



Egypt National Cleaner Production Center

**Ali Abo Sena
ENCPC Director**

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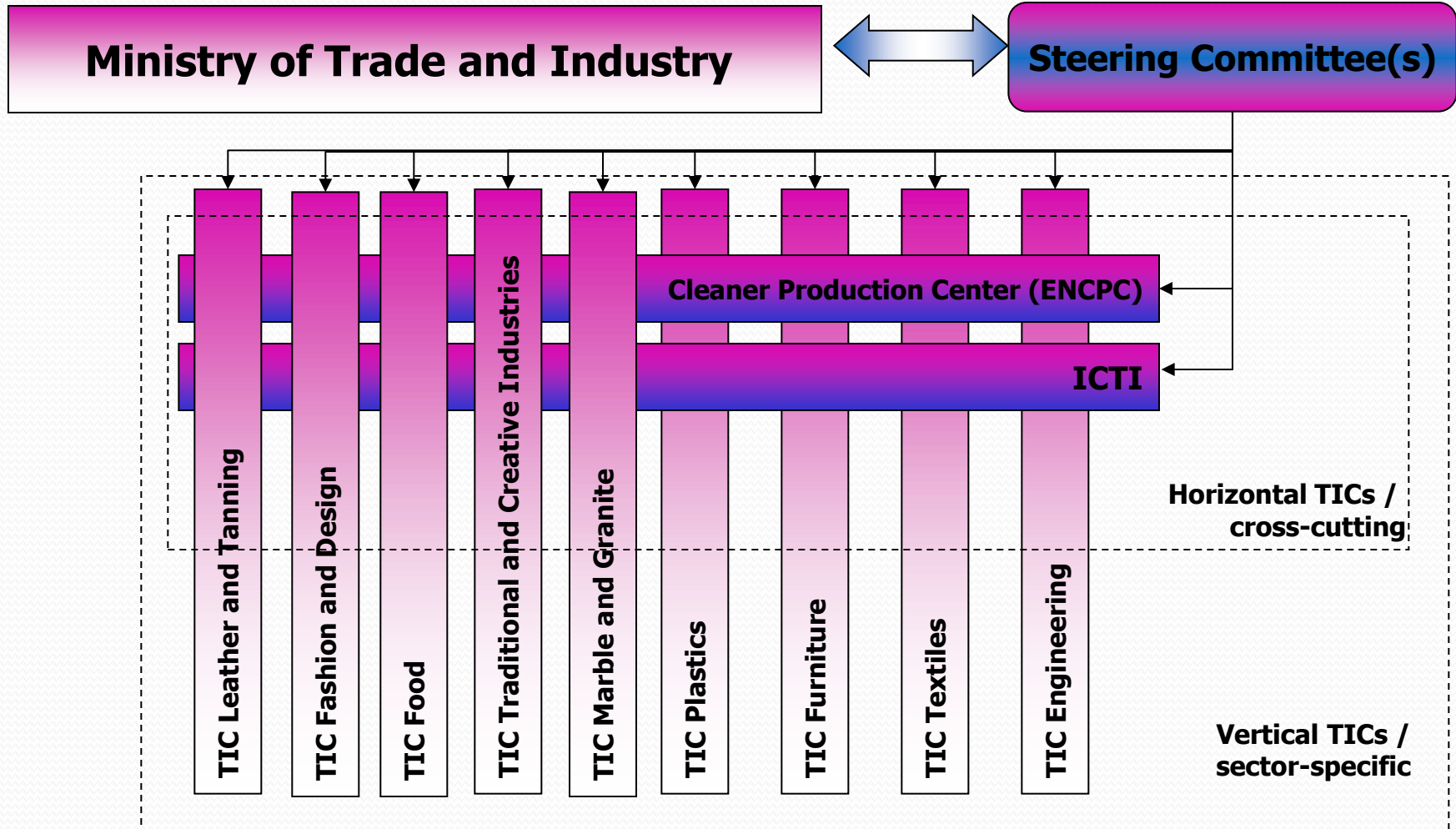
Vision

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 Organization



UNEP/UNIDO NCPCs/NCPPs Network

NATIONAL CLEANER PRODUCTION CENTRES AND PROGRAMMES



UNIDO Contact:
UNIDO NCPC Unit
P.O. Box 300
1400, Vienna (Austria)
tel: (+43-1) 26026-3945
www.unido.org/cp



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

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 (MoIT) in close cooperation with the United Nations Industrial Development Organisation (UNIDO) as a part UNIDO/UNEP global network of NCPCs/NCPPs (51 centres) and part of the Egyptian Industrial Council for Technology and Innovation.

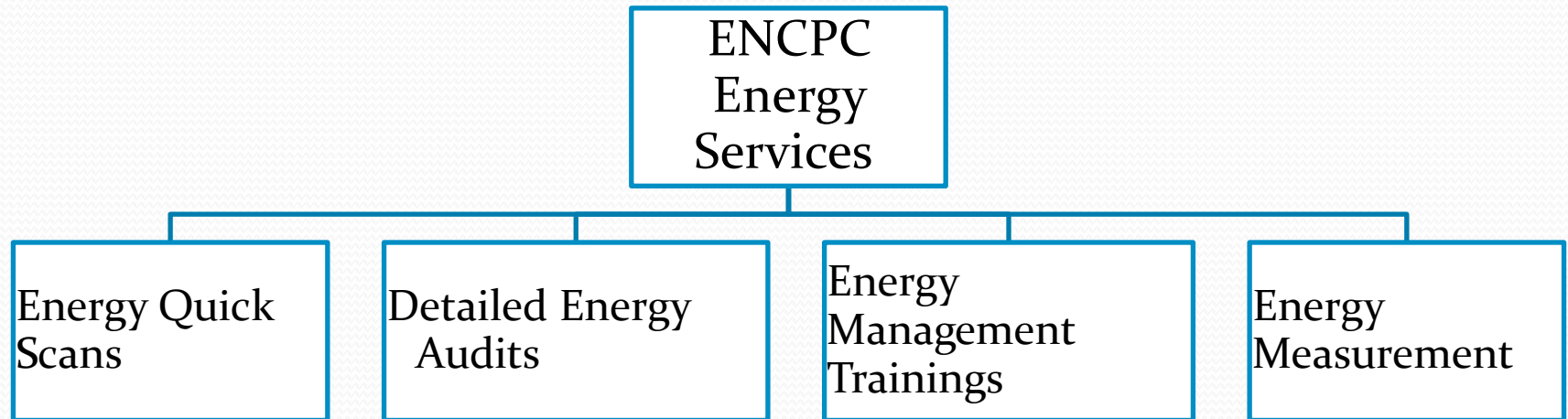
With support from:

- Swiss Government
- Austrian Government
- Contribution by the Egyptian Government






ENCPC,s Main Services

- Resource efficiency and Cleaner Production (RECP) assessment
- Energy Efficiency and Industrial Application of Renewable Energy
- Industrial Chemicals and Chemicals Waste Management
- Industrial waste Valorization
- Environmental Sound Technologies(ESTs) transfer
- Green Entrepreneurship (energy, waste, water)
- Capacity Building and Knowledge transfer on RECP

Energy Efficiency and Renewable Energy Services by ENCCPC



Energy Efficiency Services by ENCPC (5)

 A black carrying case for a power quality analyzer, open to show various colored cables and the device inside.	<p>Power Quality Analyzer: These Instruments are used for measuring major electrical parameters such as KVA, KW, PF, Hertz, KVAr, Amps and Volts. In addition this instrument measures harmonics</p>
 A handheld gas analyzer device with a probe and a display screen.	<p>Gas Analyzer: Measure efficiency of burners, furnaces, etc., also measure emissions such as O₂, CO, C_xH_y, NO_x and SO_x and temperature of the flue gas.</p>
 A handheld infrared thermometer with a lens and a display.	<p>Infrared Thermometer: Measure hot spots in furnaces, surface temperatures etc.</p>
 A handheld lux meter with a circular sensor and a display.	<p>Lux meter: Light intensity levels are measured with a lux meter.</p>
 A handheld tachometer with a probe and a display.	<p>Taco meter: Speed of electric motors reflects the production capacity, i.e. the higher speed the more production the higher consumption.</p>

ENCPC Current Projects

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

ENCPC Current Projects

Project Name	Partner	Objectives/Results
Transfer of Environmental Sound Technology in the Mediterranean region (MEDTEST II)	SWITCH-MED UNIDO	Develop the local market of sustainable production service providers (10-15) Upscale adoption of best practices demonstrated within MED TESTpilot initiative (30 companies). Raise awareness and transfer ownership for the Institutional Stakeholders.
Eco-innovation approach in Small and Medium-sized Enterprises.	UNEP (EU)	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.
Low Carbon and Climate Resilient Industrial Development in Egypt	UNIDO Japanese Ministry of Foreign Affairs	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 is being implemented in three phases: Review phase (June-October 2014), Technical assessment phase (November 2014-April 2015) and Demonstration and dissemination phase (May 2015- project conclusion).

ENCPC Current Projects

Project Name	Budget	Donor	Objectives/Results
Innovative Chemical Solutions– environmentally sound management of chemicals and chemical wastes	\$66,000	SECO UNIDO	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.
Cleaner Production Analysis Study	\$ 35,000	IFC	Collecting of all the companies database. Prioritization of 100 Private Sector Companies. CP Survey. Publication and National Workshop.
Identification and training of Green Entrepreneurs in Egypt	\$20,000	SWITCH-MED (EU)	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
HCl Recovery in Galvanization Industry	20,000 \$	Academy of Scientific Research	Preparation of a feasibility study for the project. Design a unit on an industrial scale suitable for Small and Medium-Sized Factories. Installation of HCL recovery.

ENCPC Current Projects

Project Name	Donor	Objectives/Results
Fostering Renewable and Sustainable Energy in Africa through R&D “FORWARD”	African Union (EU)	Enhance networking among key institutions in the renewable and sustainable energy domain through the creation of public-private partnerships. Identify the best adapted Renewable Energy Technologies (BRETs) for an optimum generation of energy from Renewable Energy Sources. Support policy makers to develop and follow-up their own Renewable Energy Strategies. Promote and spread the use of better adapted renewable energy technologies and demonstrate the environmental, economic and social benefits of their uptake through dissemination activities.

ENCPC Services and Achievements in 2014/2015

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 Achievements in 2014/2015

Total value of savings



\$ 10,098,116

Number of Audited and
Serviced Companies



199 Companies

ENCPC Revenue in
2014/2015



\$ 3,493,266

ENCPC Activities in the Arabic and African Region

- Provide the necessary support for the establishment of a cleaner production center in United Arab Emirates
- Provide the necessary support for the establishment of a cleaner production center in Sudan Republic
- Provide the necessary support for the establishment of a cleaner production center in Kuwait
- Providing the necessary support for the establishment of a cleaner production center in Libya
- Training and assisting several African countries such as Uganda, Ethiopia, Tanzania in the renewable energy and chemicals management fields
- Participating in the development of sustainable consumption and production policies in the Arabic countries and Africa

ENCPC's role in Making Policies of Resource and Energy Efficiency on National and International Level

- The National Committee for the local manufacturing of green technologies (Renewable Energy)
- National Committee for the registration of chemicals in the European Union REACH
- National Committee for Energy Efficiency in Industry
- The National Committee for the sustainable consumption and production of resources
- Committees for setting the Egyptian Standards and quality of (energy-iron slag- solar heaters- retreading of used truck tires)
- The National Committee for using and also designing a map of using alternative fuels in the industry in collaboration with the International Finance Corporation (IFC)
- Develop and design a draft technical guidance manual for companies wishing to get the incentive for export (energy saving-renewable energy waste recycling-technology transfer)
- The transfer of expertise to the other technological centers on the basics of cleaner production and resource efficiency (12 centers)

ENCPC's role in capacity building of the working staff

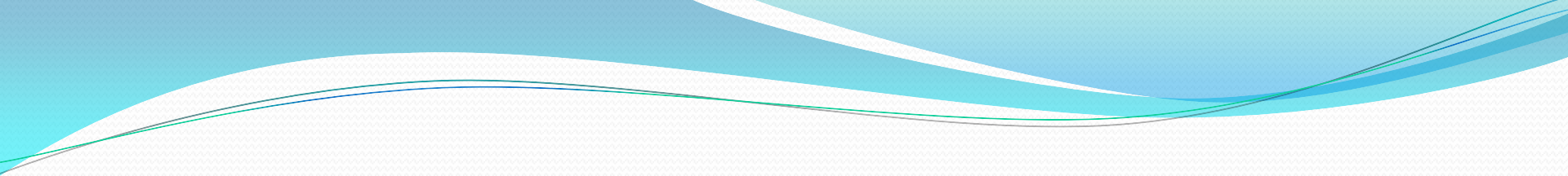
The ENCPC has been provided with equipment that are used for making measurements in different fields (energy and resource efficiency) by international partners such as (GIZ, USAID) with a total value of 3 million pounds. These equipment helped to provide professional technical support to our clients:

- Building the capacity of the working staff (22 persons) like electrical and mechanical engineers , chemists and administrators (22 persons) by providing them effective trainings in their fields locally and internationally during the past two years, such as:
 - Energy Conservation (India, Austria, Germany)
 - Use of solar energy in heating and cooling in the industry (sustainable technologies Institute - Austria)
 - Resource efficiency and cleaner production (Germany, China, France)
 - Hazardous chemicals Management (Austria, Switzerland, Germany)
 - Industrial waste management (Germany, Italy, South Africa)
 - Green Economy Development (Italy, Spain)
 - Development of low-carbon technologies and the technology incubators in different fields of energy (Austria, Japan, India)
 - Information management , technology transport network , and innovation support (Greece, Austria)

Local and International ENPC Partners

giz





Project of :
**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 mean reaching more than 7200 MW grid-connected through implementation of renewable energy projects by public or private sector in Egypt over the coming years.
- Water heating 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 application

-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 and Small & Medium Enterprises (SMEs)
- Egypt National Cleaner Production Centre (ENCPC) at the Industrial Council of Innovation and Technology
- New and Renewable Energy Authority (NREA)
- 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 \$



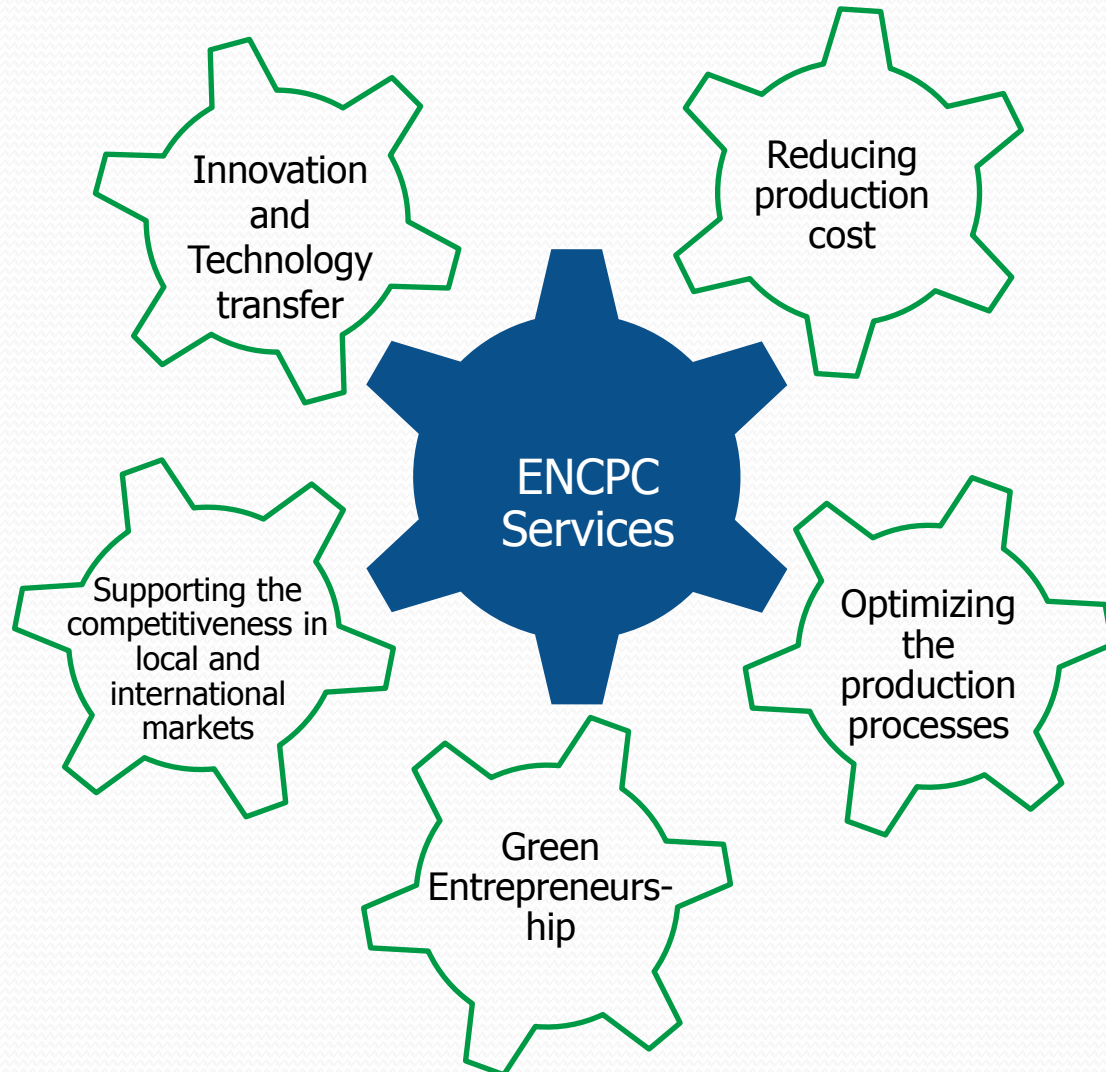
Ministry of Industry



ENCPC's role in Making Policies of Resource and Energy Efficiency on National and International Level

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Conclusion





Thank You

Egypt National Cleaner Production Center

27 A Abdel Khaliq Tharwat st, 2nd Floor, Downtown, Cairo, Egypt

Tel: +20 23925984 **Fax:** +20 23916154

Email: abosena@yahoo.com & abosena@encpc.org

Website: [www. encpc.org](http://www.encpc.org)