

# Chapter 2: Climate Changes

## Introduction

Potential climate changes and the outcome of greenhouse gases accumulation (carbon dioxide, methane, nitrous oxide and other rare gases) form a global problem against which world countries are cooperating to overcome in an attempt to protect man and environment from the negative impacts of such changes in the future due to current pressures impacting the environment.

The intergovernmental panel on climate change (IPCC) has been concerned with studying different mathematical formulas of climate changes and their impact since 1990. It further conducted several reviews of outcomes since then and concluded in its fourth report issued at the beginning of 2007 that carbon dioxide amount has been doubled in the atmosphere compared to its level prior to the industrialization era. Temperature will increase by 1.8 to 4 Celsius degree at the end of this century. This will be accompanied by an increase in sea level with about 180 to 590 cm. The IPCC has clarified that potential climate changes will have different impacts in the different continents and also regions in the same continent.

## MSEA Achievements

### First: Clean Development Mechanism (CDM)

#### 1. Institutional structure:

- a. Developing CDM national strategy with technical support from the World Bank and funding from the Swiss government. It comprised a survey of investment opportunities in CDM projects at different sectors. It is considered the first nucleus in CDM work.

**“Achievement: Developing bases for dealing with CDM projects in Egypt.”**

- b. Signing Kyoto protocol in 12 January 2005.

**“Achievement: Placing Egypt on the map of signatory states to make use of the Protocol benefits.”**

- c. Establishing CDM national committee with its two parts: the Egyptian Office and CDM Egyptian Council.

**“Achievement: Completing the institutional structure as per international requirements for implementing CDM projects in Egypt.”**

#### 2. Meetings:

Till May 2007, the committee conducted 15 meetings for CDM Egyptian Office and 8 meetings of CDM Egyptian council, where 36 CDM projects are approved.

**“Achievement: Issuing 36 letters of non-objection and 5 letters of final approval on projects implemented within CDM framework, including 3 internationally registered and actually implemented projects. Total approved project investments are estimated at \$1137 millions achieving an annual decrease in greenhouse gases of about 6.5 million tons of equivalent carbon dioxide.”**

### 3. Promoting CDM Projects:

- a. Implementing “Capacity Development for CDM (CD4CDM) Project.

**“Achievement: capacity building of CDM workers and contributing to the establishment of CDM institutional structure in Egypt, developing proposals of some projects and submitting them to the National Committee for approval, conducting specialized sectoral studies addressing investment opportunities or participation in CDM part of these sectors (petroleum – wastes – agriculture – investment – banks – businessmen associations – industry), in addition to conducting sessions for capacity building in ministries and sectors concerned.”**

- b. Participating in some international forums concerned with CDM – such as the UN Climate Changes Conference, International Carbon Exhibition held in 2005, 2006, and 2007, in addition to coordinating with donors and international companies operating in CDM field to organize sessions for capacity building and development.

**“Achievement: Egypt is now a Member of CDM Host Country Committee (HCC) technically supervised and funded by the World Bank. Egypt has also become a Member of CDM Designated National Authority (DNA) Forum supervised and funded by CDM World Executive Council.”**

- c. Developing a website for CDM on: <http://www.cdmegypt.org>.

**“Achievement: Publishing data relevant to project approval procedures, forming CDM national committee in Egypt, and developing investment portfolio for CDM projects, CDM Egyptian strategy, in addition to the most significant CDM activities conducted by the Egyptian Office to access information from any part of the world.”**

- d. Coordinating CDM at the Arab and regional level.

**“Achievement: Participating in the Carbon Forum in Tunisia (2004), meeting CDM project experts in Morocco (2004), participating in the first international conference for CDM in Saudi Arabia in 2006, and organizing a training session on CDM for West Asia countries in Amman, the Jordanian capital.”**

- e. Building national CDM capacities.

**“Achievement: Preparing, organizing, and giving lectures in 8 specialized sectoral sessions for fertilizers sectors and Suez RBO, and the investment and bank sector (Commercial International Bank (CIB)), the National Bank of Egypt (NBE), Management Association, and Association of 10<sup>th</sup> of Ramadan Investors).”**

- f. Exchanging expertise and capacity building at the international level.

**“Achievement: Organizing a work session in Cairo in coordination with the European Investment Bank to present Investment Bank Opportunities in CDM field in Egypt, organizing a work session with the World Bank and Eco-Securities English Company in Cairo to exchange expertise and develop capabilities in CDM field, participate with attendance and give a lecture on CDM in Egypt during the Investment Opportunities forum held in Italy to research Italian companies opportunities to invest in CDM at MENA region.”**

g. Raising public awareness regarding CDM.

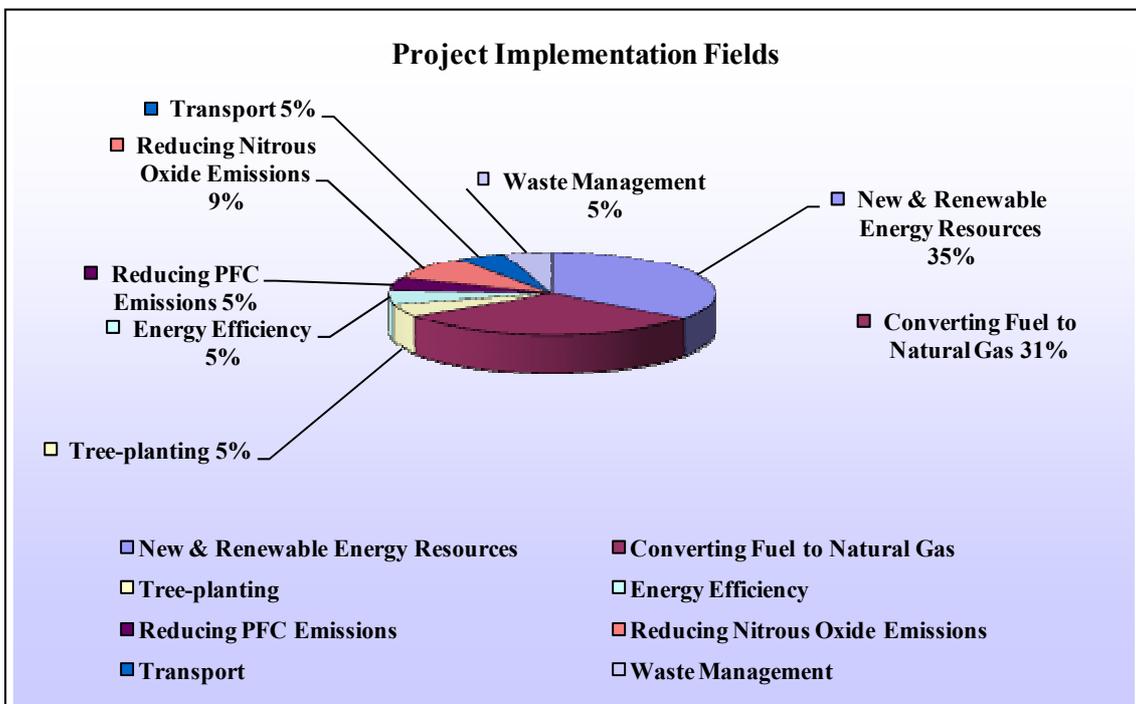
**“Achievement: Translating and publishing CDM User’s manual and CDM procedural aspects book.”**

**4. Updating the investment portfolio and project follow-up:**

a. Continuous development and update of CDM projects investment portfolio in Egypt.

**“Achievement: CDM project investment portfolio in Egypt has been developed, comprising 54 projects.”**

**Following is an analysis of CDM projects in Egypt (till May 2007).**



**Figure (2-1a) Analyzing CDM projects in Egypt in 2007**

**Total projects: 36**

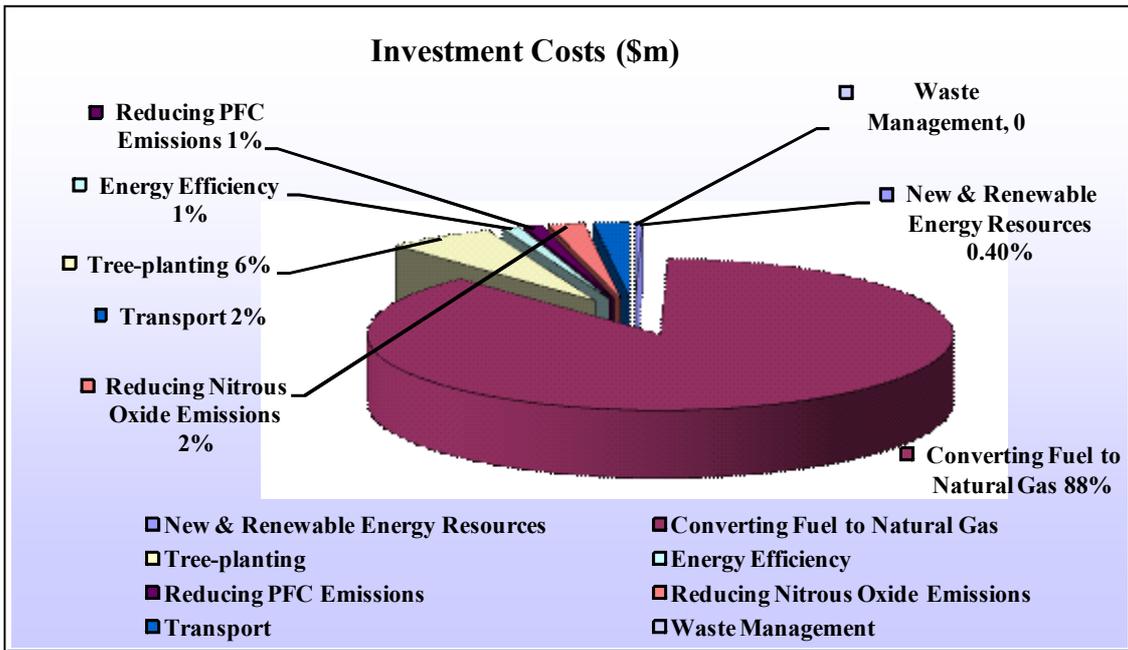


Figure (2-1b) Analyzing CDM projects in Egypt in 2007

Total project costs: approx. \$ 1137 millions

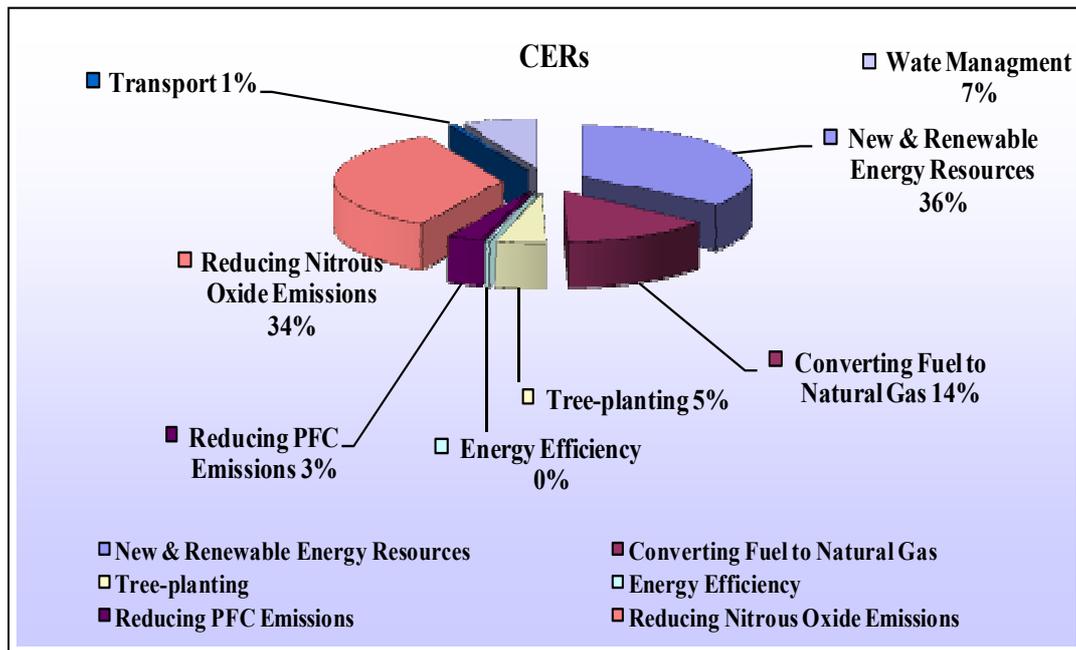


Figure (2-1c) Analyzing CDM projects in Egypt in 2007

Total CERs: some 6.5 m ton CO<sub>2</sub> equivalent

## Second: Adapting to and limiting climate change risks

### 1. Institutional structure:

- a. Restructuring the National Committee for Climate Changes

**“Achievement: Developing bases for dealing with climate change topics in Egypt.”**

### 2. Meetings:

- a. The committee held two meetings till September 2007.

**“Achievement: Starting to survey the activities of each ministry or authority concerned in the fields of adapting to and limiting climate change risks”**

- b. Participating in Conferences of Parties (COP) to the agreement, held twice a year.

**“Achievement: Coordinating with African countries to start in the mathematical formula project in order to study impacts of climate changes on water resources.”**

### 3. Pilot Projects:

- a. A pilot project on collecting and using methane gas from solid wastes funded by Canada.

- b. Maximizing solar energy usage in tourist resorts and reclamation villages funded by Italy.

**“Conducting field visits and gathering information on a number of places suitable for project implementation. Implementing, installing, and operating a cooling system using solar energy is planned in cooperation with the Italian partner.”**

- c. Extracting biofuel from Jatropha and Jojoba through chemical treatment funded by Italy.

**“Developing project document and coordinating with the Italian partner to identify the role of each part of the project and agree on the funding budget and project implementation start plan as well as determining a space of desert lands to be reclaimed by cultivating Jatropha and using treated sanitary drainage water in irrigation and coordinate with an Egyptian research institute – National Center for Research and Petroleum Research Institute to participate in implementing the project research part.”**

- d. Egypt Second National Information Report” project funded by the Global Environment Facility (GEF).

**“ Establishing a project management unit, finishing report first chapter with the title local circumstances, it is planned to finish remaining parts of the report, comprising survey of greenhouse gases from the different sectors, identify adapting policies in endangered sectors and develop the national strategy for adapting to climate changes. The project is one of the most important national reports dealing with climate changes, survey of greenhouse gases in the different sectors, develop a picture for the state’s strategy in adapting to climate changes and highlighting most endangered sectors such as water resources, coasts, agriculture and health.”**

- e. National capacity building of RIO three agreements (climate change – desertification – biodiversity) project.

**“Establishing a project management unit, the technical report identifying interaction among the three agreements has been finalized and also three reports have been developed for each agreement identifying the main activities performed, work priorities, obstacles, and means of overcoming them.”**

#### **4. Under-study projects:**

Supervising preparation and conduction of interviews and coordinating studying implementation of the following projects:

- a. Experimental rain-simulating on A.R.E.” in coordination with a number of national authorities (armed forces – Meteorology Authority – Faculty of Sciences) and some countries (China – USA – Russia – Saudi Arabia – Syria – Emirates – Morocco – GEF – Secretariat of the UNFCCC).
- b. Integrated Environmental House Establishing” project, this proposal has been submitted to the Austrian partner.
- c. Surveying methane gas biologically generated from solid waste landfills in cooperation with the Spanish partner.
- d. Extracting biofuel from oil plant seeds” in cooperation with the Italian partner.
- e. Coordinating with GEF to develop a number of project proposals that could be funded within the budget for adapting to climate changes (the facility approved funding projects that aim to adapt to climate changes, improve capacity efficiency and maximize benefit from bio-energy).

#### **5. Participating in international conferences, meetings, and work sessions:**

- a. Meetings of the two sub-authorities for scientific and technological consultation and implementation affiliate to the UNFCCC in its 22<sup>nd</sup> session in Bonn – Germany, May 2005.
- b. International Carbon exhibition and forum, Colonne – Germany, May 2005.
- c. Work session for experts on updates in emission scenarios, organized by IPCC, Luxembourg, Austria, June – July 2005.
- d. Work session for experts in capturing and storing carbon dioxide, organized by IPCC, Montreal, Canada, September 2005.
- e. Meeting no. 24 of IPCC, Montreal, Canada, September 2005.
- f. Meeting no. 25 of IPCC, Mauritius, April 2006.
- g. Meetings of the UN Climate Changes Conference, Montreal, Canada, November – December 2005.
- h. Meetings of the two branch authorities for scientific and technological consultation and implementation affiliate to the United Nations Framework Convention on Climate Change (UNFCCC) in its 24<sup>th</sup> session, Bonne – Germany, May 2006.
- i. Preparatory meeting of the UN Climate Changes Conference – Nivasha – Kenya, September 2006.

- j. Participating in the first meeting of CDM national committee forum first meeting – Germany, October 2006.
- k. UN Climate Changes Conference– Nairobi – Kenya, November 2006.