



catcher

# Humidity to Electricity

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**Game-changing in Renewable Energy  
EU Leadership position in Humidity to Electricity**

# from Innovation

**CATCHER's vision is based on the collective dream of humanity to get "ENERGY out of AIR"**

The pioneer of the experiments on capturing electricity from the atmosphere was Nikola Tesla (1932)

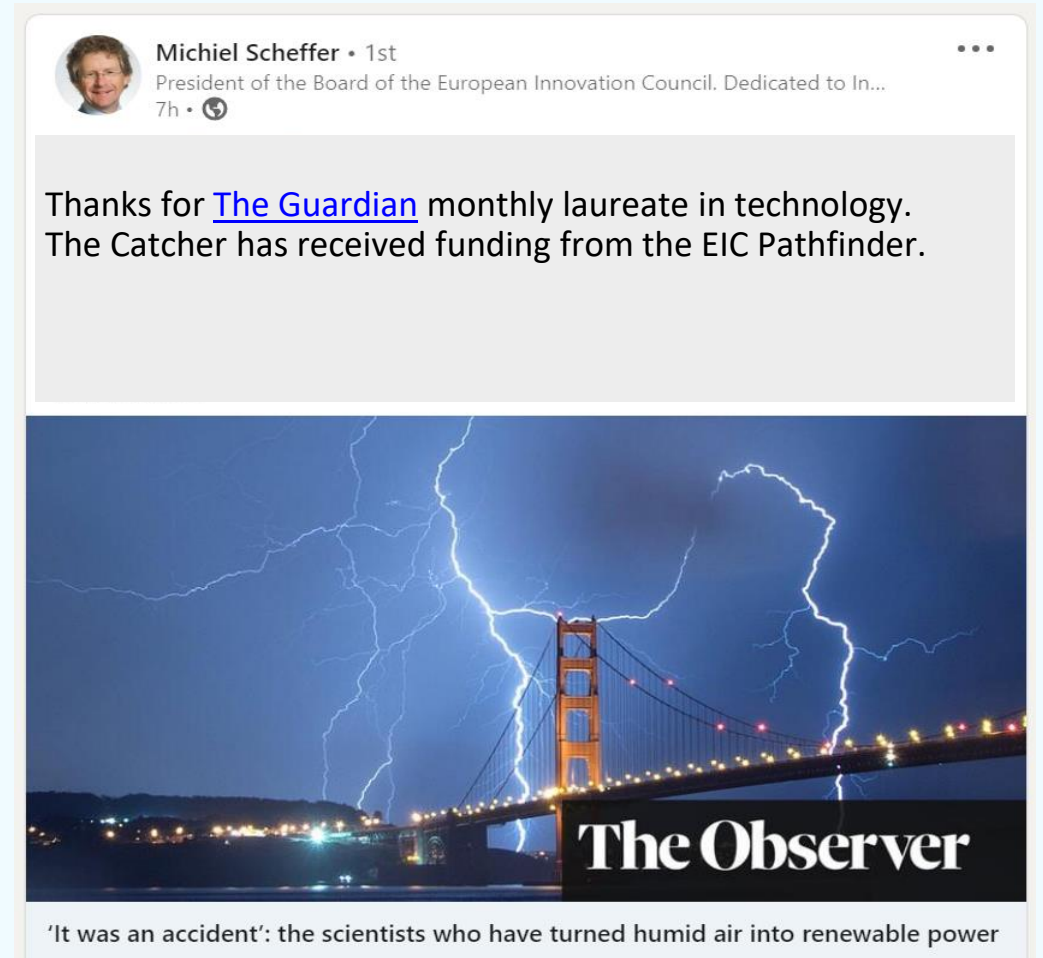


**The CATCHER's highly innovative "atmospheric humidity to electricity" technological solution is the direct conversion of the humidity adsorption energy to electrical energy .**

The deployment of CATCHER technology means game-changing in Renewable Energy field and sustainable future with New, clean and affordable Source of Energy

# to Value Proposition

**Energy Independency,  
Energy Security,  
Game-changing in Renewable Energy**



# The Problems

- Energy Dependence
- Energy Security
- Energy Poverty

## CO2 emissions caused by Fossil Fuels



EU Strategic Energy Technology (SET)  
Plan by 2050 to reduce to 0 production  
of the Energy using fossil fuels

**Global Warming, urgent needs to align with  
Paris Agreement 1.5 °C Temperature Goal**



brings Innovation to harness the planet's abundant  
natural resource – Atmospheric Humidity – in a way  
that can sustain society needs

Solar and Wind are only true alternatives to Fossil



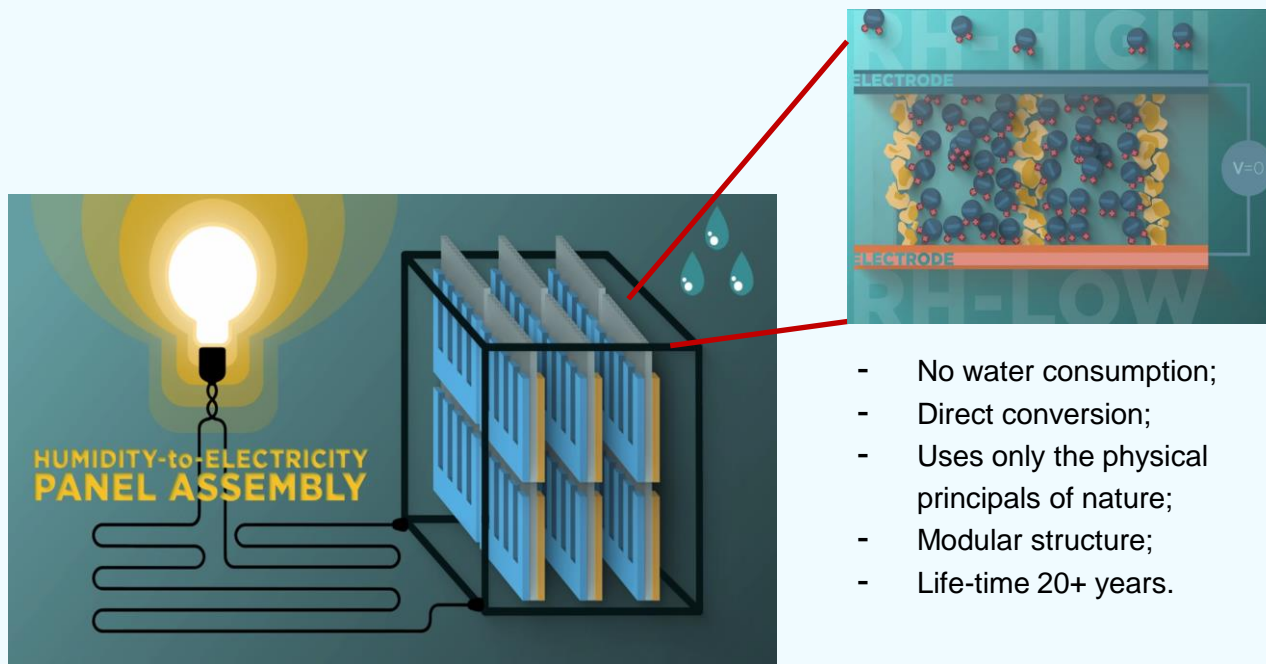
Weakness of Solar & Wind  
negligible advancement due to  
theoretical maximum and  
dependence on ambient conditions



# The Solution

CATCHER technology

Direct conversion of Humidity to Electricity



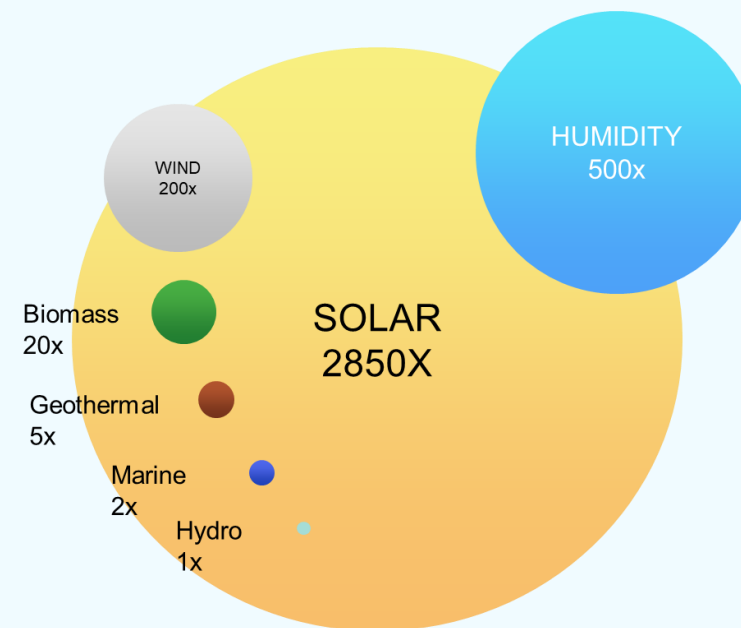
- No water consumption;
- Direct conversion;
- Uses only the physical principals of nature;
- Modular structure;
- Life-time 20+ years.

One unit (module) with production capacity – 10 kWh a day  
(Suitable to cover needs of ~ 100-200 m<sup>2</sup> household)



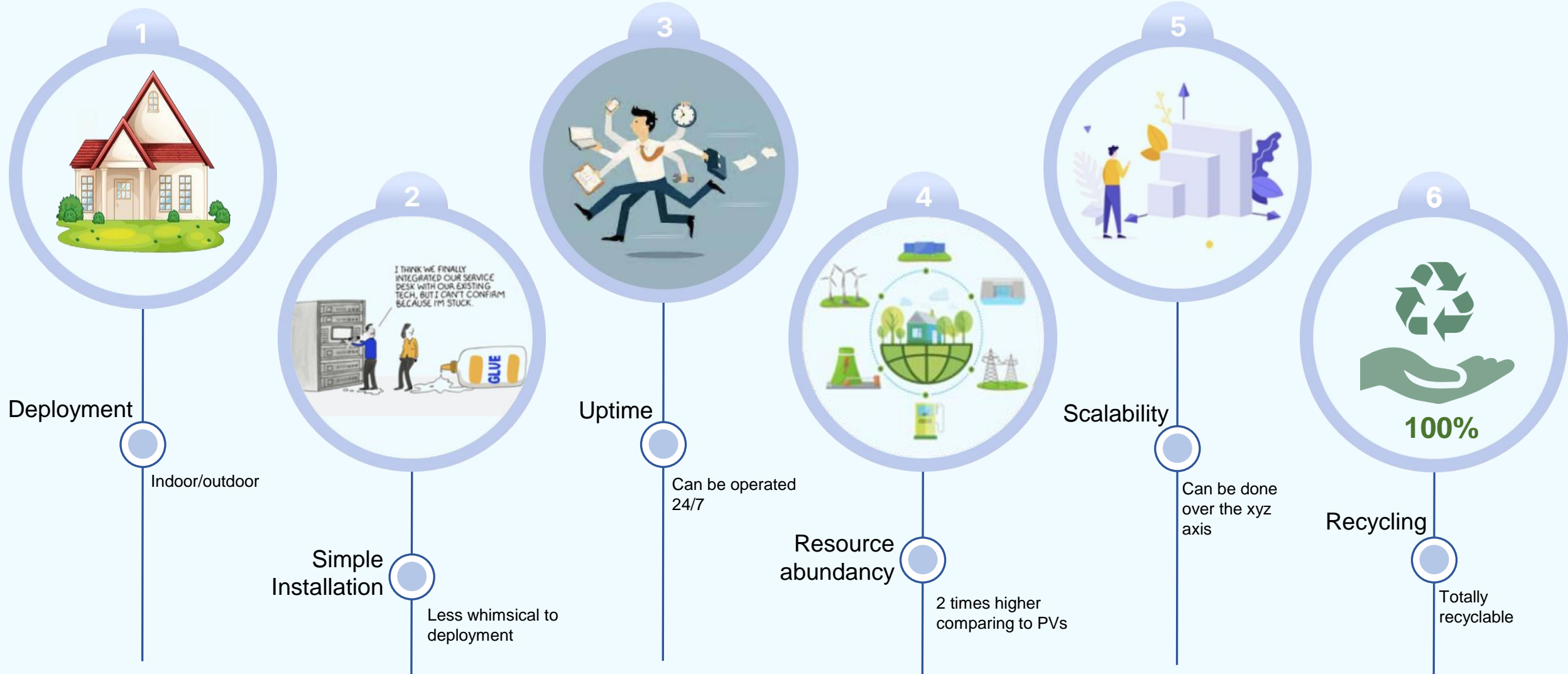
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Overall new source potential is to provide **x500 times** the current global energy needs



- 4.7E+16 liters of water in low troposphere
- Adsorption energy of water 1120 kJ/kg (311 W)
- Overall source potential to provide 6570000 TW of electricity

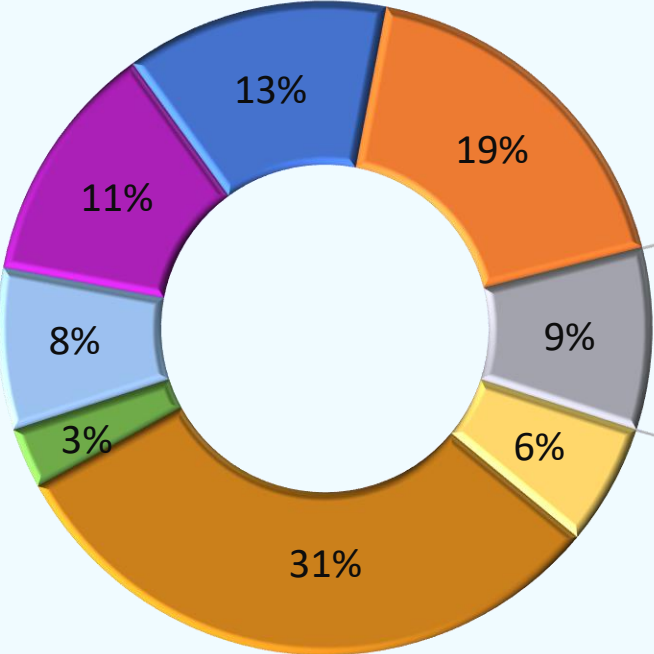
# Competitive Advantages



# The market

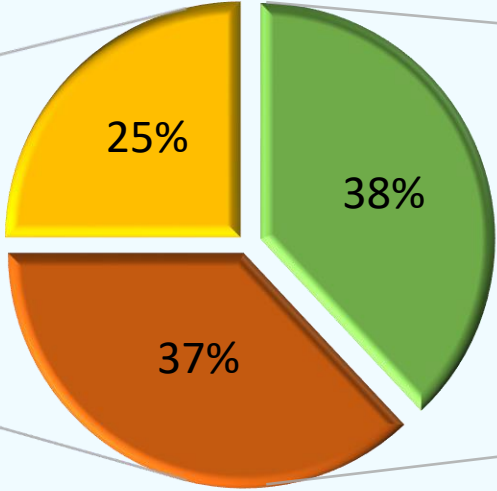
Share of energy production source in 2022

TAM  
Total Energy Market: ~ 27000 TW



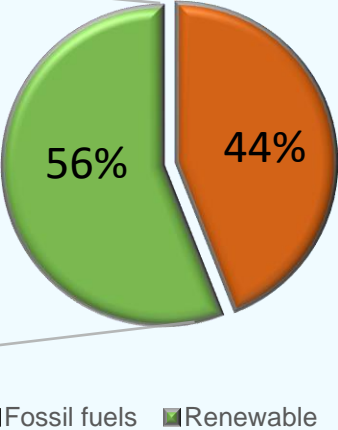
- CIS
- North America
- EU
- Latin America
- Asia
- Pacific
- Arfica
- Middle-East

SAM  
Eu Energy Market: 2430 TW ~ 500B €



- Renewable
- Fossil Fuel
- Nuclear

SOM  
PT Energy Market: 56.9 TW ~ 11,9B €



- Fossil fuels
- Renewable

*Energy market share revenue potential, taking 0.21€ average price per kWh, disregarding production and overhead cost expenses.*

# The Development of the CATCHER idea

Stage 0 (2015-2023)      Stage I (2022-2025)      Stage II (2025 – 2029)      Stage III (2028 – 2032)

Proof of the Concept  
Humidity to electricity conversion

Scientific Technological  
Breakthrough

Pilot-scale production  
line development

Humidity to electricity  
conversion technology - ready

M1 TRL3 2015-2023

M2 TRL4 2023

M3 TRL5/6 2025

M4 TRL7 2024-2025

M5 TRL8 2028

M6 TRL9 2028 - 2032

Funding awarded  
EU grants € 2.5Mln

Funding awarded  
EU Grant € 3Mln

Investment **round A**  
Goal € 18Mln

Investment **rounds B,C, D**

**SAM 0.5% covered**

Startup CASCATACHUVA creation

M1: Proof of Concept

M2: Efficiency  
Enhancement

M3: Engineering  
Prototype validation

M4: Demonstration  
runs

M5: Early  
Adopters Sales

M6: Full scale  
manufacturing

Patent:  
**First generation** of the  
“humidity to electricity”  
device - Planar Converter

Patent Draft:  
**Second generation**  
of the “humidity to  
electricity” device –  
Porous Blocks

Patent Preparation:  
**Prototype Design**

**Pilot projects with  
Corporates**

Production capacity  
10-16 modules per  
month

Production/salles 750  
modules per month

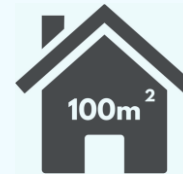
# Business model

We are going to Generate the Revenue by Selling Customized Energy Solution (Humidity to Electricity devices) to commercial and government entities, independent power producers, homeowners, resellers

**B2B, B2C, B2G**

Standard conversion device is 1m<sup>3</sup> module with production capacity – 10 kWh a day

(Suitable to cover needs of ~ 100-200 m<sup>2</sup> household)



## Three years goal:

- Three-years 400 modules sales (€ 1.4M profit)
- LCOE – € 0.174
  - Total cost per unit - € 13.000
  - Tax credit 25%
  - Price per unit - € 15.900
    - Incl. VAT and installation
  - Profit margin - € 3.500 Euro (29.9%)
    - Markup – 43%



Conversion Module - 1m<sup>3</sup>

## Seven years goal:

- Full-scale manufacturing
- LCOE - € 0.03 - 0.04
- 0.5% EU Electricity energy market reached (€ 2.5B)



# Value Proposition



Solar Pannels on every Roof, Electrical Car in every Garage, and “Humidity to Electricity” Converters in every Basement



For individuals and families who are looking to reduce their electricity costs, increase savings, and contribute to a more sustainable future



Our device provide a sustainable, and financially secure energy solution for you and your loved ones

With simple installation in your home, customized design, stability and ongoing maintenance, achieve energy independence hassle-free. Our solution reduces dependence on costly energy sources, empowering you to take control of your energy needs and financial future. Experience the peace of mind of energy independence with Humidity-to-Electricity converter device

## Product Features

- Clean, sustainable energy source
- Sustainability
- Ongoing maintenance
- Customized design
- Simple installation

## Functional Benefits

- Reduced dependence on traditional energy sources
- Reduction in electricity costs
- Increased savings
- Budget-conscious solution

## Emotional Benefits

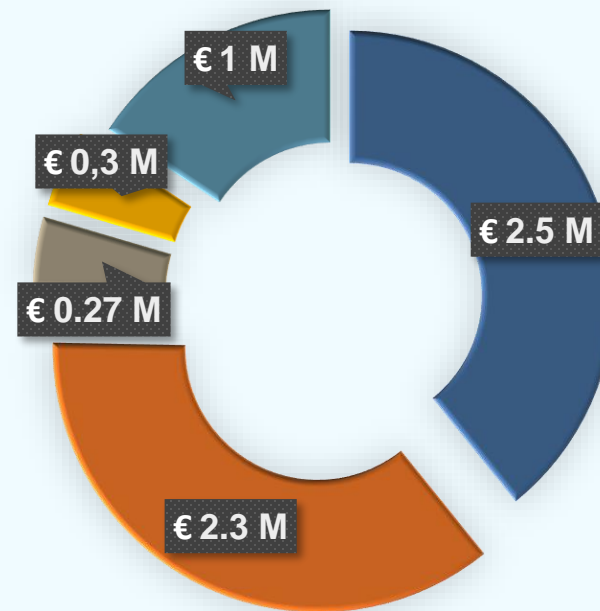
- Financial security
- Contribution to a more sustainable future
- Peace of mind

# What we are looking for

## Stage 2 preparation investment – (2025-2026)

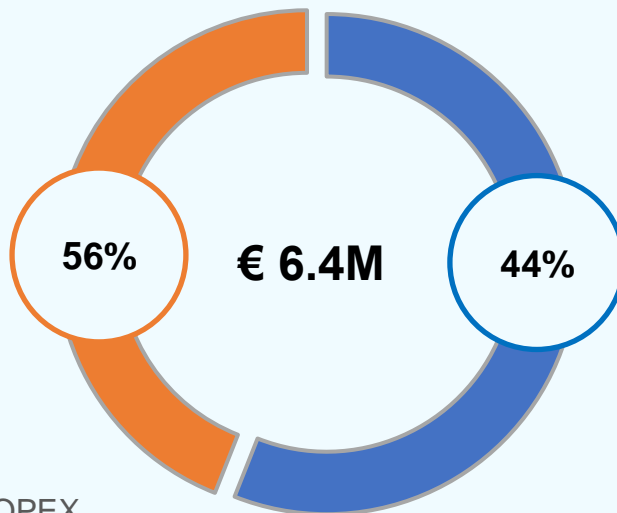
### Cost distribution

- Equipment
- Staff
- Consumables
- Premisses rent
- Other costs



### Main goals:

- ✓ **Pilot production line**
- ✓ 2-3 modules/year
- ✓ Raise further stage investments (Stage 2 – 400 modules/year)



- OPEX
- CAPEX

# Join us in mastering a new source of renewable energy

Contact us for more details: [a.lyubchyk@cascatachuva.com](mailto:a.lyubchyk@cascatachuva.com)