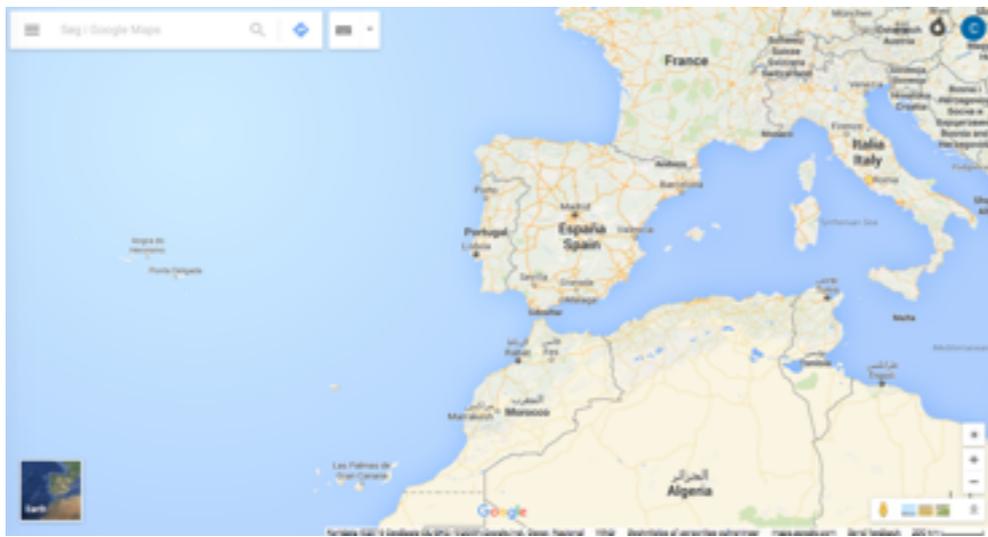




TENERIFE

TOURISM, ENVIRONMENT AND MORE...





SITUATION

The Canary Islands, constitute a reality within the European Union that is different from other European regions. It is characterized by its:

- Remoteness from the European continent and insularity. Isolated in their geographical environment and at considerable distance from major trade flows, the islands face an impossible task in fully enjoying the benefits of European Union trade.
- Very small local markets, and therefore economic dependence on a small number of products.
- Adverse topographical conditions, due to their small size.

The accumulation and combination of these characteristics seriously determines the

economic, social and territorial development of the islands

IMMIGRATION

Immigration from Africa and other parts of the world has changed the Canarian population landscape drastically over the past decades and has forced the islands to reassess their relationship with the continent. Over the past years the islands have increased cooperation with Africa, investing millions of Euros in education, health and infrastructure in Africa, especially in transport and communication links with the continent.



The people of Africa, including those in the North and West, broadly the Sahel region, represent a problem and a crisis of conscience for the world in the 21st century. The current flow of illegal immigrants, and the high mortality among those who attempt the trip, is a source of acute moral as well as political concern.

The Canary Islands (Spain) Energy and Water Framework

- 2 mill. inhabitants, 10-12 mill. tourists/year
- Total energy dependence on external resources
- Electricity generation from fossil fuels (oil); low heat demand
- Isolated (insular) electrical systems
- Lack of water resources (extremely low rainfall)
- Insular dimension: strategic need to maximise the use of endogenous resources (energy+water for self-sufficiency)
- -> Importance of water-energy binomial (desalination)

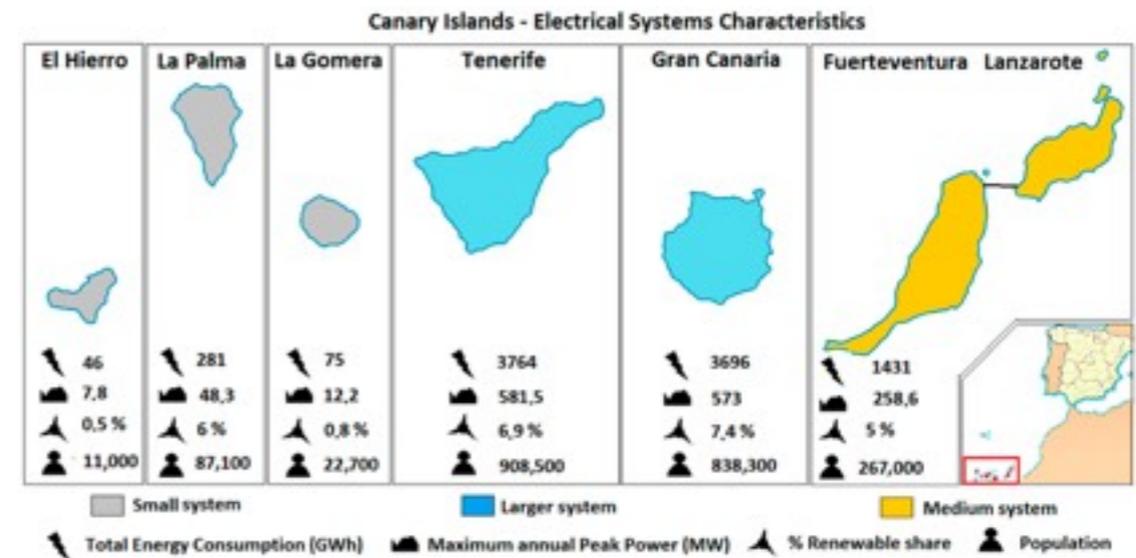


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ENERGY

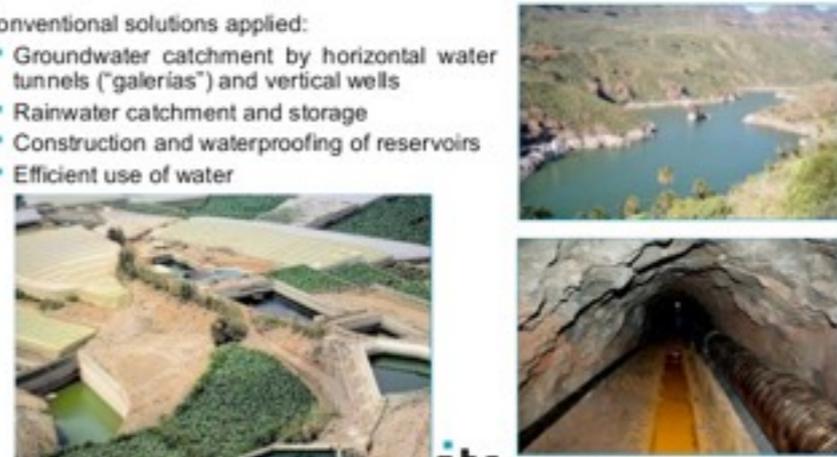
Geographical location and insular fragmentation result in absolute energy dependence on energy sources:

- There is no connection through submarine cable.
- Each island generates its own electricity.
- There are no conventional energy resources, including ground water resources.



The Canary Islands Water Resources

- Historically, the Canary Islands have suffered water scarcity associated to: low rainfall, high permeability of soils, over-exploitation of aquifer resources
- Conventional solutions applied:
 - Groundwater catchment by horizontal water tunnels ("galerías") and vertical wells
 - Rainwater catchment and storage
 - Construction and waterproofing of reservoirs
 - Efficient use of water



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WATER DESALINATION

Lack of water is one of the islands' greatest and most persistent problems. Limited rain fall and the lack of natural springs have always restricted agriculture and tourism.

Tenerife is a very mountainous island of volcanic origin, with recent eruptions. In spite of its small size (2034 km²), it has a wide variety of local climates which make for enormous variations in rainfall (from 100 mm on the south coast to over 900 mm in the highest northern and northeastern parts) and the resulting difficulties in calculating the true amount that filters down to the aquifer.



Besides, there are several contributions to the aquifer that include the following direct and indirect sources:

- Vertical rain (some of which filters down into the aquifer, some evaporates and some reaches the sea).
- Horizontal rain, generated by trade-winds in contact with vegetation (however, the true amount involved does not figure in the water balances because there is no precise evaluation methodology).
- Desalination of sea-water with fossil energy that has represented a survival factor for many communities in the islands in the last 30 years. Desalination plants supply water to 1 million people and almost all tourist visiting the islands.

- Purification of urban waste water for agricultural use.

TOURIST INDUSTRY AND ENVIRONMENT

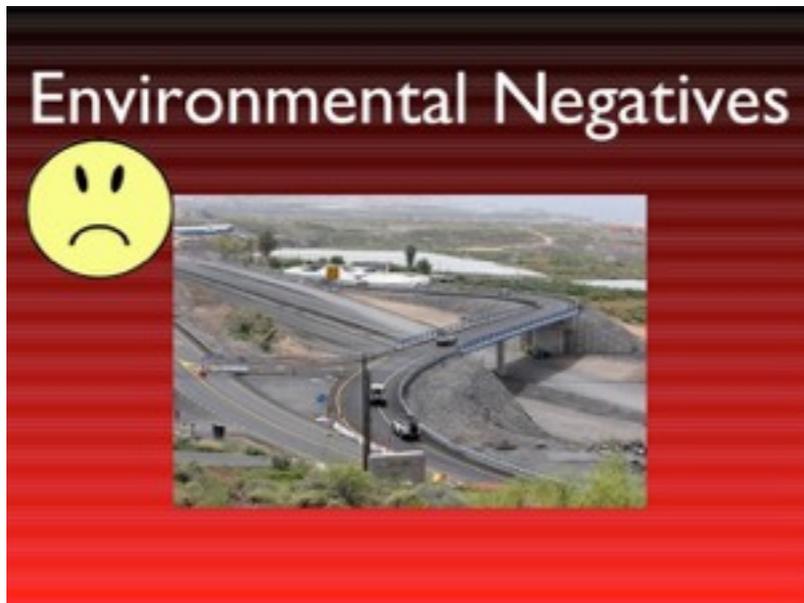


Tourism has changed lifestyle in the islands. The region has made a transition from primary to tertiary sector economy, a primarily agricultural society became a society largely dependent on the service industry. Traditional lifestyles on small farms or in fishing villages have been supplanted by employment in the tourism sector.

One natural asset that the region enjoys and may increasingly exploit to promote tourism is “safety”, compared with many tourist venues such as Egypt and Turkey. In addition to its environment, beautiful countryside and beaches, and some unique flora and fauna.

The region is also famous for its astronomy facilities. Largely because of its natural assets of clear skies and high land, the Canaries is the location for The European Northern Observatory: Instituto de Astrofísica de Canarias and its observatories, the Teide Observatory in Tenerife and the Roque de los Muchachos in La Palma.

However, there are also monumental eyesores, huge holidays villas, hotels and condominiums that have spread across much of the island southern coast. Some parts of the island interiors are being increasingly spoiled by property developers and speculators. The infrastructure is already overstrained, and more extension of the “cement coast” kind will destroy some of the Canaries’ unique as well as fragile ecosystems.



Significant negative impact of tourism are:

- Increased traffic density, leading to increasing pollution.
- Increased environmental damage, including the destruction of coastal ecosystems: littering of beaches, dunes and natural areas.
- Increased exploitation of landscape for sports activities and the construction of visitor facilities. Recreational crafts are causing damage to reefs and marine life.

- Complex series of changes to the economic and socio-cultural structure of many traditional areas. Growing impact of second homes on local communities.
- The reduction of ground water, especially because of tourism.
- Some sewage from coastal resorts being discharged into the sea before being treated.

The past few years have also seen a struggle between intense development and concerted efforts to preserve the islands' natural resources and beauty. Political groups, islanders and ecologists are constantly arguing about the best way to combine the archipelago's dependence on tourism, and the perceived need for more hotels, ports and golf courses, with the pressing need to conserve water resources, combat marine pollution and prevent development from infringing on the flora and fauna that have made islands a nature lover's paradise.

