

## Sustainable Development Program (1997)



## World Biosphere Reserve (since 2000)



# Positive Factors

1. The island is a **feasible area**.
2. We are **part of the EU: Sustainability Plan – Sustainable Development Programme (PDS 1997)**.
  - ✓ **World Biosphere Reserve (2000).**
  - ✓ **Leader Programmes.**
  - ✓ **ERDF investments: Commercial Port; Valverde-Frontera Tunnel.**
  - ✓ **ALTENER II Project: “Towards 100% Renewable Energy on Small Islands. Development and Implementation of Organisational and Financial Rules in a new Network Collaboration” (co-funded by DG XVII of the European Commission) (1999-2000).**
    - **“100 % RES for the production of electricity” programme.**
    - **Transport Programme.**
    - **Energy Saving Programme.**

# Positive Factors

3. **Singularity of being an island.**







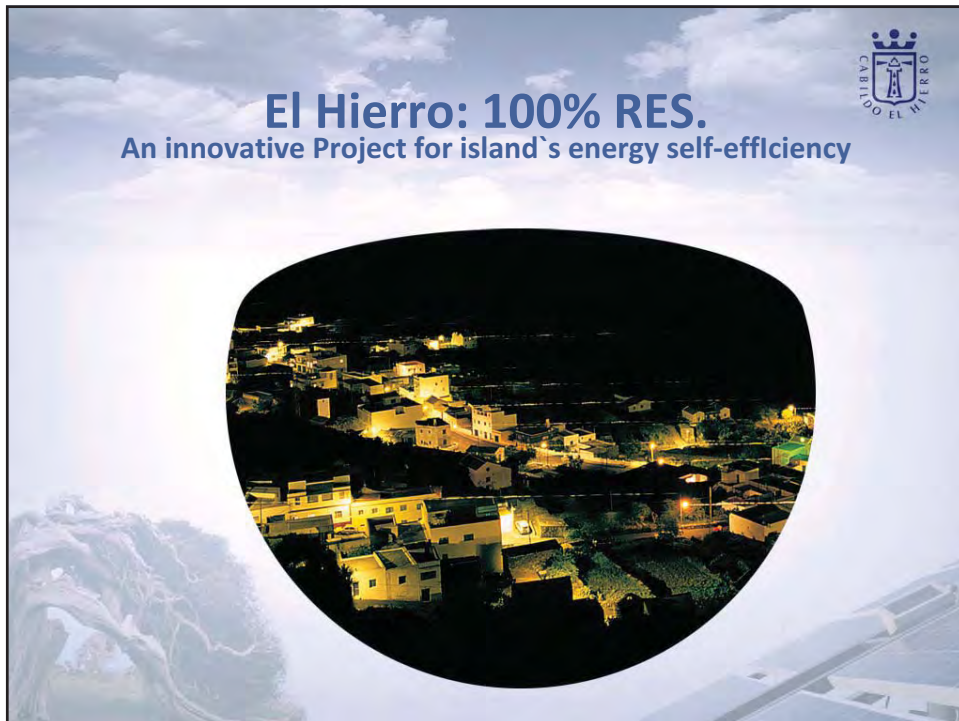
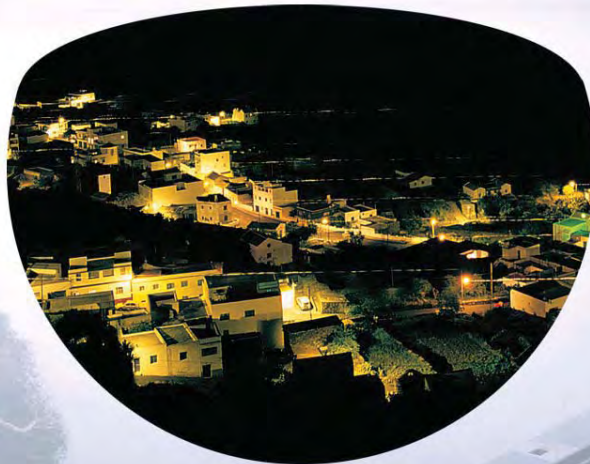
# Sustainability Plan

- Sustainable tourism.
- Agriculture, Livestock and Fisheries.
- Job creation.
- Waste management.
- Trade and Industry.
- Sustainability Laboratory.
- El Hierro 100% RES.



# El Hierro: 100% RES.

An innovative Project for island's energy self-efficiency



## 100% renewable energy supply



## 100% renewable energy supply



- Design and construction of a Wind- Hydro Power Station
- Installation solar collectors
- Evaluation of biomasses exploitation possibilities
- Transport. Sustainable Mobility
- Environmental Education



# Promotion, Management, Construction and Exploitation of the Power Station



Gorona del Viento  
El Hierro S.A.

Shareholders:



**TOTAL INVESTMENT: 64,7 M€**  
Investment co financing: 65% (35 M€). IDAE



# Upper Reservoir





# Wind Farm



# Lower Reservoir



# Hydraulic Power Station



# Hydraulic Power Station





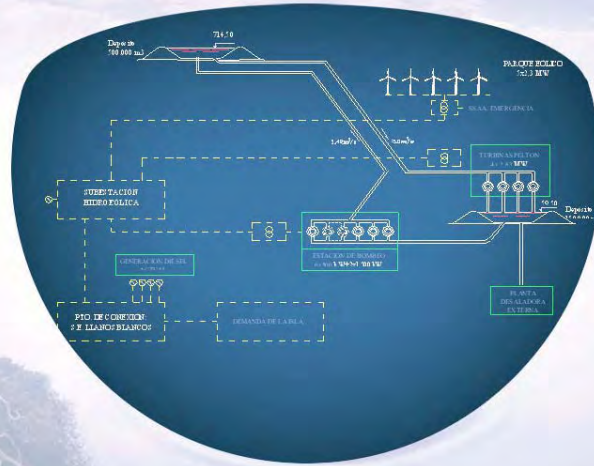
# Pumping system



# Pumping system



# Operating Outline



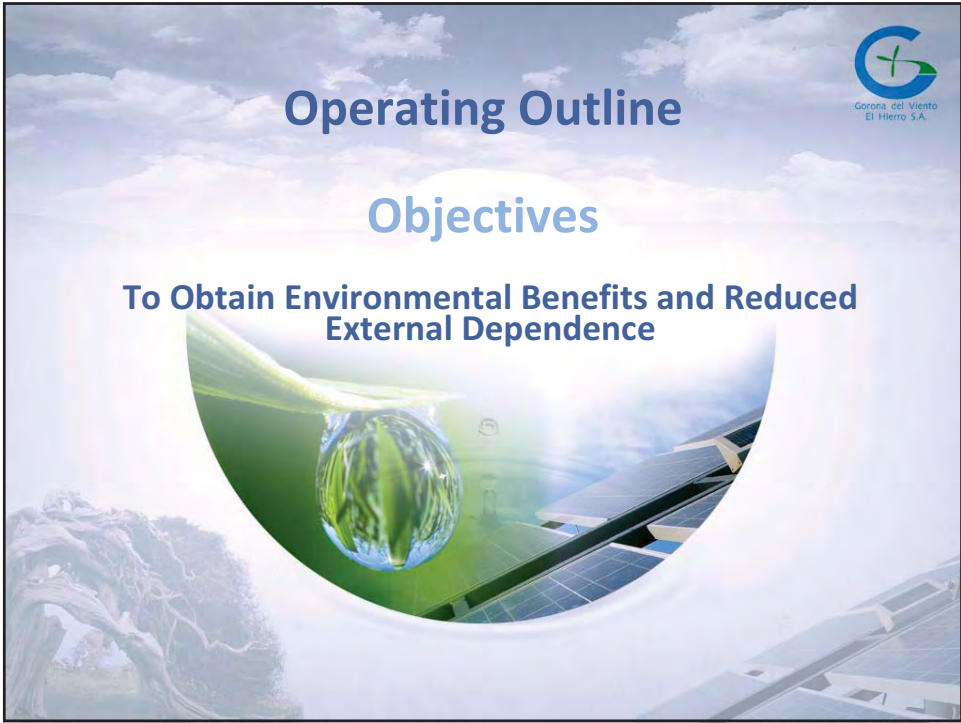
# Operating Outline



## Objectives

To supply the island with power and water




The slide features a background image of a landscape with a large, gnarled tree on the left and solar panels on the right, under a cloudy sky. A large, glowing green circular graphic is centered, containing a smaller globe and a solar panel. The text is overlaid on this graphic and the sky.

**Operating Outline**

**Objectives**

**To Obtain Environmental Benefits and Reduced External Dependence**

The slide features the same background image as the first slide. A large, glowing green circular graphic is centered, containing a smaller globe and a solar panel. The text is overlaid on this graphic and the sky.

**PROJECT STRENGTHS**

- **Electricity and water self-sufficiency on the island. Reduction of power vulnerability.**
- **Power generation with greater dependency on renewable energy sources. Greater implementation of wind power.**
- **Reduction of CO2 and contaminant emissions.**
- **Use of facilities to dispose of elevated water resources (supply, irrigation, fire extinguishment).**
- **Reduction of costs with respect to diesel generation on El Hierro.**





# PROJECT REQUIREMENTS



- **Small electrical grid with greater stability risk.** Need to scale the facilities in order to guarantee running stability and security.
- **Need to develop a reliable wind prediction system to harness this highly variable resource.**
- **Need to integrate different types of wind-hydraulic-diesel generation** and to develop innovating management and control systems.
- **In prolonged low wind conditions** or during serious breakdowns of the hydro-wind system, **need for emergency diesel generators.**
- **Additional investment** is necessary for the construction of storage and pipeline depots.

El Hierro, the perfect setting.  
A project that can be  
**extrapolated to other  
territories**









# VISITS



THANK YOU  
VERY MUCH

