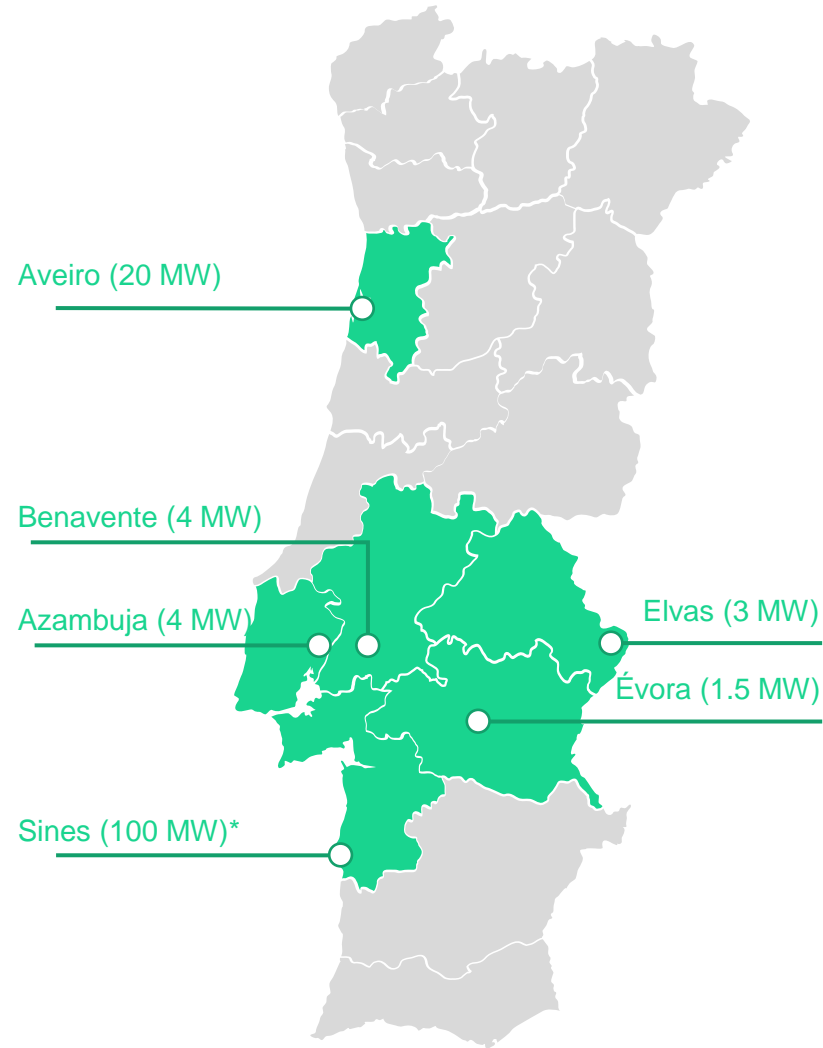


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# 03 PORTUGAL PIPELINE



# 03 - PORTUGAL'S PROJECTS



Pipeline under development for COD 2026

**2** Pilot Projects

In Évora with signed HPA

**+600** MW

Under development for mobility, industry and gas blending

**100** MW

in Sines with COD 2026

**4** mobility hubs

Azambuja, Benavente, Elvas, Torres Vedras

**€50** million

Of grants secured

**+300** ha

Land secured and more than 1400 ha under negotiation



# 04

## GREEN-GAS





## 04 – GREENGAS – Layout

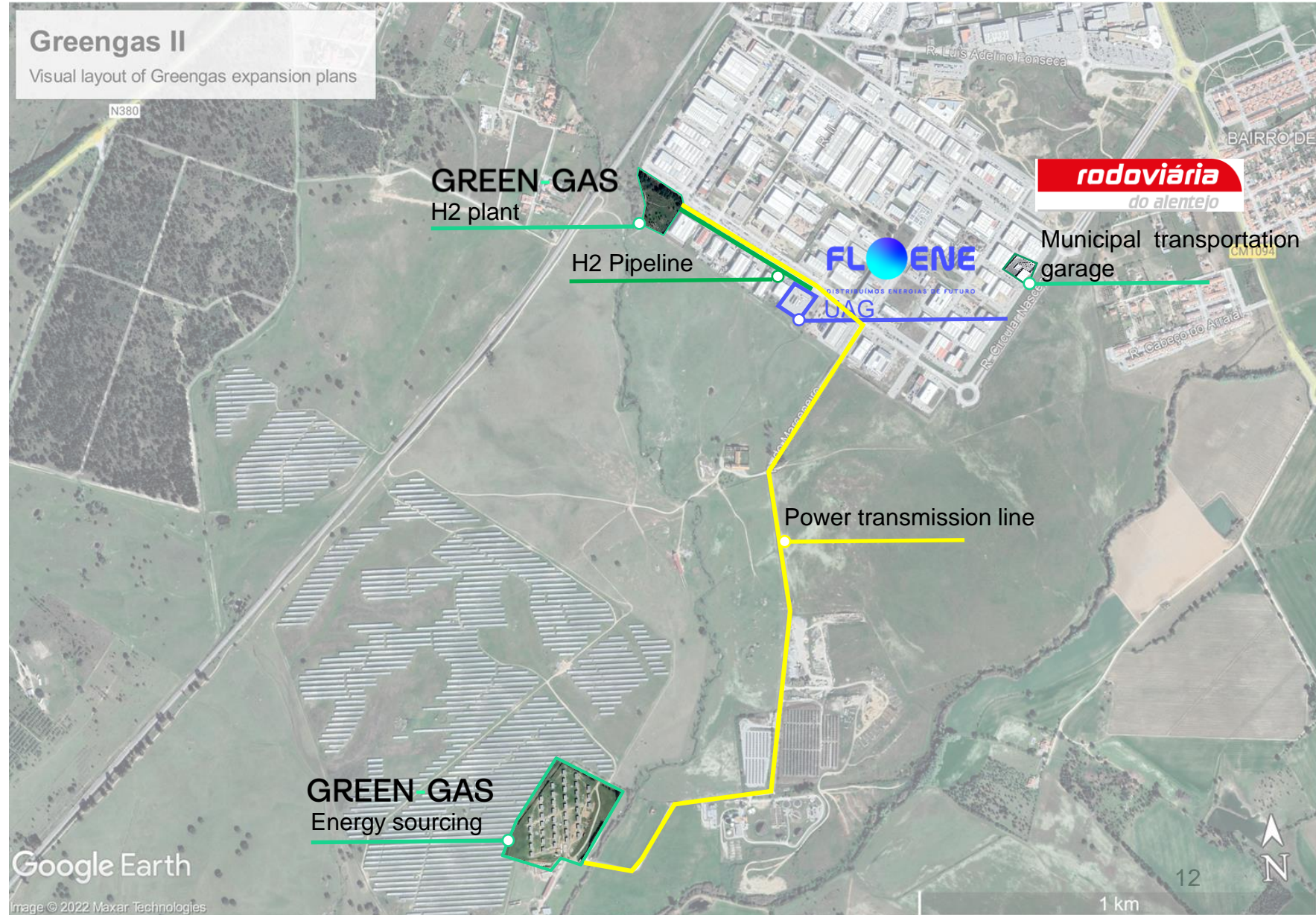
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### Use cases of Greengas:

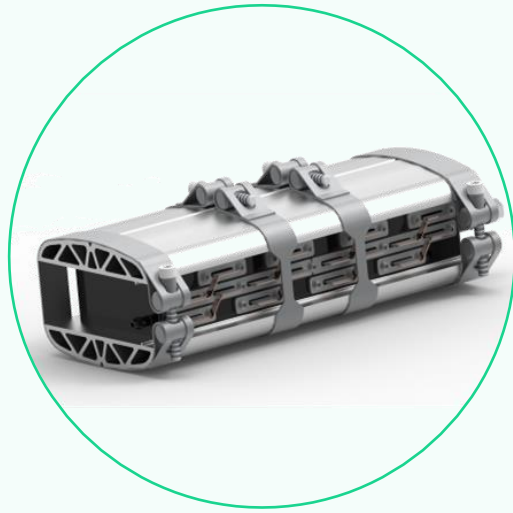
- Blending in the Floene gas grid
- Hydrogen Refueling Station
- Bottling of green H<sub>2</sub> at 500 bar.
- Two “Offtaking” agreements - HPA
  - DouroGas - “Blending in FLOENE”
  - Hydrogen Ventures – “Mobility”
- Blending Agreement with Floene
- Connection to Grid – end of 2023

**800** kW of electrolysis

**40** tons of green H<sub>2</sub> per year







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[WWW.FUSION-FUEL.EU](http://WWW.FUSION-FUEL.EU)

Thank you!

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