

# **CUBA**



**CONFRONTING  
CLIMATE  
CHANGE**

# CUBA: Main Characteristics

Total population: 11.2 millions

Length of the Island of Cuba: 1,200 Km.  
Maximum Width: 191 Km.  
Minimum Width: 31 Km.

More than 4,000 islands and keys.  
More than 6,000 Km. of coastal line  
Total terrestrial area: 109 886 km<sup>2</sup>  
(Total area of the Island of Cuba: 104 556 km<sup>2</sup>)

246 human settlements.


3.5 million inhabitants live a few km from the coast. Circa 60% of the total population directly affect the coasts.



Total island shelf: 67,832 Km<sup>2</sup>  
Average depth: 6-8 m

More than 20 harbors of importance. More than 81,038 Km<sup>2</sup> of river basins.

**The Cuban Archipelago**



**Since 1959 Cuba has faced a struggle of independence against sequels of underdevelopment that has been based on equity, social justice, and with a clear projection towards sustainability.**



**ECONOMIC  
GROWTH**

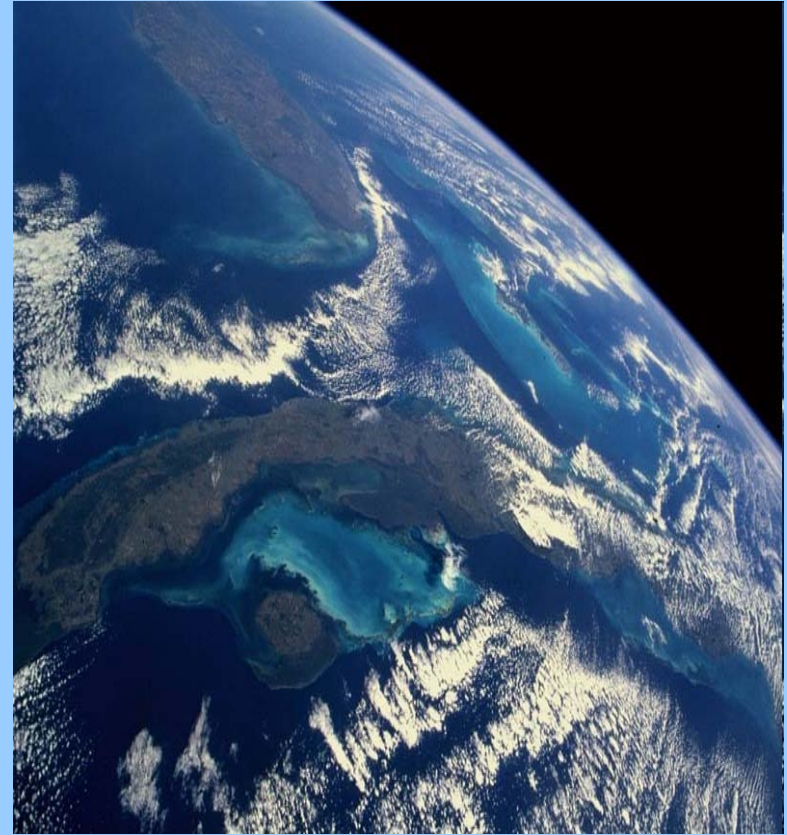
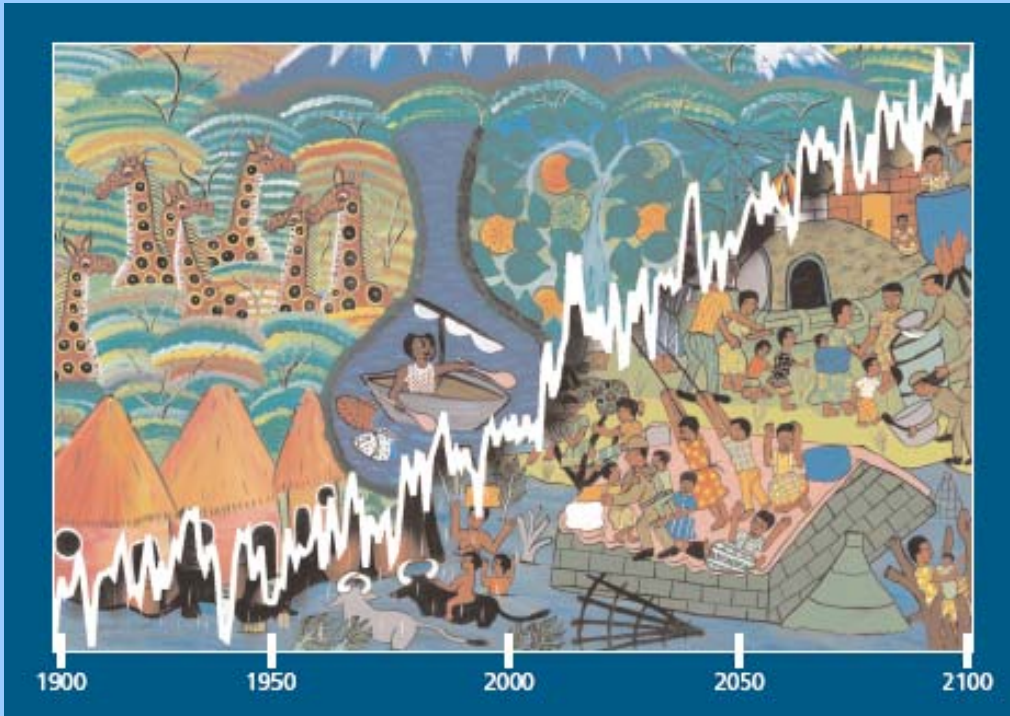
**SUSTAINABLE DEVELOPMENT**

**SOCIAL  
EQUITY**

**ENVIRONMENTAL PROTECTION**

**A clear political will of State and Government has paved the way to integrate economic development to equity, social justice and environmental protection towards SUSTAINABLE DEVELOPMENT.**

# CUBA and climate change



# Early scientific studies in Cuba

- **1991: Cuban Academy of Sciences organizes a national Comision for studies about Climate Change**
- **1992: a preliminary assesment of possible impacts is performed; 71 experts from 15 institutions take part.**
- **1997: CITMA establishes the National Group of Climate Change; from then on national comunciations on the subject are released every two years.**
- **1999: A National Prize of Cuban Academy and a Special Prize of CITMA are awarded to the scientific work “Impact of climate change in Cuba and measures for adaptation”**

# **Main Climate Change effects in the Cuban Archipelago**

- **Sea Level Rise**
- **Increase in temperature**
- **Extreme hydrometeorological events, including changes in the precipitation rates**

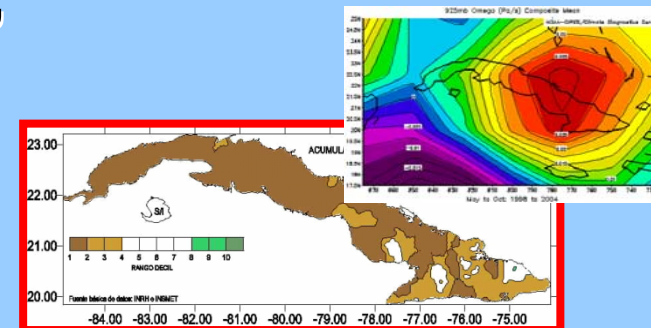
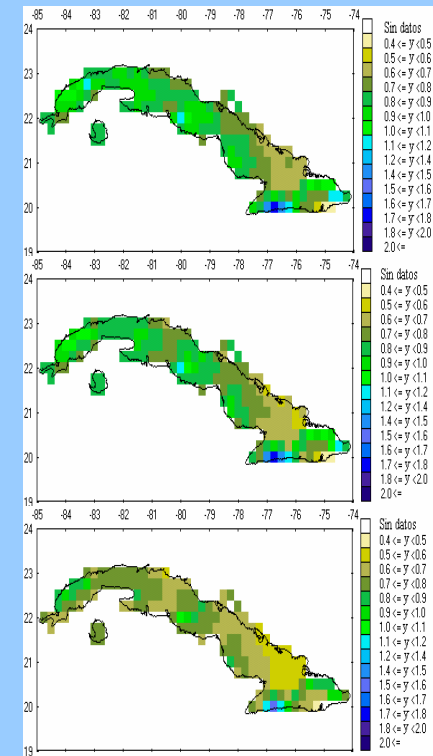
# **Basis of the Cuban Strategy of Adaptation to CC**

- **Anthropocentric view**
- **Basic approach: ecosystems and vulnerability**
- **Sector strategies**



# CLIMATE CHANGE AS A MENACE TO SUSTAINABLE DEVELOPMENT IN CUBA

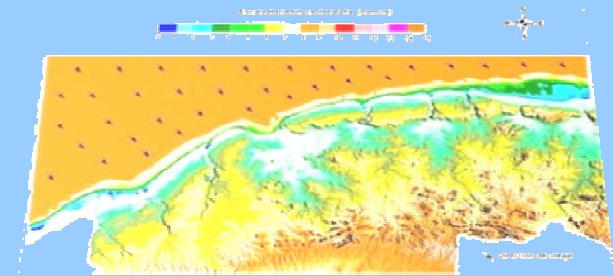
- Increase of the temperature and high variability of precipitations. More frequent and intense hydro-meteorological events
- Sea level rise and damage of mangroves and coastal ecosystems
- Decrease in forest cover and loss of biodiversity
- Reduced crop yields and farming area
- Decrease in availability and water quality
- Increase in coastal human settlements' vulnerability
- Increased impact of vector/borne diseases



# Prioritized studies on Hazards, Vulnerability and Risks, in case of natural disasters



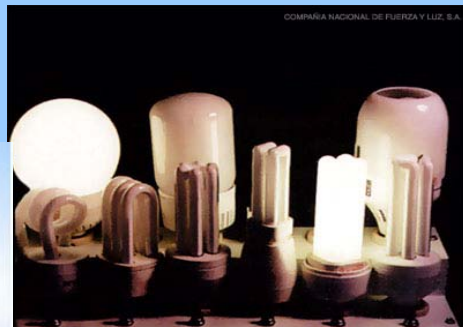
- Work has been concluded in the 15 municipalities of the City of Havana
- Studies are now extended to other territories in the country according to a priority scheme
- Seismology and rural blazes are included



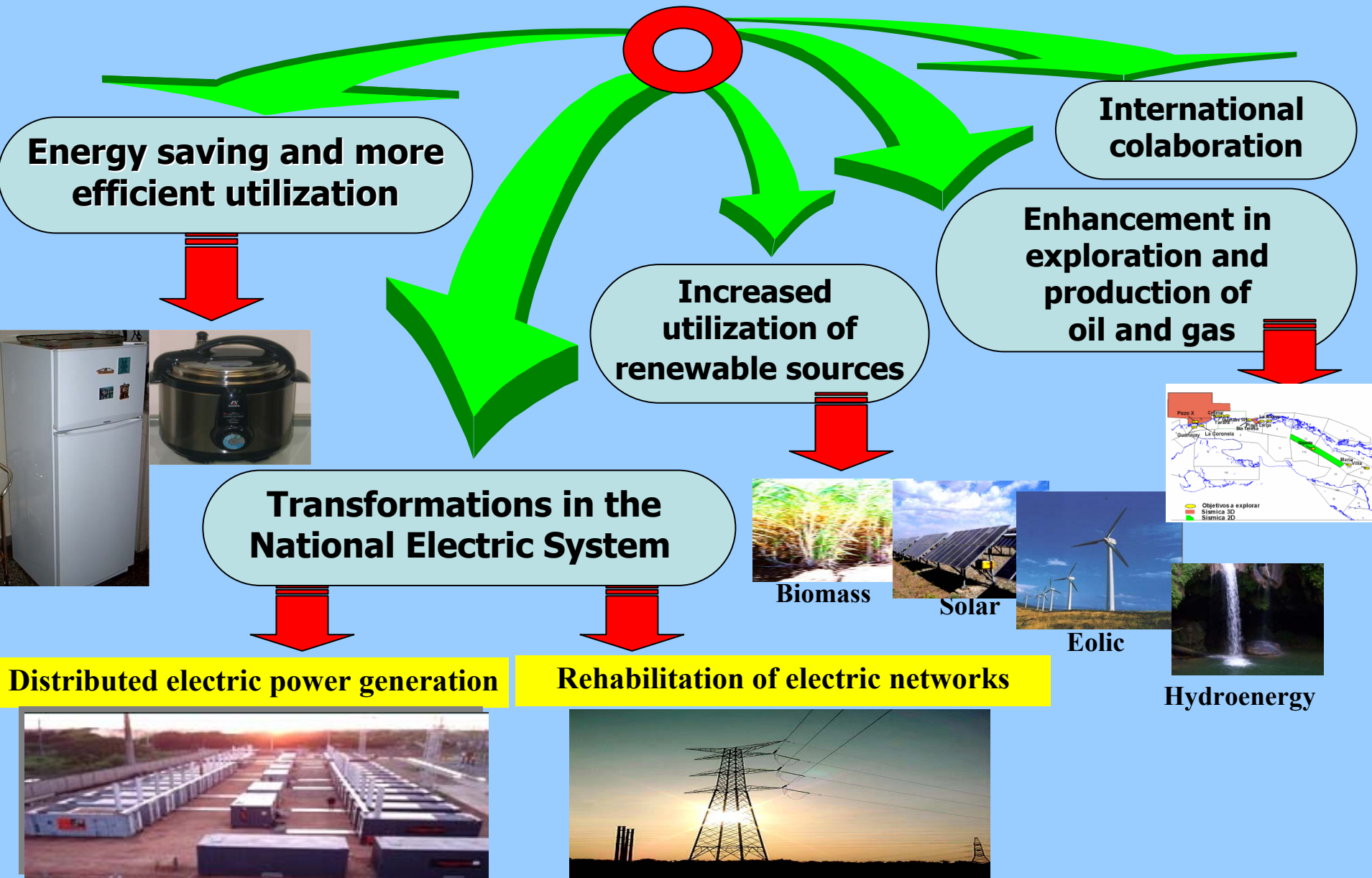


# PROGRAMS of the “ENERGY REVOLUTION” (emissions reduction)

- Energetic efficiency and energy saving
- Use and development of renewable energy sources

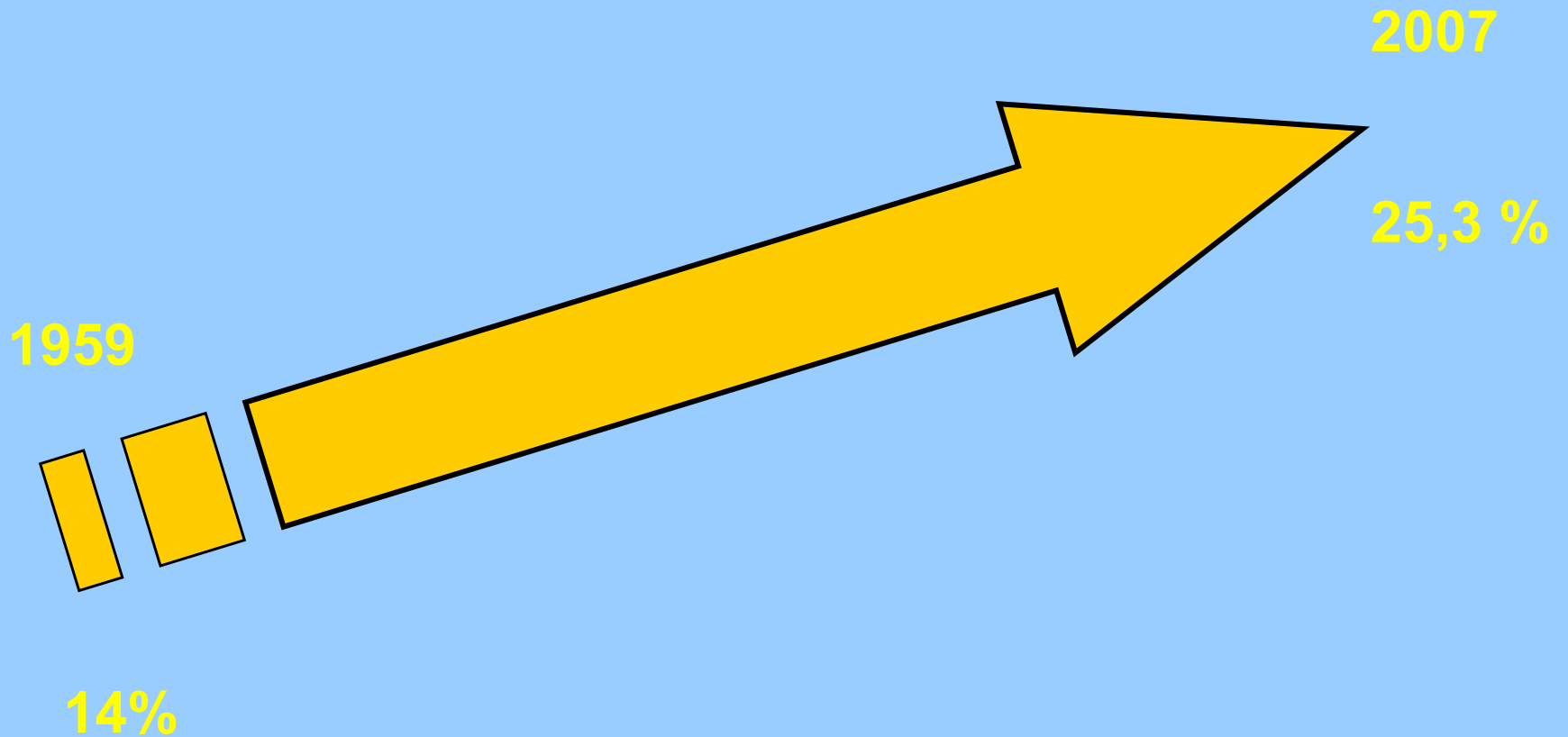


# Energy Revolution



# REFORESTATION PROGRAM

## Increase in national forest cover





# Other Programs contributing to confront climate change

- **National Forestry Program**
- **Water resources management**
- **Soil conservancy**
- **Drought management**
- **Protection against rural blazes**
- **Food security**
- **Urban planning**
- **Vectors control**

## **Economic Regulations**

- Accelerated depreciation of actives
- 50% deduction of customs duties
- Importation of machinery, equipments, spare parts, and accessories of waste treatment technology
- Importation of advance technologies for new investments

## **National Environment Fund**

To support environmental projects at territorial level with the participation of the community, also include services and specific studies linked with the environment



# **Sector actions for adaptation to CC**

## **Agriculture**

- **Soils protection and amelioration**
- **Selection of animal and plant species resistant to drought and high temperatures**
- **Urban agriculture**
- **Territorial reordering of agricultural production considering soils, water quality and availability as well as eventual hazards (floods/drought)**
- **Application of advanced technologies**
- **Wastes reuse (biomass from agriculture and forestry)**
- **Utilization of bio-fertilizers and bio-pesticides**
- **Diversification**

# **Sector actions for adaptation to CC Tourism**

- **Diversification of modalities (sun and beach tourism, eco-tourism, cultural tourism)**
- **Territorial reordering of development plans, considering coastal hazards (building design of facilities and ways of access)**
- **Assessment and conservation of key ecosystems in order to coastal protection (coral reefs, mangrove, coastal vegetation)**
- **National program for artificial feeding of beaches**
- **Instruction of tourism personnel in topics related to environmental sustainability**

# **Sector actions for adaptation to CC**

## **Building**

- **Cleaner production practices**
- **New building designs, use of new (including recycled) materials and systematic review of standards**
- **Adjustement of building projects considering results of territorial risk studies.**

# Main present scientific priorities in the environmental field I

- **Climate Change: Studies on hazards, vulnerability and risks under extreme natural events. Adaptation and mitigation of the CC effects.**
- **Environmental impact studies for all strategic development programs, as well as the inclusion of measures for adaptation to CC.**
- **Improvement in early warning systems.**
- **Renewable energy sources and more efficient use of the energy.**
- n **Integral environmental management (hydrographic basins, bays, coastal areas and mountains)**

# Main present scientific priorities in the environmental field II

- Integrated management of water and soil resources, in order to cope with drought and its effects.
- Biodiversity conservation and management, as well as its uses in health care and food production.
- Treatment and reuse of agricultural and industrial wastes.
- Promotion of “cleaner production” systems.
- Strengthening of the Environmental Monitoring System.

Thank you for your attention!

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