

## Promoting low-carbon technologies in Egypt cooling and heating applications



### Context

The Egyptian Government is translating its response to the global and national energy and climate change issues by putting in place appropriate strategies and action plans. The Egyptian energy strategy sets the target for renewable energy share in the energy mix to be 20% of the generated electricity by 2020, including a 12% contribution from wind energy, and 8% from. The strategy targets also a 50% of the electricity generation capacity to be from renewable energy by 2050, for which electricity demand is projected to reach 120 GW.

Solar energy is one of the viable options for replacing the conventional fossil fuels. It is abundant in Egypt with average annual global solar incidence is between 1900-2600 kwh/m<sup>2</sup>/year from the north to south of Egypt, and average annual direct solar incidence is between 1970-3200 kwh/m<sup>2</sup>/year.

### Strategy

The project overall objective is to develop the market environment for increasing the share of renewable energy in the energy used in Egypt, and thereby avoid GHG emissions.

The project will demonstrate proven technologies, such as **solar thermal cooling** to replace conventional energy sources for air conditioning and heating and renewable energy based mini grids for community services, irrigation and post harvest processing in desert settlements.

In parallel, the project will create the market environment in terms of policies and financial mechanisms, as well as local manufacturing of renewable **energy systems**.

### EXPECTED OUTPUTS

- Energy use and potential green house gas (GHG) avoidance assessed in large building and tourism industry.
- Energy demand and potential GHG avoidance assessed selected desert settlements away from the Nile valley and Delta .
- Barriers to the adoption of the low carbon technologies for cooling, warm water production
- Technologies reviewed and selected.
- Preliminary design of technical, financial requirements and bidding documents for energy facilities prepared.
- The facilities installed tested, commissioned and operated for a period to be determined by the subcontractor
- Operational experience realized through the pilot project(s)
- Support the replication and the scaling up and contributing to mitigating Co<sub>2</sub> emissions in close partnership with the local private sector and multinationals.
- Capacity at the institutional and market level built
- Awareness of stakeholders raised
- Conducive policy promoted and its adoption recommended
- Innovative financing mechanism conceived to support local manufacturers and renewable energy end users.
- Partnerships between local industries, international centers of excellences and technology suppliers promoted for the purpose of technology transfer.
- Business advocacy services to the local renewable energy manufacturers in the areas of technology transfer, production and market links provided
- The need for imported fuels reduced and contributing to national energy security.