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Egypt National Cleaner Production Centre

The Egypt National Cleaner Production Centre (ENCPC) was established as a service provider for the Egyptian Industry in 2005 by the Ministry of Trade and Industry (MoTI) in close cooperation with the United Nations Industrial Development Organisation (UNIDO) as a part of UNIDO/UNEP global network of NCPCs/NCPPs (51 centres) and part of the Egyptian Industrial Council for Technology and Innovation.

With support from:

- Swiss Government
- Austrian Government
- Contribution by the Egyptian Government
Vision
Being a centre of excellence for Green Industries & Resource Efficiency and Cleaner Production in Egypt

Mission
Act as a vehicle for enhancing productivity and competitiveness of Egyptian industry through promoting the transfer of clean and innovative technologies and resource efficiency & cleaner production methods, tools and practices
ENCPC Services

I- Technical Assistance for the Egyptian Industry

- Resource Efficiency and Cleaner Production (RECP) assessments

- Energy Efficiency and Industrial Application of Renewable Energy

- Industrial Chemicals Management:
  - Chemical Leasing Services
  - EU Directive on Registration, Evaluation, Authorization of Chemicals (REACH),
  - EU Directive on Classification, Labeling and Packaging (CLP)
  - Persistent Organic Pollutants (POPs)
  - EU Directive on ROHs (Restriction of Hazardous Substances)
- Industrial Waste Management, Recycling and Zero Waste
- Environmentally Sound Technology (EST) Transfer & Innovation
- Green Entrepreneurship (energy, waste, water ......)

III- Financial Assistance: The ENCPC supports the Egyptian companies to follow the procedure to obtain financing for their projects from different financing packages available in Egypt (e.g. EBRD, IFC, KFW)

IV- Applied Training Programs- On Job Trainings

V- Joint National and International Projects
ENCPC Organization

Ministry of Trade and Industry

Steering Committee(s)

TIC Leather and Tanning
TIC Fashion and Design
TIC Food
TIC Traditional and Creative Industries
TIC Marble and Granite
TIC Plastics
TIC Furniture
TIC Textiles
TIC Engineering

Cleaner Production Center (ENCPC)
ICTI

Horizontal TICs / cross-cutting
Vertical TICs / sector-specific
NCPC Network Worldwide (51 Centers)
## Current RECP Projects

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Partner(s)</th>
<th>Objectives/Main Activities</th>
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<tbody>
<tr>
<td>Utilizing Solar Energy for Industrial Process Heat in Egyptian Industry</td>
<td>UNIDO, GEF</td>
<td>Develop the policy framework to support the use of low carbon technologies in industrial and commercial applications. Support the deployment of solar thermal technologies for multipurpose applications in industrial and commercial application. Enhancing the local market manufacture of solar energy components and systems. Build the capacity of technical staff designing, developing and servicing solar systems.</td>
</tr>
<tr>
<td>Green Growth: Industrial Waste Management and SME Entrepreneurship Hub in Egypt</td>
<td>African Development Bank, MENA-Transition Fund</td>
<td>Mapping of the industrial waste at the enterprise level in the selected pilot area (possibly 10th of Ramadan which has 3000 industrial enterprises). Developing policy recommendations towards an enabling environment for industrial waste exchange in Egypt. Raising awareness and building capacities of stakeholders. Green Entrepreneurship Programme Development through the implementation of 3 demonstration projects in IWEX in the select pilot area.</td>
</tr>
<tr>
<td>Industrial Electrical Motor Driven Systems (EMDS) Efficiency Programme in Egypt</td>
<td>IFC (DANIDA and Korean Government) &amp; UNIDO-GEF</td>
<td>Number of Policy measures for promotion of efficient electrical motors was developed National quality scheme for efficient electrical motors (norms/standards) was developed Raising awareness and capacity building on energy efficient motors achieved Local manufacturing and upgrading of feeding industry of efficient motors &amp; integrated solution through its supply chain was promoted and achieved Demonstration of efficient electrical motors and its integrated solution practices in about 50 enterprises with reduction in energy total consumption up to 10% was achieved</td>
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## Current RECP Projects

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<tr>
<td>Transfer of Environmental Sound Technology in the Mediterranean region (MEDTEST II)</td>
<td>SWITCH-MED, UNIDO</td>
<td>Upscale adoption of best practices demonstrated within MED TEST pilot initiative (30 companies in Alexandria and Cairo). Develop the local market of Resource Efficiency and Cleaner Production (110 to 15 service providers) Raise awareness and transfer ownership for the Institutional Stakeholders.</td>
</tr>
<tr>
<td>Eco-innovation approach in Small and Medium-sized Enterprises.</td>
<td>UNEP, (EU)</td>
<td>Raising awareness and capacity building on eco-innovation approach in Egyptian industrial sector (chemical sector as a case) is achieved. Improvement of knowledge and skills for eco-innovation implementation in the Egyptian SMEs in general and in chemical sector as a high priority case study was achieved. 5 successful stories/business cases for demonstration of Eco-innovation in SMEs from chemical sector was developed. Dissemination and promotion of eco-innovation concept/approach for up-scaling and replication in the Egyptian industrial sector was achieved.</td>
</tr>
<tr>
<td>Low Carbon and Climate Resilient Industrial Development in Egypt</td>
<td>UNIDO, Japanese Ministry of Foreign Affairs</td>
<td>The project is implemented in four countries in Africa, Egypt, Kenya, Senegal and South Africa, through the National Cleaner Production Centre (NCPC) in each country. The Project Objective: The project aims at promoting of low carbon and climate resilient technologies for agro-food industry and service utilities (e.g. WWTP).</td>
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<td>Innovative <strong>Chemical Solutions</strong>—environmentally sound management of chemicals and chemical wastes</td>
<td><strong>UNIDO with support from SECO</strong></td>
<td>Carry out comprehensive assessments in the proposed enterprises in each of the selected sub-sectors. Development of minimum 5 case studies for the selected companies. Support Technical Primers/Manuals for each Sub-Sector and contribute to the development of the Draft Toolkit. Organizing a training and Preparation for Up-scaling of Innovative Chemical Solutions.</td>
</tr>
<tr>
<td>Cleaner Production Analysis Study- <strong>Benchmarking of RECP</strong> in Egyptian Industry</td>
<td><strong>IFC</strong></td>
<td>Preparation of comprehensive data because for all audit carried out by ENCC over the last 10 years Prioritization of 500 audits from different sectors Preparation of local benchmark for RECP based on the results of audits analysis Highlighting of main RECP areas to focus in the future in each industrial sector</td>
</tr>
<tr>
<td>Implementation of <strong>Green Entrepreneurship</strong> in Egypt</td>
<td><strong>SWITCH-MED (EU)</strong></td>
<td>Training for Local Trainers from SP/RAC on SWITCH MED Green Entrepreneurship concept Identification and Training for 160 Entrepreneurs on SWITCH MED Green Entrepreneurship concept (Water, Energy, Waste)</td>
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- Identifying barriers - legislative, regulatory, and economic - for implementation of the roadmap and providing recommendations how to overcome them.  
- Promoting stakeholder engagement and cooperation between stakeholders through consultations and interactive workshops with both the authorities and the industry.                                                                                           |
| Developing of **Alternative Fuel Road Map** for Egyptian Cement Industry     | IFC                                            | The project aims at assessment of current situation for using of alternative fuel in cement industry in Egypt (opportunities and challenges) in addition of proposing a business model for implementation sustainable alternative fuel programme in Egypt                                                                                                                                                      |
| Guidance development and case study documentation of green chemistry and technologies | UNIDO, Yale University NCPC in Brazil, Egypt    | Promotion of Green Chemistry Tools, Practices and Methods in the Industry                                                                                                                                                                                                                                                                                                                                             |
| Centre of Excellence for Arab and African Region on Chemicals and Waste Management | UNIDO                                         | Transfer of Knowledge and Capacity Building on chemicals and waste management for Arab and African Region using IOMC toolkits                                                                                                                                                                                                                                                                                                        |
| Support the Establishment of Cleaner Production Centres in Sudan and Kuwait   | UNIDO                                         | Development of project document for set-up of cleaner production centre in Sudan and Kuwait                                                                                                                                                                                                                                                                                                                               |
ENCPC Services and Achievements in 2015/2016

- **Energy Efficiency and Renewable Energy**
  - 48 Factories

- **Resource Efficiency and Cleaner Production**
  - 50 Factories

- **Sound management of chemicals**
  - 20 Factories

- **Industrial waste management**
  - 60 Factories

- **The transfer of environment-friendly technologies**
  - 21 Factories
ENCPC PARTNERS

giz

gef

Canadian International Development Agency

CRDF GLOBAL

EOS

AFRICAN UNION

UNIDO

UNEP

IFC

World Bank Group

USAID

International Labour Organization

AHK

Industrial Modernisation Centre

Federation of Egyptian Industries
Utilizing Solar Energy for Industrial Process Heat in Egyptian Industry
Background

- National Strategy for Renewable Energy is to satisfy 20% of the generated electricity by renewable energies by 2020.
- This means reaching more than 7200 MW grid-connected through implementation of renewable energy projects by public or private sector in Egypt over the coming years.
- Egypt is ranked 11th country worldwide in the growing of Carbon Dioxide by growth.
- Heating Process for industrial applications is considered as one of the most common processes in the industrial sector in Egypt and in the main while is one of sources for producing Co2 emissions.
Project Objectives

- Promoting of Local Manufacturing of Renewable Energy Technologies for industrial application in process heating
- Reduction the use of conventional energy sources in the industrial sectors especially: Food, Chemical and Textile
- Creation of jobs & promotion of entrepreneurship for application of renewable energy technologies in industrial sector
- Reduction of GHGs and its environmental impact
Project Components

1-Policy Component:
- Development of the policy and regulatory framework to support the use of low carbon technologies for heating in industrial applications

2-Technical Component:
- Support the deployment of solar thermal technologies for multipurpose applications in industrial and commercial applications
- Enhancing the local manufacturing of solar energy components for heating processes
Project Components

3- Capacity Building and Raising Awareness

Build the capacity of technical staff designing, developing and servicing solar heating systems.

4-Financial & Demonstration Component

- Development of innovative financial package for solar energy technologies with 2 Million US$ and would be extended with more fund from other interested donors
Expected Results

- Design of **incentive schemes & policies** to promote local manufacturing of solar heating technologies
- Demonstration of pilot projects for using solar thermal technologies for heating processes - **100 pilot projects**
- Capacity building for **200 local Egyptian experts** in the field of manufacturing & operation of solar power technologies used for heating in industrial applications
- Development of **standard specifications for manufacturing, installation & operation of solar thermal technologies** for industrial sector to ensure its high quality and performance
- Design **innovative financing package** for financing of solar heating project in industrial sectors (Food, Textile and Chemical)
Projects Partners & Budget

Partners:
- Ministry of Trade, Industry
- Egypt National Cleaner Production Centre (ENCPC) at the Indusial Council of Innovation and Technology
- New and Renewable Energy Authority (NREA)
- Egyptian Organization for Standrization (EOS)
- Federation of Egyptian Industries
- United Nations Industrial Development Organization (UNIDO)
- Global Environmental Facility (GEF)

Project Duration
- 5 years starting on April 2015

Project budget:
- Total budget is 6.5 Millions US $
Thank You
Egypt National Cleaner Production Center

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