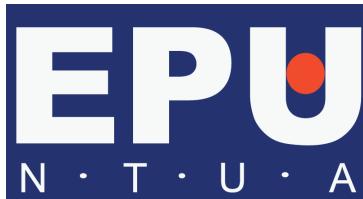


OCOVA 2026
3 February 2026
Les Orres

Smart
mountain
of tomorrow



CLEAN, ACCESSIBLE AND SECURE ENERGY FOR ALL



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WHAT IS CRETE VALLEY?

Accelerating the energy transition

CRETE VALLEY is a project that will turn Crete into a **sustainable, decentralised energy system**, enabling the island to meet its energy needs through renewable sources

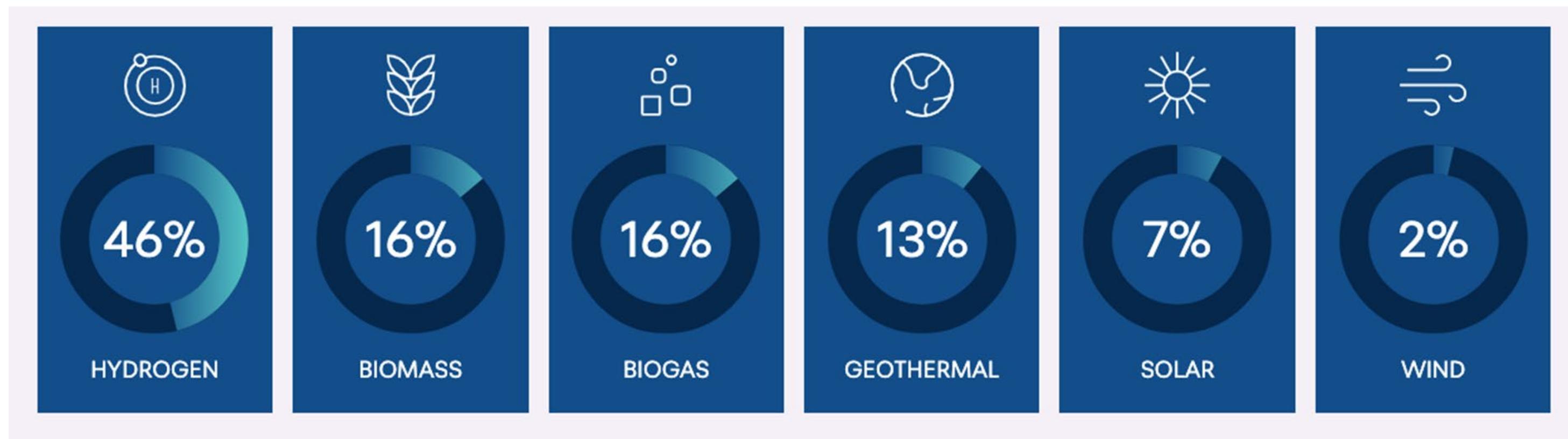
- **41** partners
- **4** Community Energy Labs (CELs)
- **6** Renewable Energy Sources
- **320+** Facilities and households benefiting
- **5Y** duration



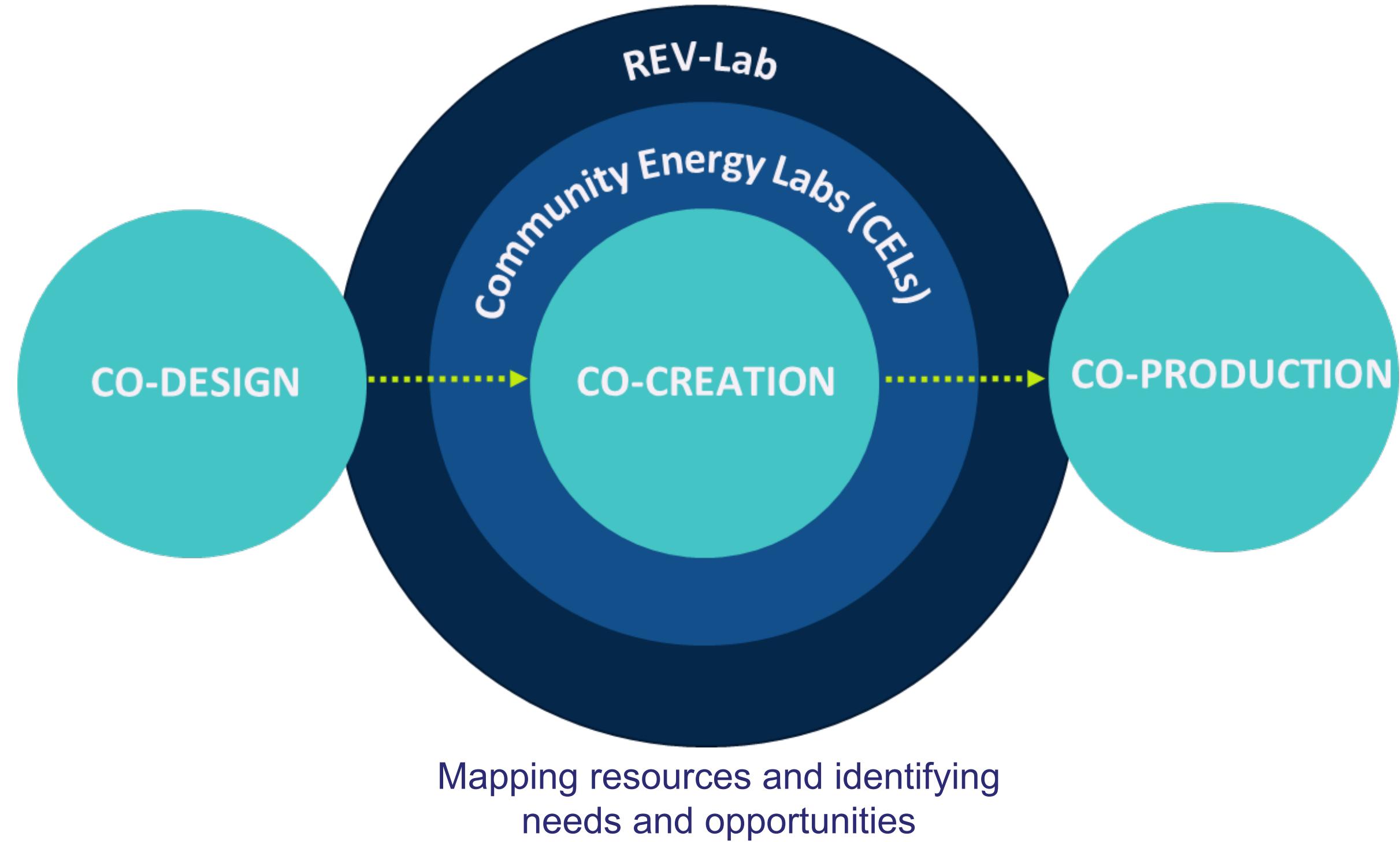
OUR VISION FOR A SUSTAINABLE FUTURE

Establish Crete as a pioneering **Renewable Energy Valley**, combining ICT technology, interoperable digital solutions, social innovation processes and economically viable business models.

Composed of four **Community Energy Labs (CELs)** across Crete, the REV-Lab will contribute to the **European green transition** and foster **energy democracy**.



SOCIAL ENGAGEMENT



CRETE REV-LAB FRAMEWORK

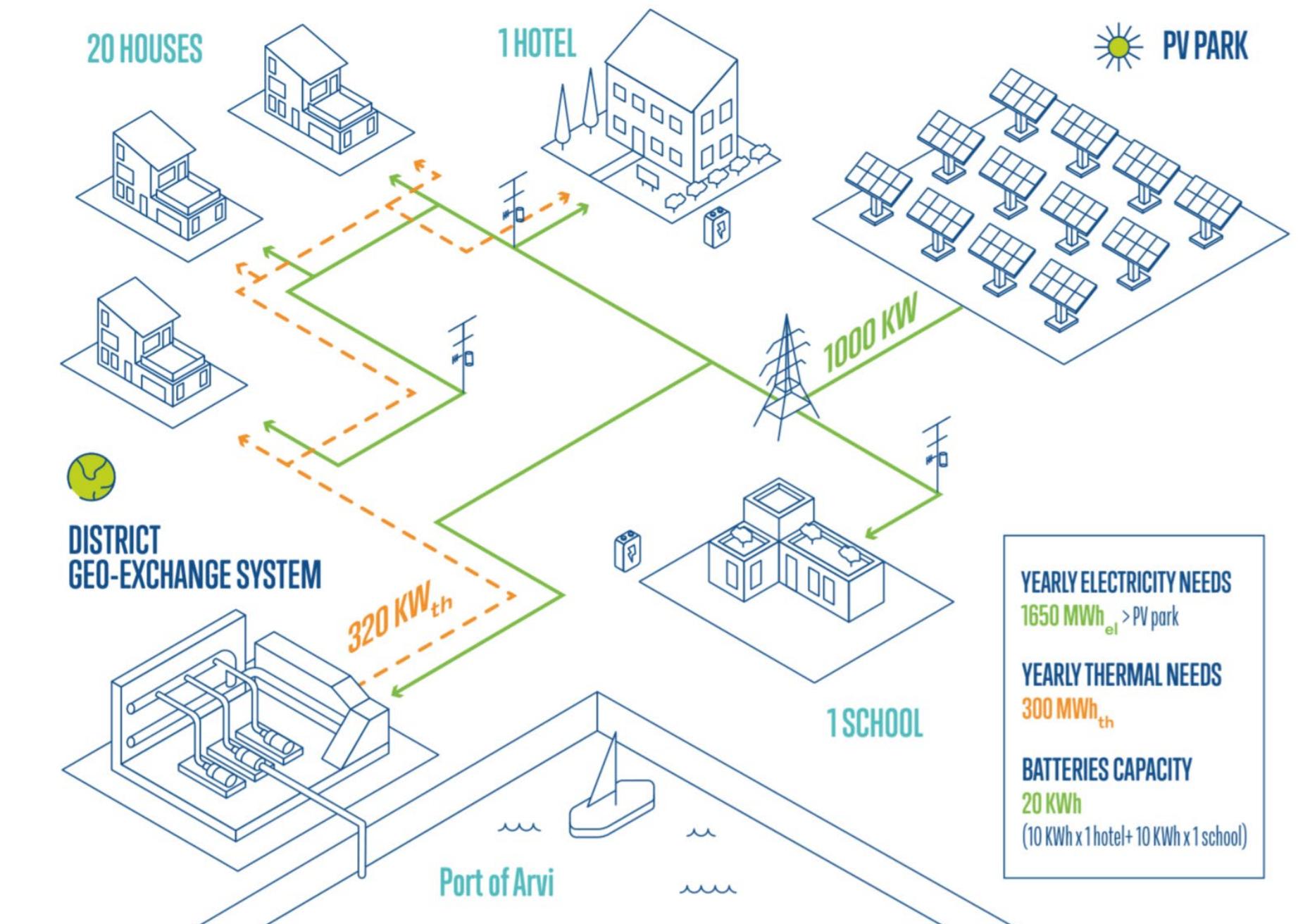


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CEL 1

Arvi

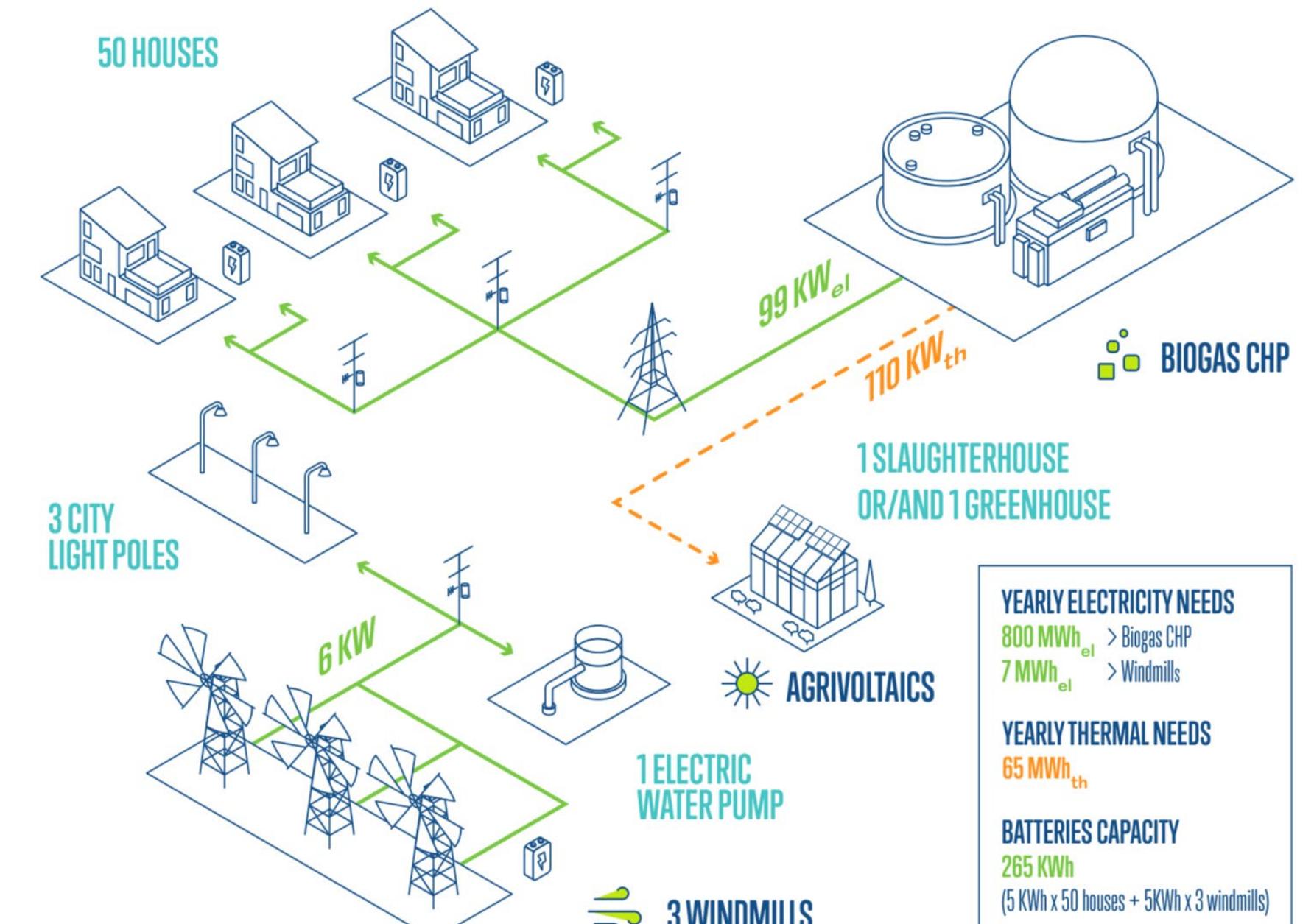
- 20m altitude, coastal village
- Warm climate, indoor space cooling for 9 months
- 500 permanent residents



CEL 2

Lasithi Plateau

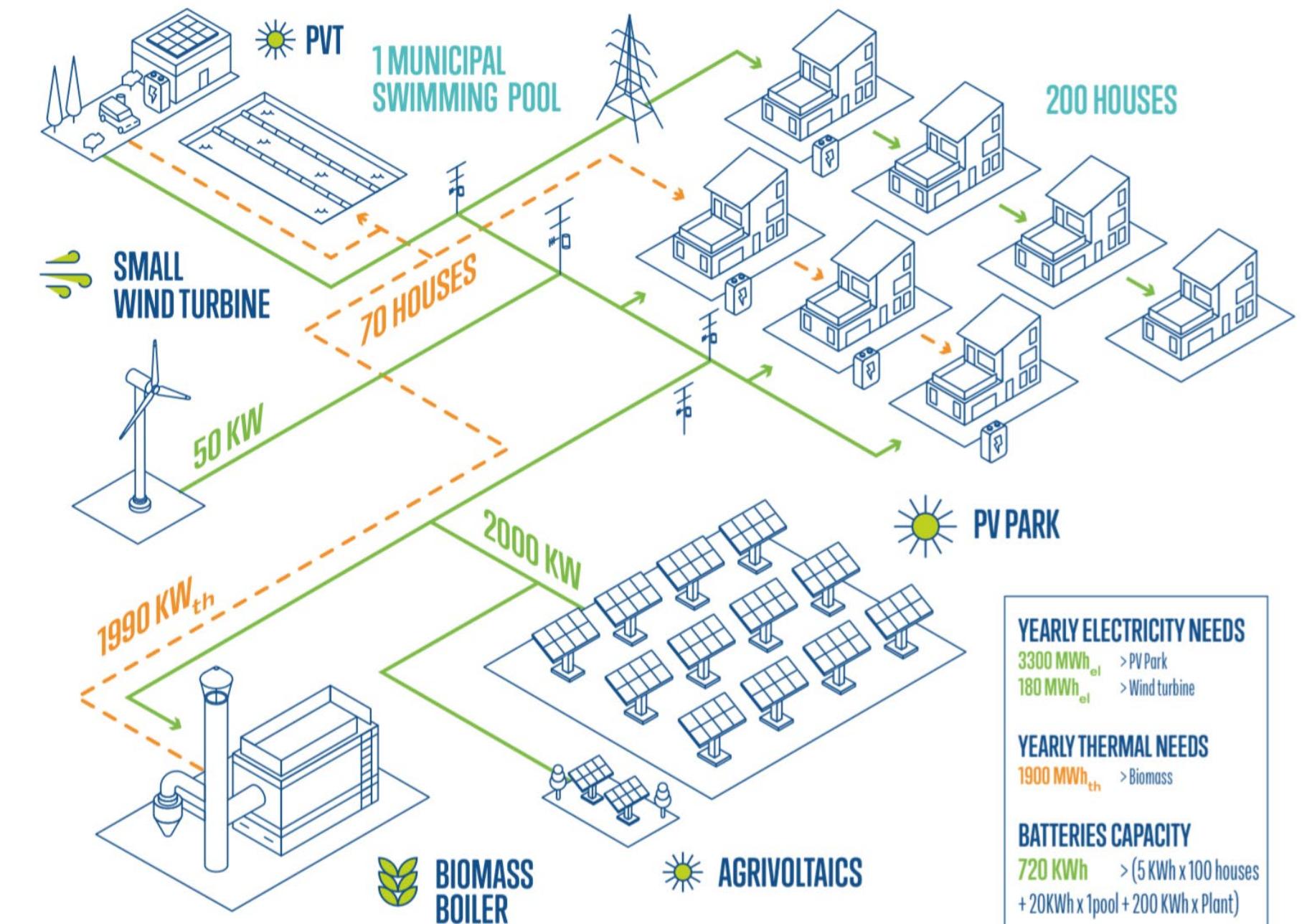
- 900m altitude
- Cold climate, indoor space heating for 9 months
- 2400 permanent residents



CEL 3

Arkalochori

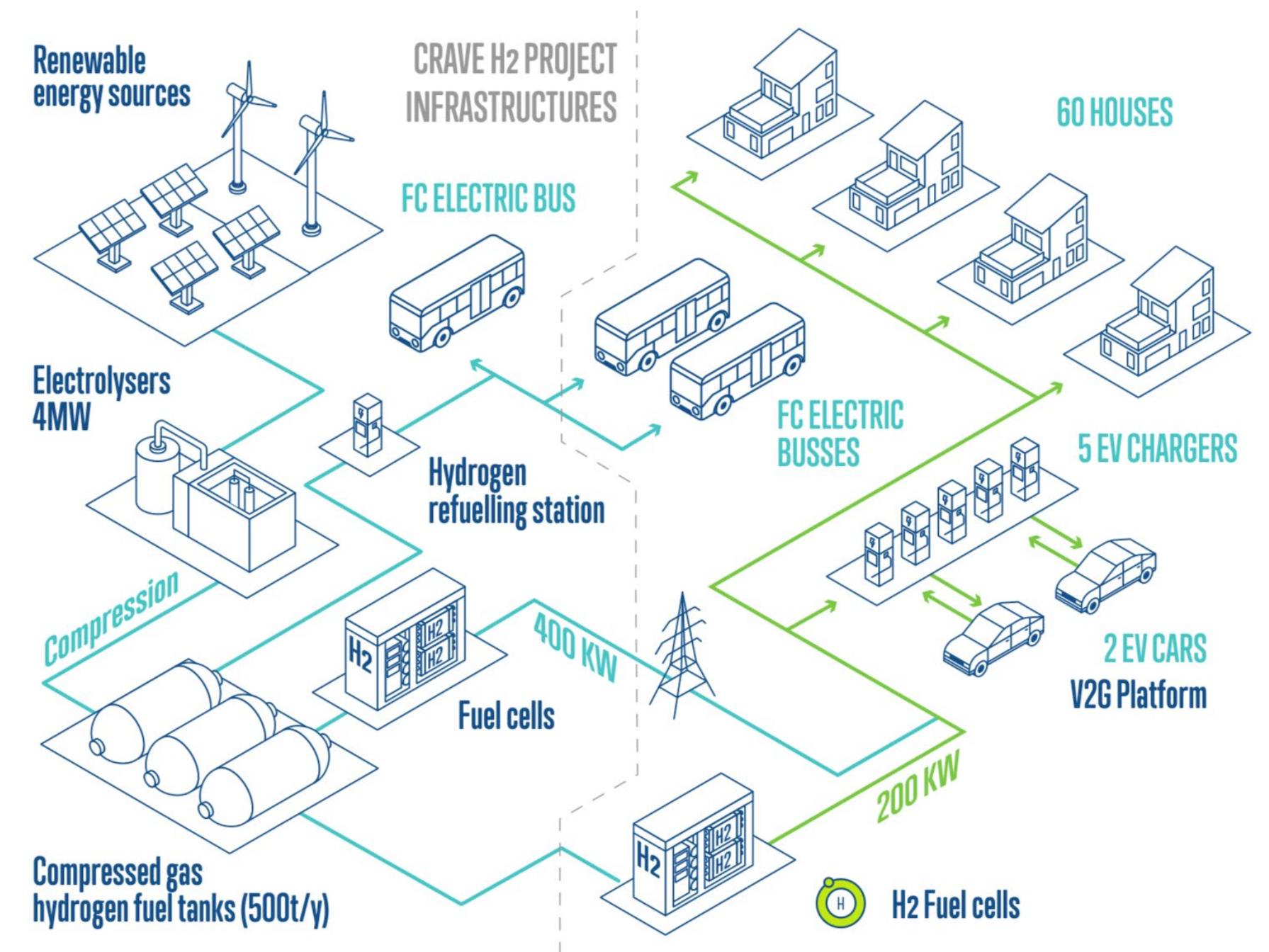
- 300m altitude, central Crete
- Indoor heating during winter
- 5000 permanent residents



CEL 4

Mires

- 20m altitude, coastal village
- Warm climate, indoor space cooling for 9 months
- 500 permanent residents



CRETE VALLEY DIGITAL TWIN

Who are the end-users?

| End Users | Functionalities |
|---|--|
| Transmission System Operators (TSOs) | Network monitoring, forecasting grid behaviour |
| Distribution System Operators (DSOs) | Network monitoring, optimisation of distribution efficiency |
| Community Managers | Production and load analytics, flexibility potential, maintenance scheduling |



CRETE VALLEY DIGITAL TWIN

Main Features

Welcome to Crete Valley Digital Twin

Discover, monitor, and manage the future of energy communities with powerful analytics and intuitive tools.



Platform Features



Energy Community Management

Access all key insights and controls through a centralized, intuitive interface for end-to-end CEL management.



Renewable Energy Systems

Track energy output, assess the performance of generation assets, and optimize maintenance scheduling with forecast insights.



Grid Resilience

TSO/DSO grid monitoring, advanced power flow simulations, and dynamic flexibility management.



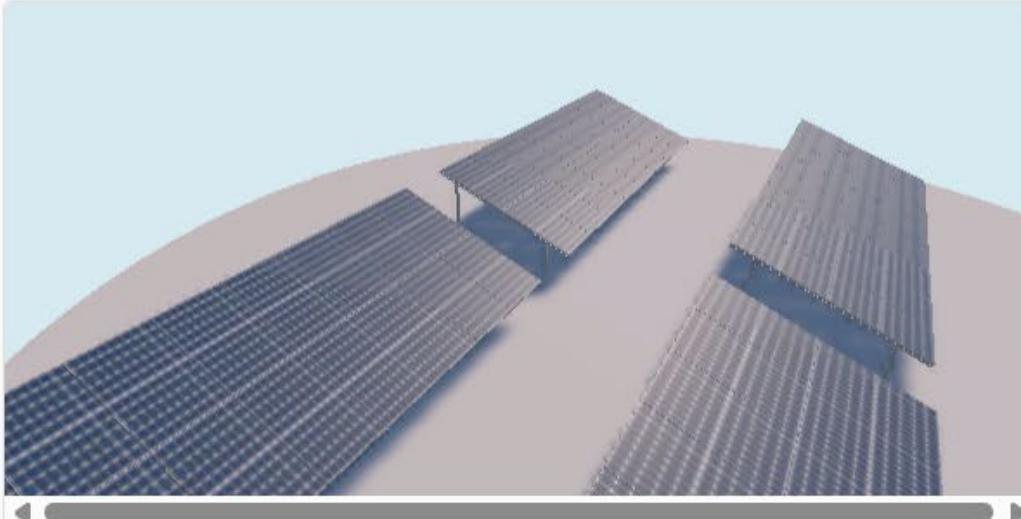
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CRETE VALLEY DIGITAL TWIN

Production Analytics

Crete Valley Digital Twin

Homepage > Production Analytics



LAST DAY **LAST WEEK** **LAST MONTH** **LAST YEAR** **TOTAL**

Total Energy Production **2.79 MWh**

Cost Savings **289.00€**

CO₂ Reduction **0.87%**

Weather Data

17/11 18/11 19/11 20/11 21/11 22/11 23/11

Electricity Production Forecast

Some historical sensor data are missing

Flexibility Potential

Upward Flexibility Downward Flexibility

Hour of Day

CRETE VALLEY

Homepage REV Overview CEL1 CEL2 CEL3 CEL Map Load Analytics Production Analytics PV Production Analytics Wind Production Analytics Biomass Maintenance Scheduling CEL4 DSO Network Monitoring TSO Network Monitoring Sign Out



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CRETE VALLEY DIGITAL TWIN

Load Analytics

CRETE VALLEY

- Homepage
- CEL1
- CEL2
- CEL3
 - CEL Map
 - Load Analytics**
 - Production Analytics PV
 - Production Analytics Wind
 - Production Analytics Biomass
 - Maintenance Scheduling
- CEL4
- Sign Out

Crete Valley Digital Twin

Homepage > Load Analytics

User Type: Electricity Users

elecUser1
 elecUser2
 elecUser3
 elecUser4

Consumption Over Time

Consumption (kWh/h)

Time: 2010 to 2022

Monthly Costs Comparison Over 2 Years

Cost (€)

Month: Jan 2023 to Dec 2024

Actual Cost (dark blue bars), Expected Cost (light blue bars)

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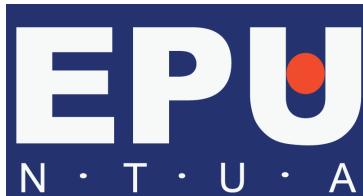
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MERCI POUR VOTRE ATTENTION !
THANK YOU FOR YOUR ATTENTION!



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