



Clima-Med in Egypt

Population (2017 census): 94.8 million

Annual population growth (2017): 1.9% (World Bank)

Surface: 1,001,450 km²

Focal Point :

H.E. Ambassador Badr Abdel Aty
Assistant to the Minister of Foreign affairs
for European Affairs
Ministry of Foreign Affairs

Partner Governorates and cities

- Luxor Governorate: Armant, Al Zinnia, Al Bayadia, Esna, Al Tod, Al Qurna, in addition to Luxor City
- Red Sea Governorate: Marsa Alam, Safaga, Ras Gharib, Al Qusayr in addition to Hurgada City.

Clima-Med
Acting for Climate in
South Mediterranean



Egypt climate change challenges and lead actions to fight its effects

Egypt is considered highly vulnerable to the impacts of climate variability and change, particularly with respect to water security, effect on coastal zones, agriculture and livestock, increasingly adverse conditions to health, human settlements, and energy demand and supply.

Facing this challenge, Egypt regularly submits its Nationally Determined Contribution (NDC) and National Communication to the UNFCCC in support of its efforts to realize its development and economic goals and increase its adaptive capacity to climate change.

Egypt's NDC is consistent with the country's overall goals of reducing vulnerability and poverty and achieving long-term sustainable economic development. Key areas of focus include the sustainability of the environment, protection of coastal zones, water resources, energy, sustainable land management, agriculture, and health.

Egypt tackles the risks and negative impacts of climate change in various sectors, including through the 'Sustainable Development Strategy (SDS) – Egypt's Vision 2030', an ambitious national agenda launched in February 2016 by the Egyptian Government and unveiled by the Egyptian President Abdel-Fattah Al-Sisi. This vision consists of eight main national goals to be met by 2030, in line with the United Nations Sustainable Development Goals and the Sustainable Development Strategy for Africa 2063.

Clima-Med's objective (following the CES-MED project) is to assist Egypt and other South Mediterranean countries in fighting climate change through different activities, including preparing Sustainable Climate and Energy Access Action Plans (SEACAPs) for the Governorates of Luxor and the Red Sea.

Luxor Governorate: A Heritage Green City

Global Strategy of the Sustainable Energy Access and Climate Action Plan, SEACAP

The SEACAP of Luxor City was firstly prepared, and the Plans for Armant, Al Zinnia, Al Bayadia, Esna, Al Tod and Al Qurna are now in the final stage of finalization.

The SEACAP of Luxor City takes into consideration many complex elements including: the extended size of the area (thus the plan's action is limited to the capital, its vicinities and the Nile' West Bank), its nature as a unique extended historical world heritage site, pressure from growing urbanization and pollution, and interaction with the rural areas.

The SEACAP's strategy is structured with two main priority actions: Reducing energy consumption and promoting clean and local energy production. Energy efficiency is to focus on three major consuming sectors: Transport, residential buildings, and tourism. However, to mobilize all stakeholders, the Governorate must first give the example and reduce consumption in all public buildings and services under its control: Street lighting, waste management, sustainable urban planning, mobility, etc.

The Action plan mainly focuses on the following areas:

- Reduce use of individual cars, promote clean public transport, cycling and walking and review the city planning documents to control transport of both goods and people.
- Reorganize tourism activities to reduce the impact on antiquities' sites and monuments and enhance their value and preservation. This includes: refurbishing hotels to reduce energy consumption and develop on-site energy production (solar PV and water heating), organize cruise ship fleet, improve environmental quality, reorganize Nile dock sites and equip them with renewable energy tools, restructure access to monuments to reduce pollution and mass visit effects. In this context, the Plan should incorporate integrated plans to manage the World Heritage site on the West Bank of the Nile.
- Refurbish residential buildings to reduce energy consumption and transform individual buildings into energy production micro units using solar energy. Promote energy efficiency in industrial and services activities.
- Adapt agriculture practices to raise production while ensuring environmental protection, including developing models to collect agriculture waste and produce biogas.

Overall results of the Baseline Emissions Inventory (BEI)

Consuming Sectors: overall energy consumption reaches 4,938 GWh/year (8,164 KWh/year/ capita) shared among main sectors as follows: transport 41%, residential building 25 %, tourism 17%, industry 10%, services activities 6%.

Emitting Sectors: overall GHG emissions amount 1,760 TeqCO₂/year (3.07 TeqCO₂/year/capita) shared among main sectors as follows: transport 32 %, residential building 31 %, tourism 15 %, industry 10%, services activities 10%.

Municipal assets' emissions represent 20 TeqCO₂/year for 21GWh consumed per year and costs of 18,5 M. EGP.

Actions and results

- While the effect of many “standalone” measures is difficult to assess, by implementing a complete set of actions, we should be able to reach the 2030 target of reducing GHG emissions by 26.0% compared to the business-as-usual scenario.
- Total emissions avoided based alone on the actions included in the plan are 599.882 tCO_{2e}/year.

Luxor SEACAP first Priority projects costs in Euros The SEACAP expects to achieve a **26% GHG emission reduction by 2030** compared to the business as usual scenario. This represents 600ktCO_{2e}/year reduction in 2030 (36% cut compare to 2015 level).

City of Luxor – Governorate of Luxor		
Sectors	Planned Projects	Cost in €
Governorate buildings	Raise staff awareness, efficient lighting, and AC improvement	170,000
Street lighting	Expand LED deployment + strategic management	380,000
Water delivery	Variable power pumps + SCADA system	220,000
Waste treatment	Apply Energy efficiency	50,000
Governorate fleet	Improve fleet management	50,000
Transport	Sustainable mobility and transport planning	4,500,000
Tourism	Awareness + EE (for cruise boats, land transport)	6,350,000
Residential sector	Awareness + SWH system + renovation plans	4,200,000
Tertiary sector (services)	Awareness + Pilot projects	1,030,000
Industry	Awareness + Specific pilot projects	1,030,000
Renewable Energy	Solar PV public and private sectors (Rolling fund)	20,000,000
TOTAL in €		37,980,000

Note: Funding requirements are approximate.

The Red Sea Governorate: Hurghada, sustaining tourism for a better development

Global Strategy of the Sustainable Energy Access and Climate Action Plan, SEACAP

The SEACAP of Hurghada was firstly prepared, and the Plans for Marsa Alam, Safaga, Ras Gharib and Al Qusayr are now in the final stage of finalization.

The SEACAP focuses on the City of Hurghada, which has grown since the 1980s from a small fishing village-like centre to an internationally renowned coastal hub with a significant number of hotels and touristic attractions, which counts 180,000 inhabitants.

The SEACAP considers several elements, including the considerable size of the area, the tourism infrastructures concentrated on the city's coastline and its seaports, and the extended residential zone. It contributes to protecting the fragile natural environment, noting that the Red Sea's rich coral reefs and marine life are under threat from intrusive tourism facilities, landfilling of the coral plateau, invasive diving and anchoring and pollution from fossil fuel use.

Like Luxor, the SEACAP's strategy is structured along with two main priority actions: Reducing energy consumption and promoting clean and local energy production. Energy efficiency is to focus on three major consuming sectors: Transport, residential buildings, and tourism. However, to mobilize all stakeholders, the Governorate must first give the example and reduce consumption in all public buildings and services under its control: Street lighting, waste management, sustainable urban planning, mobility, etc.

The Action plan mainly focuses on the following areas:

- Reduce use of individual cars, promote clean public transport, cycling and walking and review the city planning documents to control the transport of both goods and people.
- Reorganise tourism activities to limit impacts on the fragile coastal environment and marine biodiversity and enhance their value and preservation. This includes: refurbishing hotels and resorts to reduce energy consumption, developing on-site energy production (solar PV and water heating), optimising the diving boats' environmental performance (to reduce pollution and match tourists' natural-beauty expectations), and reorganising sea-ports and docksides operations and equip them with renewable energy production tools.
- Refurbish residential buildings to reduce energy consumption and transform individual buildings into energy production micro units using solar energy.
- Promote energy efficiency in industrial and services activities.
- Adapt agriculture practices to raise production while ensuring environmental protection, including developing models to collect agriculture waste and produce biogas.
- Use the planned large solar PV farms to support initiatives and activities favouring the development of a dynamic local economy based on renewable energy development.

Overall results of the Baseline Emissions Inventory (BEI)

Consuming Sectors: overall energy consumption reaches 3,338 GWh/year (11.9 MWh/ year / capita) shared among main sectors as follows: tourism 39 %, transport 36 %, residential building 13%, services activities 9%.

Emitting Sectors: overall GHG emissions amount 1,277 TeqCO₂/year (4.6 TeqCO₂/year/capita) shared among sectors as follows: transport 39 %, tourism 28 %, residential building 17 %, services 12%.

Municipal assets' emissions represent 12 TeqCO₂/year for 25,2 GWh consumed per year and a cost of 16 M. EGP.

Actions and results

- While the effect of many “standalone” measures is difficult to assess, by implementing a full set of actions, we should be able to reach the 2030 target of reducing GHG emissions by 27.0% compared to the business-as-usual scenario
- Total emissions avoided based alone on the actions included in the plan are 468.540 tCO₂e / year.

SEACAP Priority projects and costs in Euros

The SEACAP expects to achieve a **27% GHG emission reduction by 2030** compared to the business-as-usual scenario. This represents 468.54 ktCO₂eq/year reduction in 2030 (41% cut compared to 2015 level).

City of Hurghada – Governorate of Hurghada		
Sectors	Planned Projects	Cost in €
Governorate buildings	Raise staff awareness / lighting and AC improvement	280,000
Water delivery	Switch to variable power pumps and SCADA	180,000
Waste	Apply Energy efficiency	50,000
Red Sea Governorate fleet	Improve fleet management	70,000
Transport	Sustainability mobility & transport strategic plan	7,6 00,000
Tourism	Awareness / diving boats, seaport & marina	21,150,000
	Hotels/resorts natural gas connection + SWH	10,500,000
	Hotel and resort refurbishment (rolling fund)	1,000,000
	Green city plan (enhance city aesthetic image)	2,000,000
Residential sector	Awareness	200,000
	SWH system installation (rolling fund)	1,000,000
	Housing renovation plan for EE (rolling fund)	2,000,000
Renewable Energy	Solar PV public & private sectors (rolling fund)	10,000,000
TOTAL in €		56,030,000

Note: Funding requirements are approximate.



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