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CONSEJO INSULAR ENERGÍA

remarkable climate leaders

Driving change on a local level. Mitigation policies in Gran Canaria

September 2023

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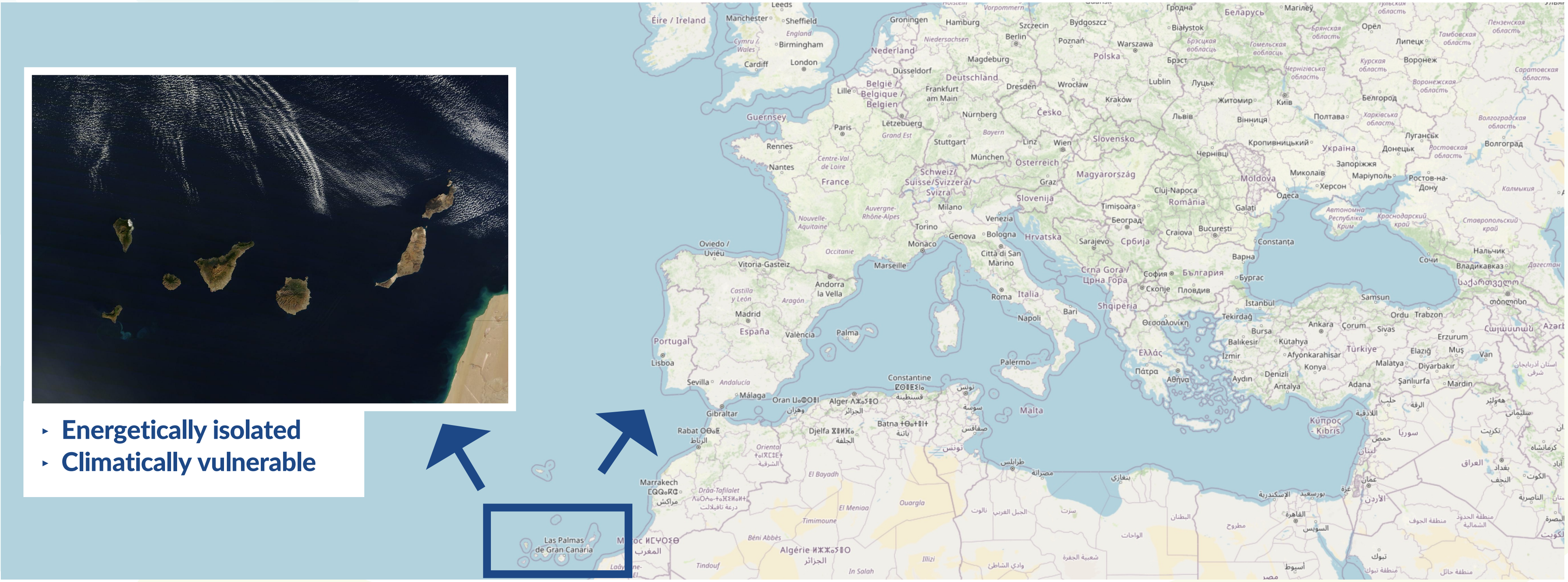
The Canary Islands: An outermost region 1,000 km from mainland Europe with 2.2 million inhabitants



- Energetically isolated
- Climatically vulnerable

Image: NASA https://images.nasa.gov/details/GSFC_20171208_Archive_e001798 Map: OpenStreetMap

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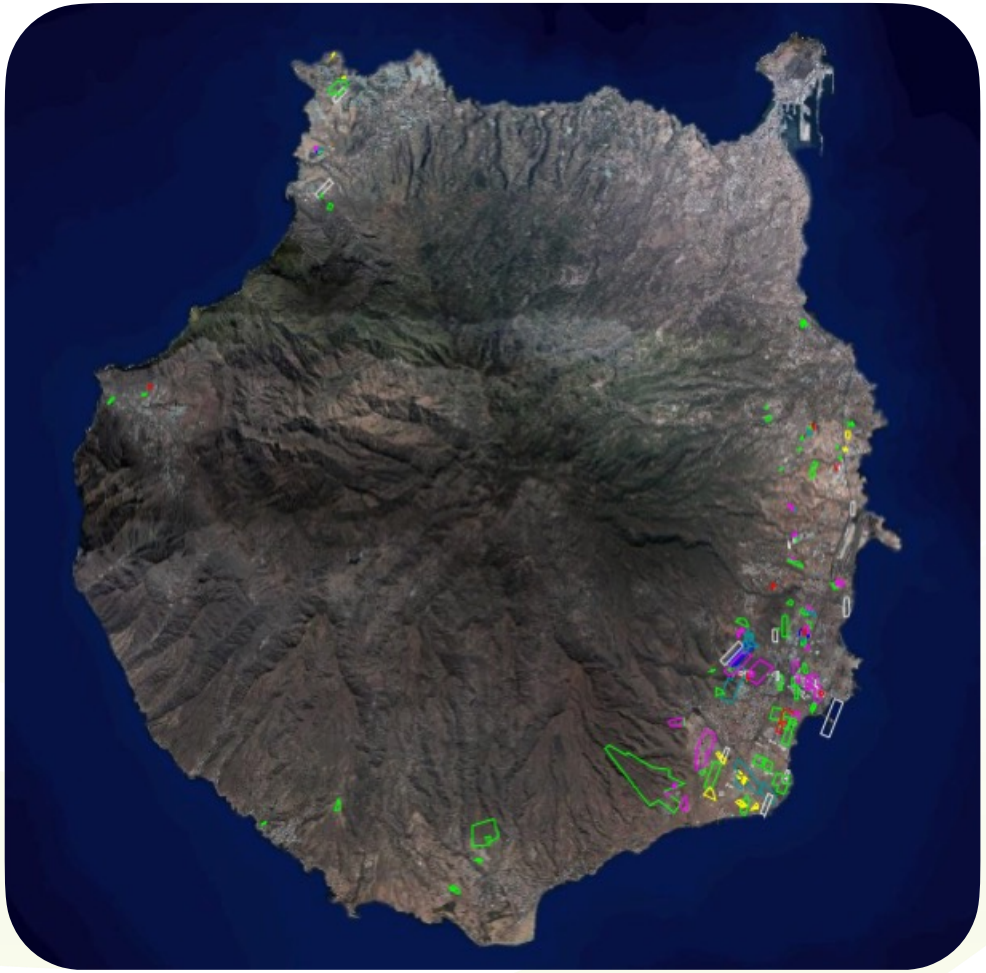
- Gran Canaria: 866,000 inhabitants
- 4,000,000 tourists per year
- Photovoltaic generation 73.55 MW
- Wind generation: 293.30 MW



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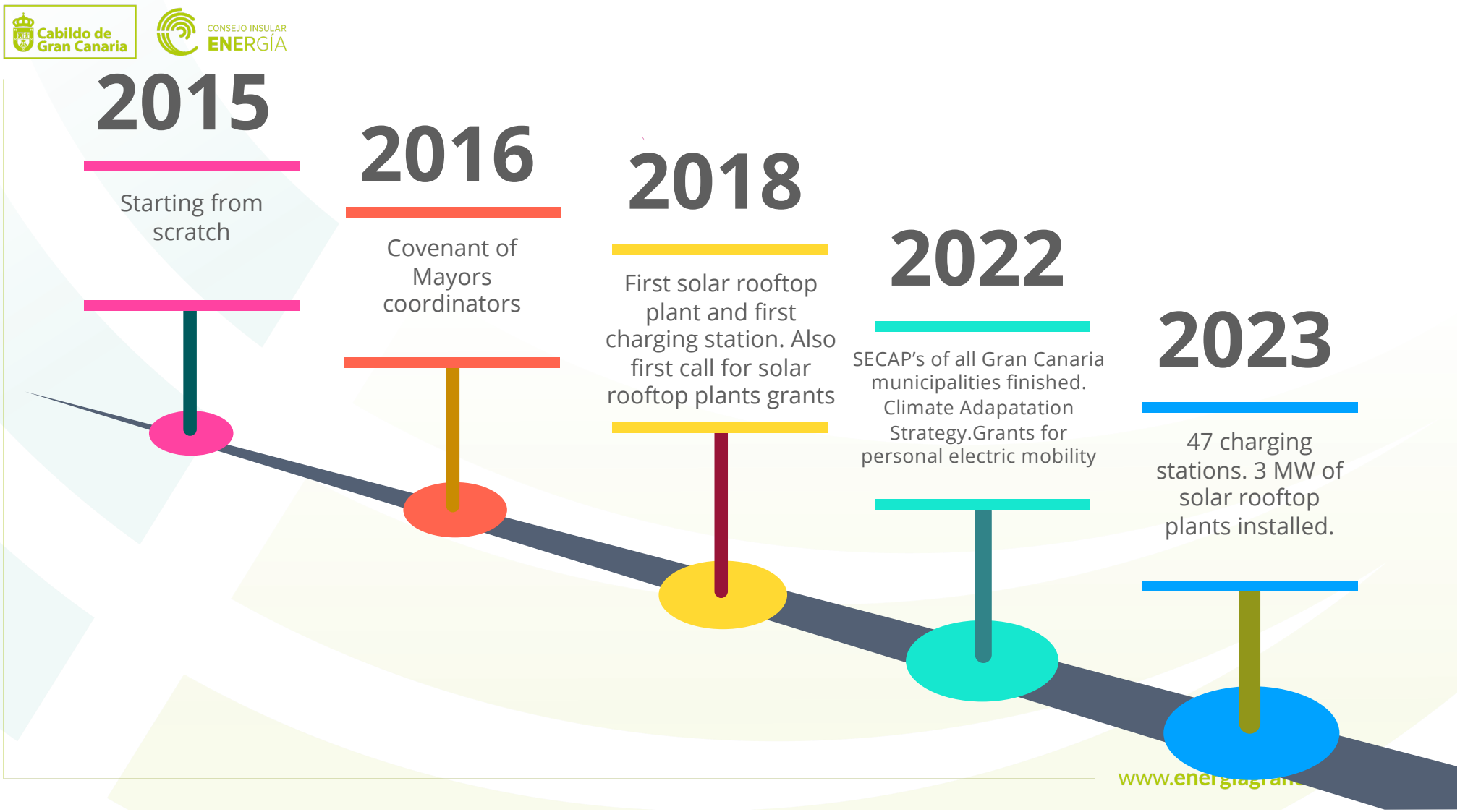
Consejo Insular de la Energía de Gran Canaria
Gran Canaria Energy & Climate Agency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2015
Starting from scratch
2016
Covenant of Mayors coordinators
2018
First solar rooftop plant and first charging station. Also first call for solar rooftop plants grants
2022
SECAP's of all Gran Canaria municipalities finished. Climate Adapatation Strategy.Grants for personal electric mobility
2023
47 charging stations. 3 MW of solar rooftop plants installed.

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Cabildo Focus Areas (*Energy and Climate Agency)

BUILDINGS

WATER MANAGEMENT

*CIRCULAR ECONOMY

*ENERGY

SOLID WASTE RESOURCES

*MOBILITY

NATURAL HERITAGE

*CLIMATE ADAPTATION

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The “ecoisland” vision of Gran Canaria

EU MISSIONS
ADAPTATION TO CLIMATE CHANGE
Mission Charter
We are part of it!

Covenant of Mayors for Climate & Energy EUROPE

Climate Alliance

Climate Change Adaptation Strategy
Circular Economy Strategy
Finalizing the Energy Transition Agenda

MACCLIMA

Co-funded by the European Union
COSTAdapta

NATALIE
Accelerating and mainstreaming transformative NATure-based solutions to enhance resilience to climate change for diverse bio-geographical European regions

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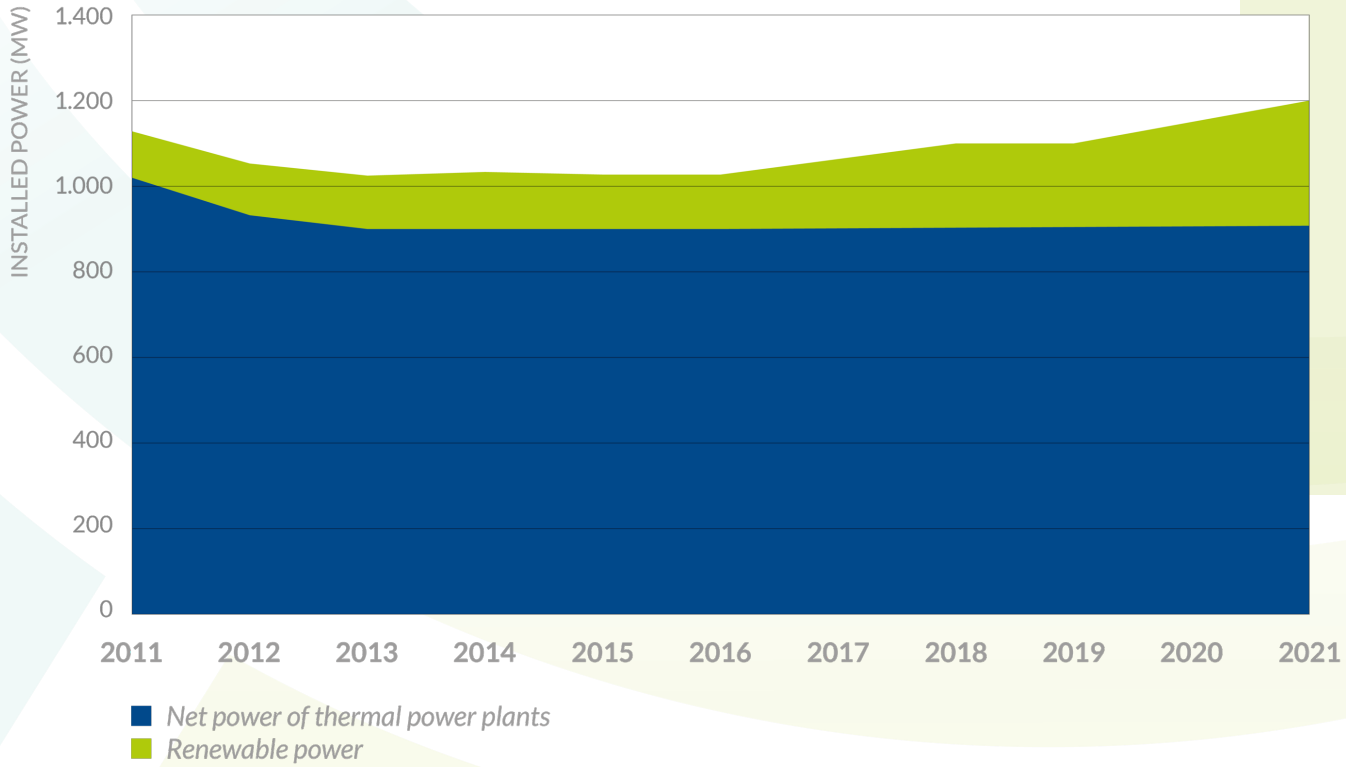

Installed capacity in 2022

- 24.8% of installed power is renewable
- Renewable capacity: 300 MW
- Fossil capacity: 906 MW

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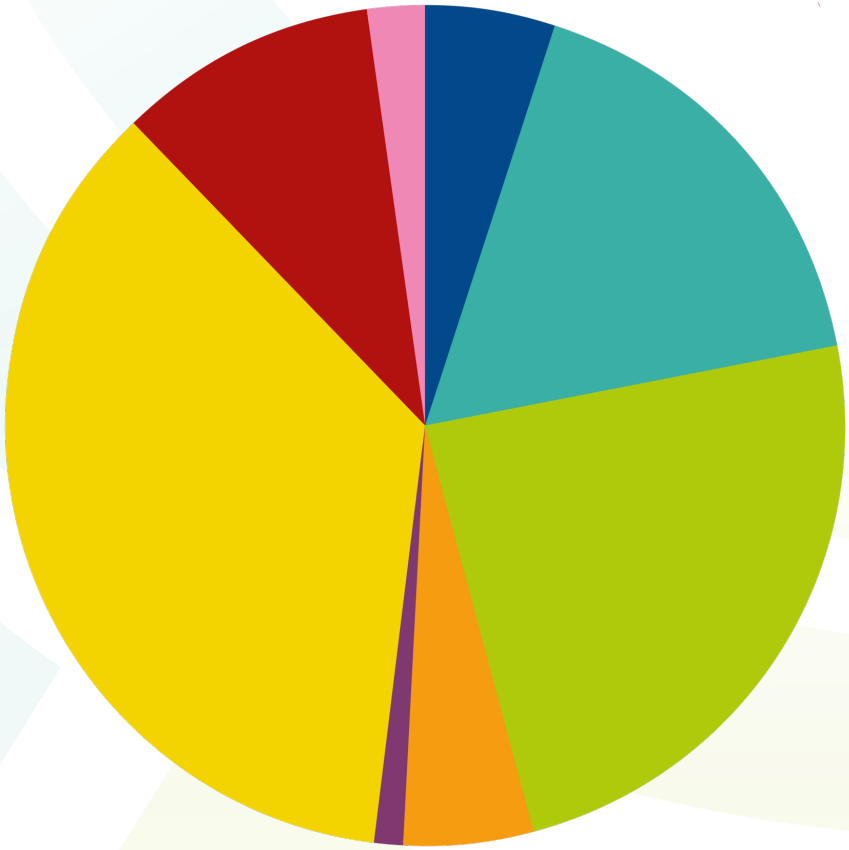
Total emissions in tCO2 by sector in Gran Canaria



Over 50% in buildings and industry

- *Municipal buildings and facilities - 5%.*
- *Tertiary buildings and facilities - 17%.*
- *Residential buildings and facilities - 24%*
- *Industry - 5%*
- *Municipal transport - 0%*
- *Public transport - 1%*
- *Private transport - 36%*
- *Waste - 10%*
- *Other (buildings and primary equipment) - 2%*

Evolution of CO2 emissions (electricity sector)

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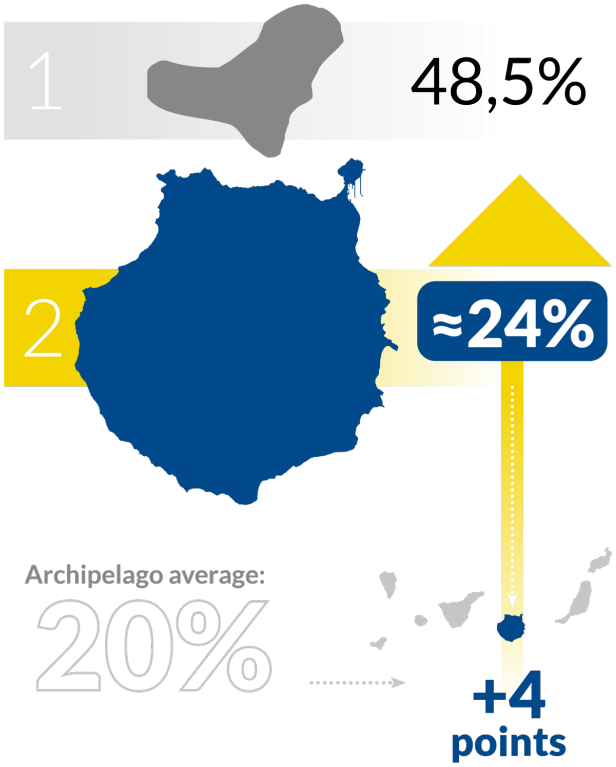
CONTRIBUTION TO RENEWABLE ENERGY



EVOLUTION 2017-2022

2022

≈350MW

2017

128MW

173%

GROWTH

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SELF-CONSUMPTION IN GRAN CANARIA

INSTALLATIONS

2022

+2.000

2019

100

INSTALLED POWER

2022

28MW

x6

2019

≈5MW

REFERENCE ISLAND

Gran Canaria is the island with the most self-consumption in the Canary Islands.

≈50%

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PHOTOVOLTAIC SELF-CONSUMPTION IN GRAN CANARIA

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GRANTS

- **222** awarded in 2022
- **1,2 MW** installed

AGRICULTURE AND LIVESTOCK

- **131** awarded
- **2 MW** installed

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55% REDUCTION OF CO2 EMISSIONS BY 2030

ZERO EMISSIONS BY 2040 THIS MEANS THAT WE MUST ELIMINATE OR CAPTURE ALL EMISSIONS.

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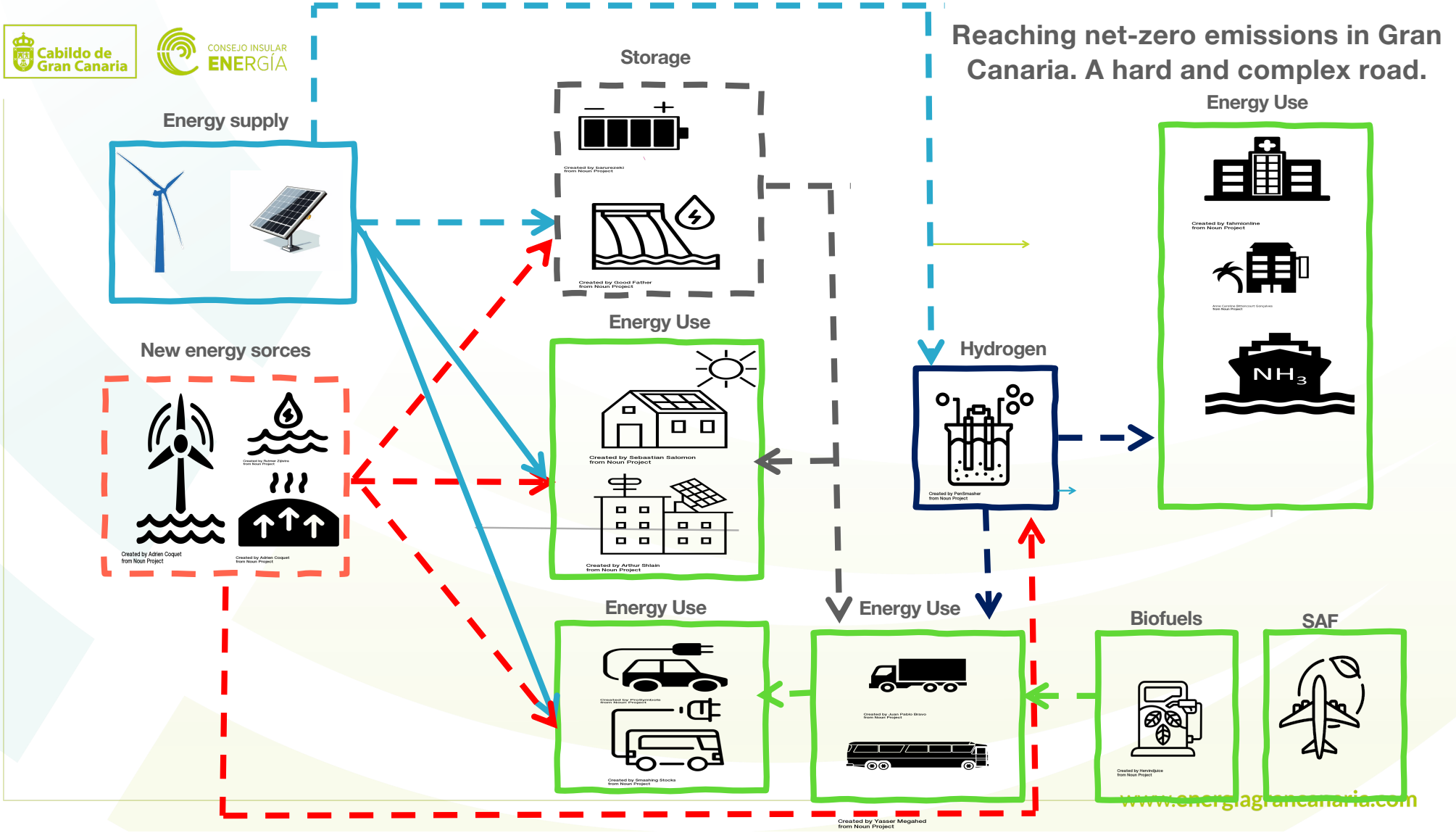
Use less energy. We need to reduce demand and use what we really need efficiently

Transition to renewables. e.g. wind, solar, biofuel

Flexibility and storage. We need to be able to store electricity and use it more flexibly.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Reaching net-zero emissions in Gran Canaria. A hard and complex road.
Energy supply
Storage
Energy Use
New energy sorces
Energy Use
Hydrogen
Energy Use
Energy Use
Biofuels
SAF
NH3
www.energiagrancanaria.com

The President's commitment to make Gran Canaria a net zero carbon island by 2040 means we must work at a greater scale and pace than ever before.

Innovation opportunities have been seized to test offshore technologies, such as floating offshore wind, and hydrogen infrastructure

This will require large scale transformation by 2040, requiring new approaches, greater coordination, faster action, citizen engagement, and substantial flows of public and private capital.

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How?

"Ecoisland vision"

With mitigation and adaptation policies

Circular economy

Community engagement

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Covenant of Mayors for Climate and Energy
An integrated approach that fits our vision of "ecoisland".

Island coordinator

21 Sustainable Energy and Climate Action Plans (SECAP)

Decarbonization

Resience

Secure, sustainable and affordable energy

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Rooftop solar power in island government buildings

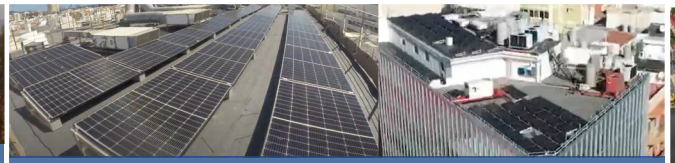
Hogar Maternal (Jul 2022)
10 kW
18.000 kWh/año
10,42 tCO2eq/año

Centro de Interpretación de Risco Caído (Ab 2022)
20 kW
38.600 kWh/año
29,84 tCO2eq/año

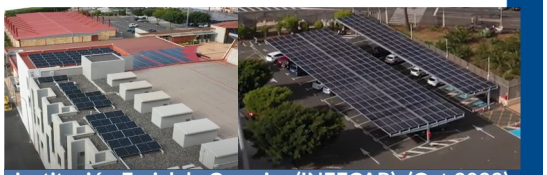
3.117 MW photovoltaic capacity

3,352.87 tons of CO2 equivalent avoided

Residencia Taliarte (Oct 2022)
400 kW
762.407 kWh/año
487,98 tCO2eq/año



Casa Palacio + Edificio de Cristal (May 2021)
120 kW
206.944 kWh/año
121,43 tCO2eq/año



Institución Ferial de Canarias (INFECAR) (Oct 2022)
179 kW
228.296 kWh/año
35,40 tCO2eq/año

Teatro Cuyás (Dic 2022)
15 kW
28.860 kWh/año
16,71 tCO2eq/año

Comarca 2 (Jun 2023)
55 kW
109.178 kWh/año
63,21 tCO2eq/año

Comarca 4 (Jun 2023)
770 kW
1.412.270 kWh/año
817,70 tCO2eq/año

Gran Canaria Arena (Nov 2023)
770 kW
1.412.270 kWh/año
817,70 tCO2eq/año

ECOPARQUE Gran Canaria Norte (Dic 2023)
1.284 kW
2.400.000 kWh/año
1.389,60 tCO2eq/año

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Efficiency

El Sabinal social-sanitary centre
147,6 kW
31,4 tCO2eq/año

3.117 MW photovoltaic capacity

3,352.87 tons of CO2 equivalent avoided

Aerothermal heat pump

Created by Saeful Muslim from Noun Project

Very Low-Temperature Geothermal Energy

Created by Smalllike from Noun Project

We have also submitted a proposal for energy efficiency in public and private buildings in the last Life call

The authorised project will take advantage of the fact that there are two large inland reservoirs (the Chira and Soria dams) located on the island in order to build between them a 200-MW pumped-storage hydroelectric power station (equivalent to approximately 36% of the peak demand of the island of Gran Canaria) and an energy storage capacity of 3.5 GWh. Additionally, the project includes the construction of a seawater desalination plant and the associated marine works, as well as the necessary facilities for connection to the transmission grid.

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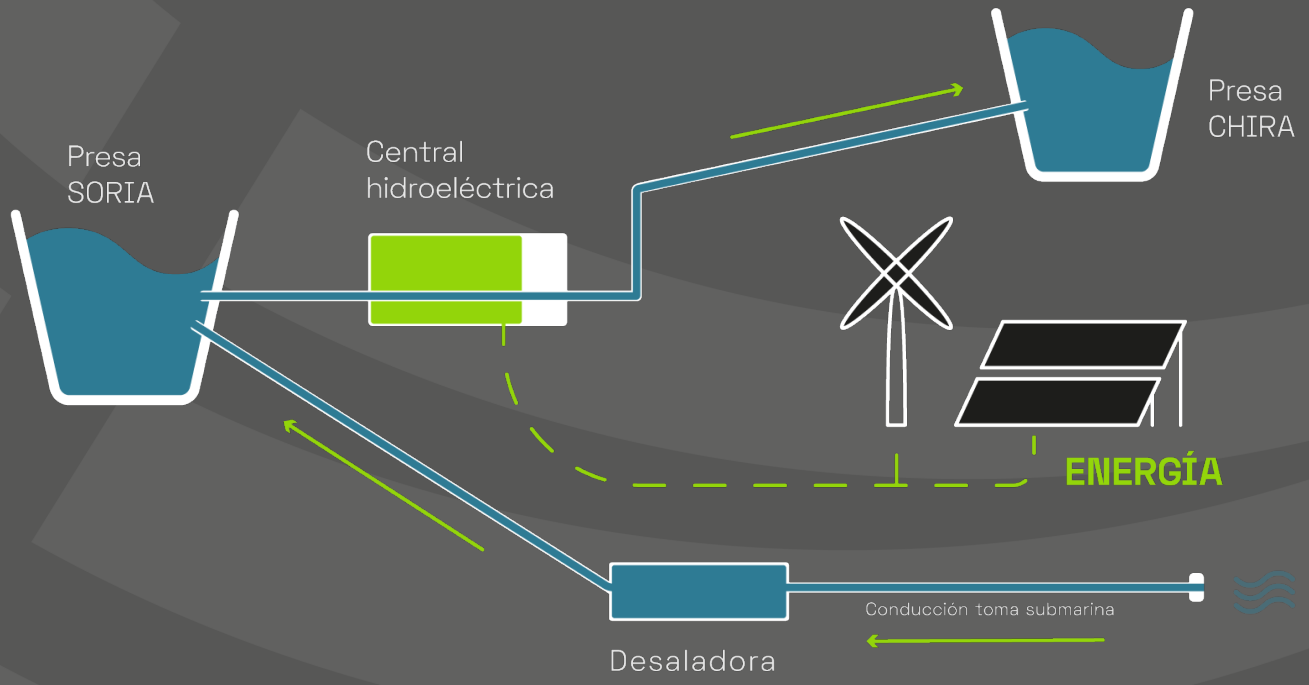
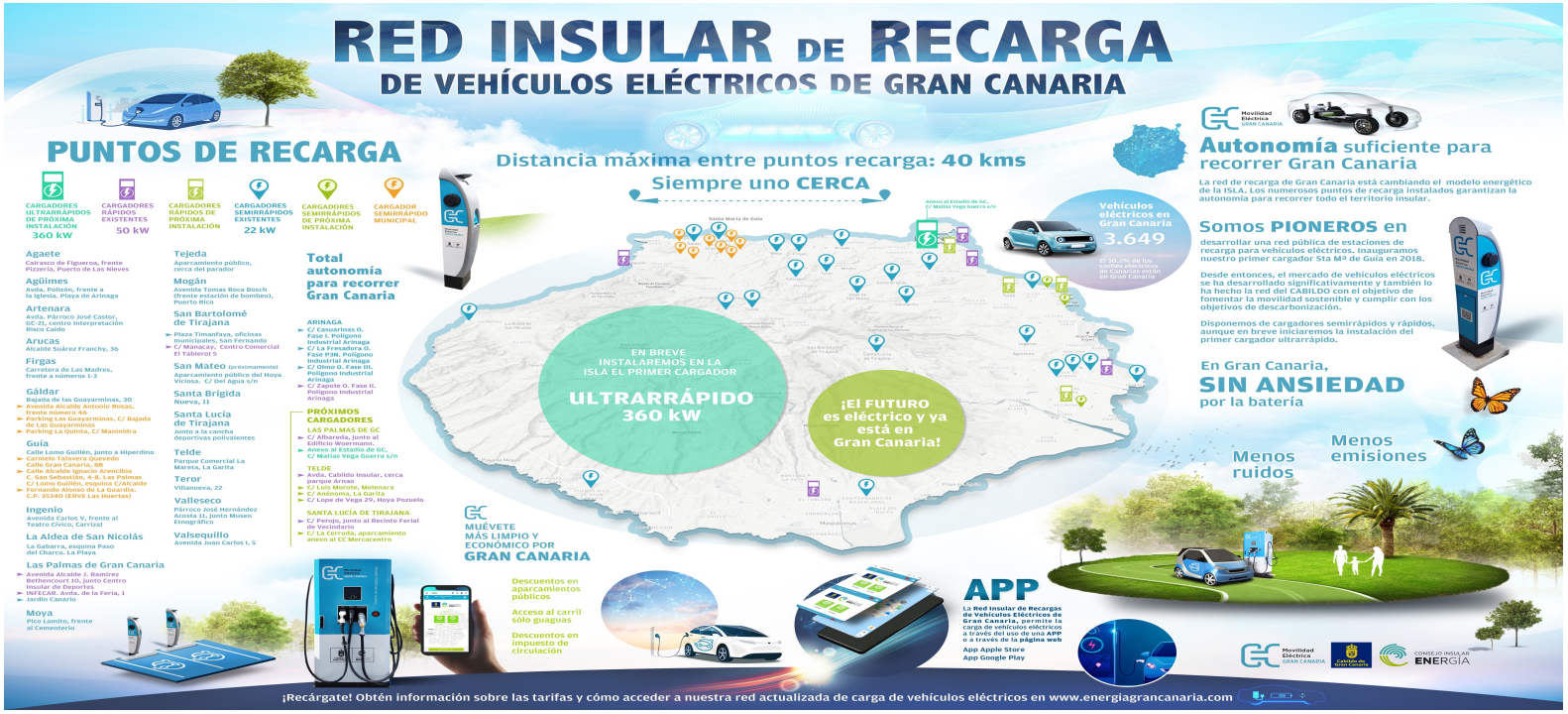
Salto de Chira

How does it work?



Island network of charging points for electric cars

- 47 points managed by the island government
- 40 kms maximum distance between recharging points
- Capacities of 22 kW, 50 kW and 360 kW



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Collective self-consumption and renewable energy communities Office for Community Transformation and Energy Transition of Gran Canaria

4 citizen energy communities

2 industrial energy community (cooperative and non profit organization

Energy community project in a vulnerable area (Las Remudas)

Next call for tenders planned:

Digital platform to manage energy communities (energy trading, efficiency, storage)

- CE Ciudadana Siete Palmas
- CE Ciudadana Telde
- CE Ciudadana Playa de Inglés
- CE Ciudadana Bco. de Arguineguín
- CE Energética Industrial (Cooperative) PI Arinaga
- CE CE Energética Industrial

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OFICINA DE TRANSFORMACIÓN COMUNITARIA Y TRANSICIÓN ENERGÉTICA

OTC

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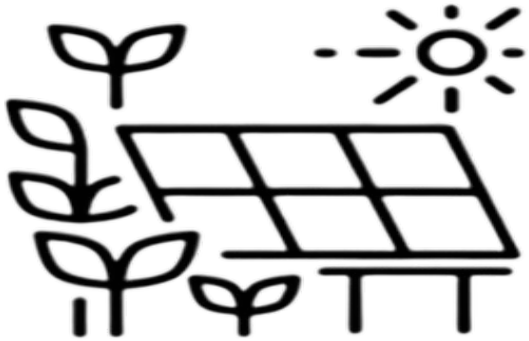
Innovative projects. Agrovolaics. Energy community management.

Agrivoltaics- A European Interreg proposal submitted

- In GC land is scarce and, thus, a highly valuable resource.
- Increases farmers' income, diversifies their economy, converting farming into a more attractive sector.
- This is especially important in regions where farming has decreased over the last decades, favouring e.g. the tourism sector in opposition to the primary sector, compromising food sovereignty in isolated regions, such as the Canary Islands.



Innovative projects. Deep geothermal project.

13.2 million euros grant obtained to develop deeper studies and three boreholes at 2.5 km depth

- Public-private consortium

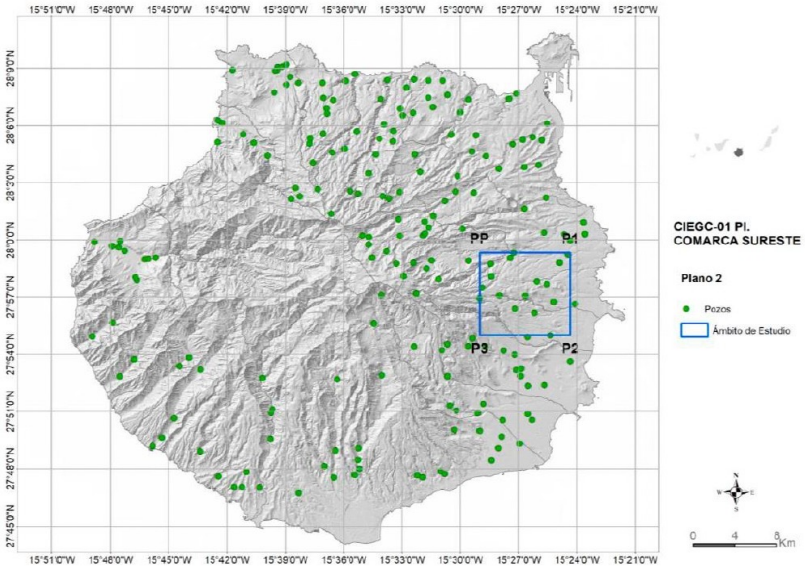


Figura 5. Registro pozos de agua en la isla de Gran Canaria

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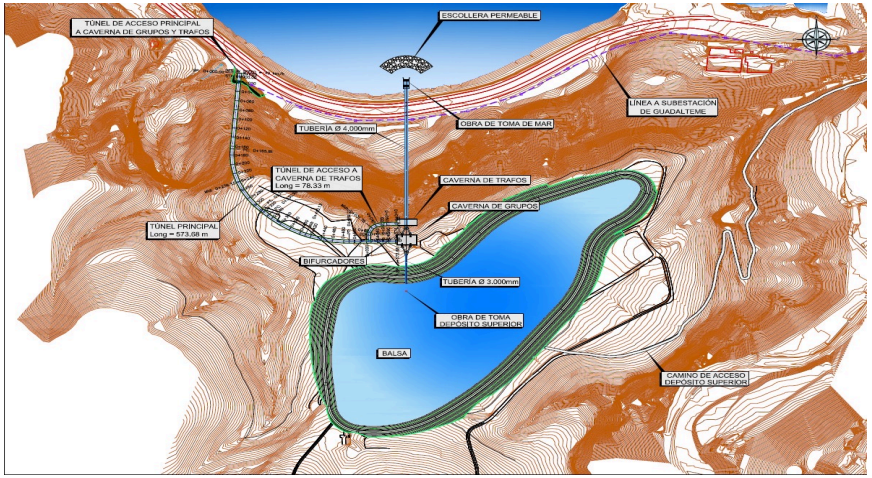
Innovative projects.
Open-cycle saltwater hydropumping in the north of Gran Canaria

Storage project
70 MW capacity

- Submitted to a call for proposals for hydropumping with Next Generation funds
- Public-private consortium



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OFICINA DE TRANSFORMACIÓN COMUNITARIA Y TRANSICIÓN ENERGÉTICA
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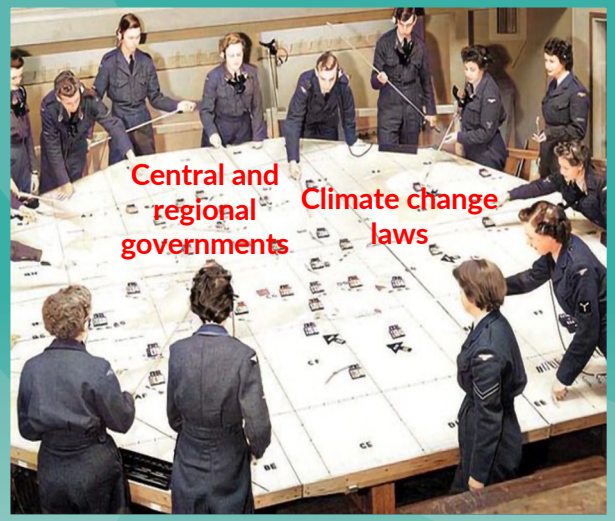

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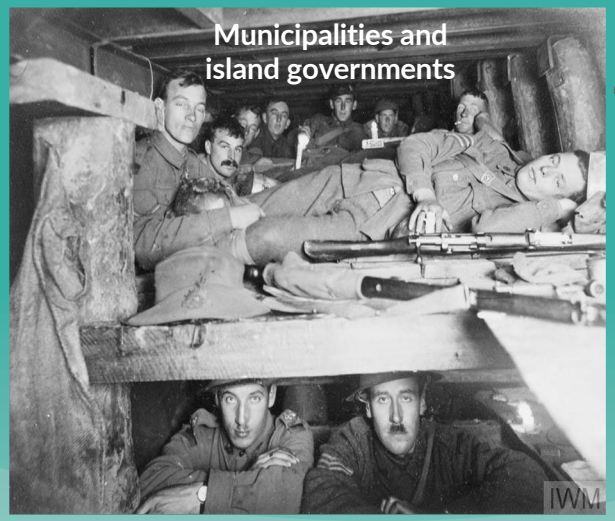
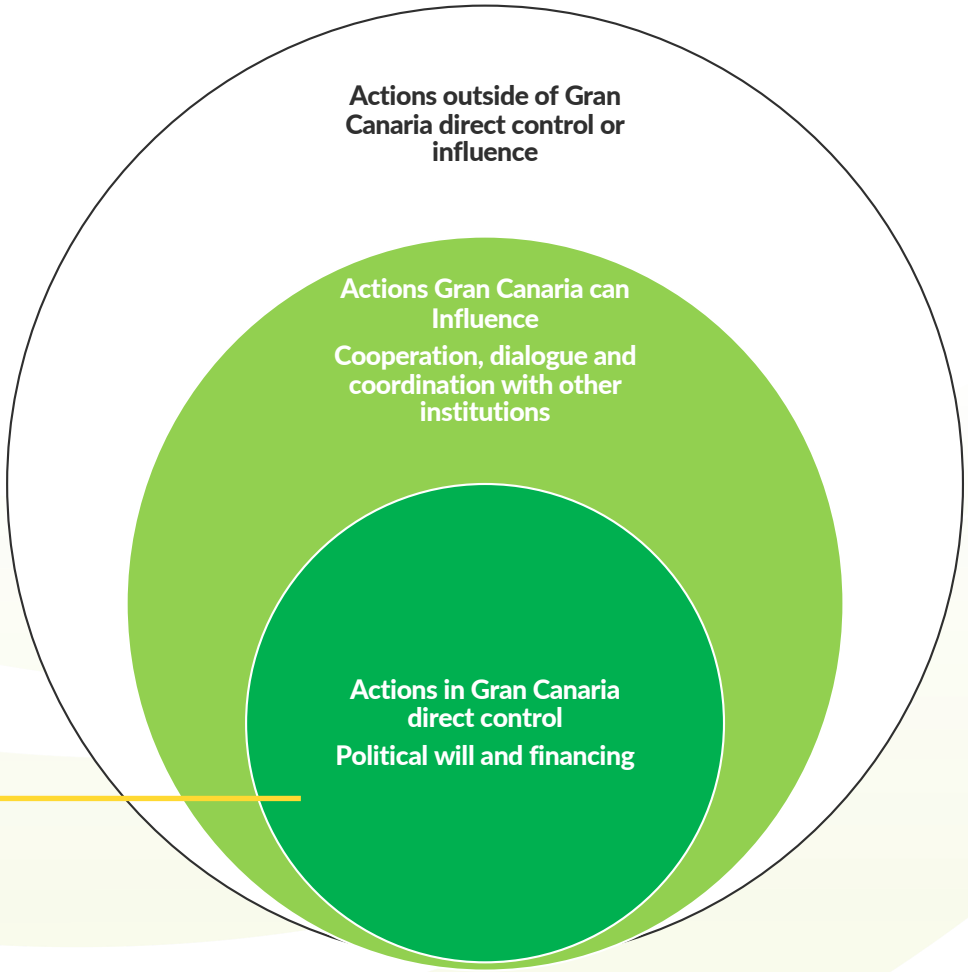


https://www.iwm.org.uk/history/voices-of-the-first-world-war-trench-life

State and regional action is essential to set the framework and make the big decisions, but the complexity of the green transition in our 21 municipalities, localities and neighborhoods cannot be managed from so high up, since the transition will be different in each place and requires actions on the "battle front".

Spheres of Influence

- Actions the Gran Canaria can control
  - Rooftop PV plants, energy communities, EV charging stations, innovative projects
- Actions the Gran Canaria can influence
  - Municipalities, Regional Government
- Actions outside of the island's direct control or influence
  - Central Government, EU policies



No excuses

Critical point

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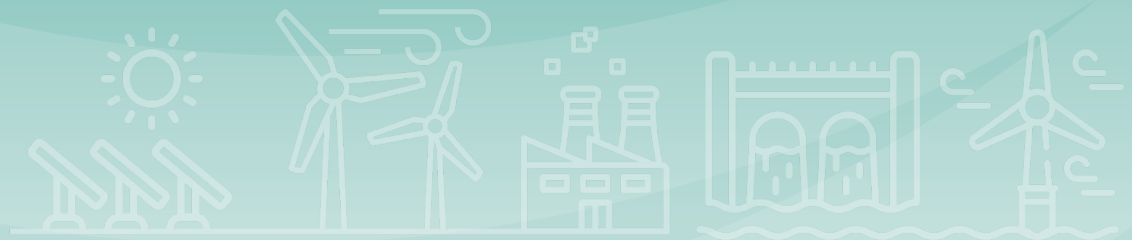
Thank you for your attention

Raúl García Brink

Environment, Climate, Energy and Knowledge Councillor of the Cabildo of Gran Canaria. Cabildo Insular de Gran Canaria

raulgarcia@grancanaria.com



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