



“UNIDO approach to supporting establishment and management of eco-incubators and eco-technology parks”

**Valorising the Experience of European support to
Technology Transfer for the Enhancement of
Technology Transfer System under the UN Climate
Change Convention**

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Technology & the Economy

- Economists agree that the creation and diffusion of technological knowledge is at the heart of economic growth
- At least two-thirds of per capita economic growth is due to technology
- Technology provides the impetus for economic growth
- Technology-based economic development focuses on enhancing the discovery, development, commercialization and adoption of technology
- Economic growth is the function of capital and labour, which is influenced by technology
- Innovation will be the single most important factor in determining a country's success in the 21st century
- Over the next 6 years, products representing more than 70 percent of manufacturers' sales today will be obsolete due to changing customer demands and competitive offerings
- The key to higher standards of living and job creation is the extent to which innovative ideas and technologies are embedded in services, products and manufacturing processes



Problem Statement

- ❑ **Depletion of natural resources (shortage of resources)**
- ❑ **Increase in demand for energy (higher costs)**
- ❑ **Global climate change (with additional costs for remediation: floods, droughts, etc.)**
- ❑ **Lack of awareness of environmental concerns**
- ❑ **Lack of environmental policy regulations and enforcements**
- ❑ **Lack of knowledge/information of available environmental solutions**
- ❑ **Lack of institutional linkages between research and industry (*i.e. environmental audits, feasibility studies aiming at environmental and financial enhancements*)**
- ❑ **Increased pollution by industrial parks**



Main objectives

- **To contribute improving the eco-performance of industrial parks and incubators and preserving the environment;**

through enhanced activities and outputs, meets/responds to climate change programmes and efforts deployed through national commitments

Measurement of impact:

- **Energy efficiency**
 - Fuel: reduced consumption of t/y (mio. USD/y)
 - Power: reduced consumption of GWh/y (mio. USD/y)
 - Reduction of water consumption: mio. m³/y, (mio. USD/y)
- **Waste and wastewater reduction:** t/y (mio. USD/y)

**Reduction in
greenhouse gas emissions
(i.e. tCO₂eq)**



Solution

- **UNIDO aims at developing Eco-Technology Parks and Incubators by strengthening industrial parks and incubators in industrializing countries**

An ETP is a community of businesses, technology and research institutions, located together on a common property. By working together, technology, research and business communities seek a **collective benefit that is greater than the sum of individual benefits** each company would realize by only optimising its individual performance.





UNIDO's ETP Design

- **ETP mainly consists of**
 - Park or Incubator dynamics
 - Technology inputs
 - Environmental solutions

Eco-Technology Park – Main features

PARK

A property-based initiative to encourage the creation and growth of knowledge-based industries and services. It includes an integrated and comprehensive package of services:

- physical facilities suitable for carrying out each project, including plant and equipment
- common facilities (administrative offices, laboratories and research facilities)
- a management team engaged in continuous training business and technology counselling
- external networking with business, finance and technology communities, providing contacts with potential business partners, e.g. large and/or foreign enterprises. Internal networking among tenants to create a mutually stimulating environment in which "success breeds success"

ENVIRONMENT

The process of obtaining products and services which are favourably disposed toward the environment. It aims at leading to a self-standing industrial "ecosystem", characterized by energy and matter flows between the different elements that compose it, involving:

- close loops through reuse and recycling
- maximized efficiency of materials and energy use
- minimized waste generation
- definition of all wastes as potential products and seek markets for them

TECHNOLOGY

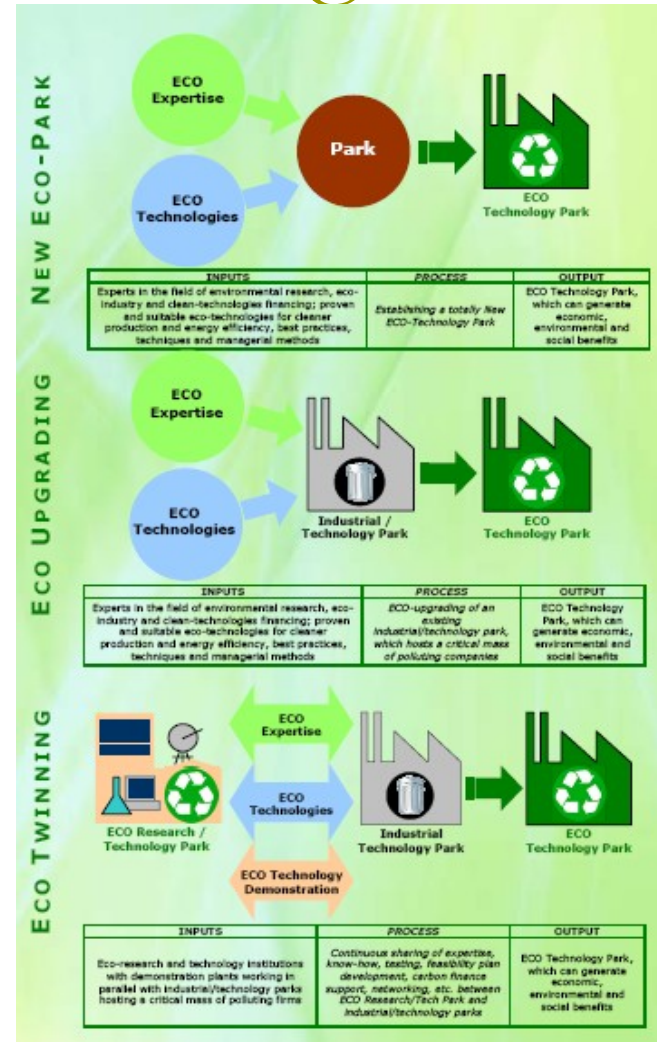
The process to apply scientific knowledge aiming at solving living problems and improving life quality. Technology is the efficient combination of resources resulting in the design, development and application of standard tools, machines, materials or processes.



UNIDO's ETP Project Design

ETP approaches

- New Eco-Technology Park or Incubator
- Eco-Upgrading of industrial parks or incubators
- Eco-Twinning between research and industrial parks or incubators





ETP-Development Approaches

□ **ETP development based on:**

■ VERTICAL APPROACH:

as a constant supply/investment of eco-technologies and eco-expertise to beneficiary industrial parks upgrading their environmental conditions.

■ HORIZONTAL APPROACH:

by facilitating local networks between technology parks and industrial parks, regionally and internationally to attract the interest of foreign companies, which, through their investments, will help improving the impact of beneficiary countries on global environment.



Stakeholders and Intended Beneficiaries

- ❑ **Municipalities**
- ❑ **Public Agencies (energy and environment organizations and institutions)**
- ❑ **Industrial parks and associations**
- ❑ **Research Institutions**
- ❑ **Technology/Research parks**
- ❑ **Private sector**

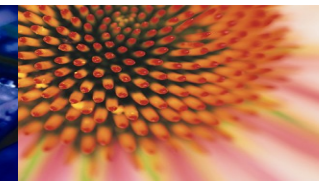
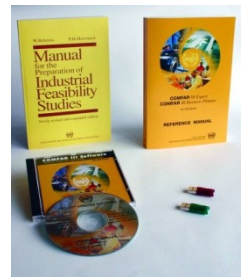
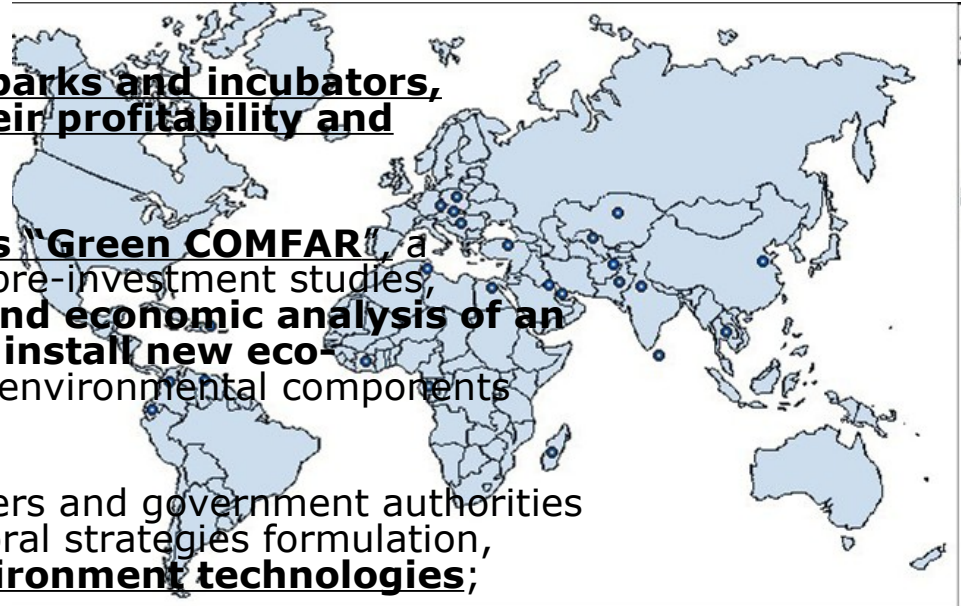


Sustainability and attractiveness

- ❑ **With increased awareness of environmental and financial benefits companies are encouraged to contribute to shared services provided by the ETP:**
- ❑ **Reducing energy costs,**
- ❑ **Green building efficiencies,**
- ❑ **Protection and preservation of natural habitat,**
- ❑ **Healthier work environment (higher productivity),**
- ❑ **Income from sale of by-products,**
- ❑ **Increased market opportunities complying with environmental management systems such as ISO 14,000 -> ISO 26,000. (Large manufacturers require certified suppliers),**
- ❑ **Promoting development of CDM in ETP**

UNIDO support to the development of Eco-Technology Parks and Incubators (I)

- ❑ **Organization and management of parks and incubators, including tools on evaluation of their profitability and sustainability;**
- ❑ **Provision of financial tools, such as "Green COMFAR", a computer program to support project pre-investment studies, including the full-fledged financial and economic analysis of an investment project that intends to install new eco-technologies,** as well as stand-alone environmental components only.
- ❑ Competence in assisting decision makers and government authorities in vision building, policy making, sectoral strategies formulation, plan of actions on **application of environment technologies;**
- ❑ **Organization of environmental centres (NCPC),** audit of environmental threats and dissemination of technological solutions;
- ❑ **Promotion, networking and strengthening of technology parks and incubators,** including eco-technological ones with focus on North-South and South-South partnerships;



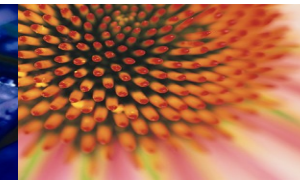
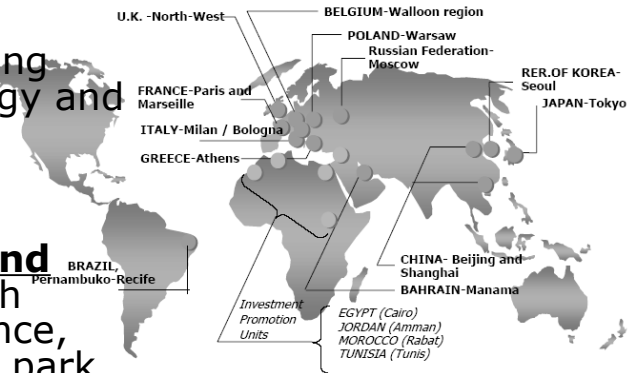
UNIDO support to the development of Eco-Technology Parks and Incubators (II)

- Availability of a **global network of Investment and Technology Promotion Offices, and International Technology Centers**, aiming at fostering and facilitating international partnerships, business alliances, technology and competencies flow, technology diffusion in the field of environment businesses and technologies;

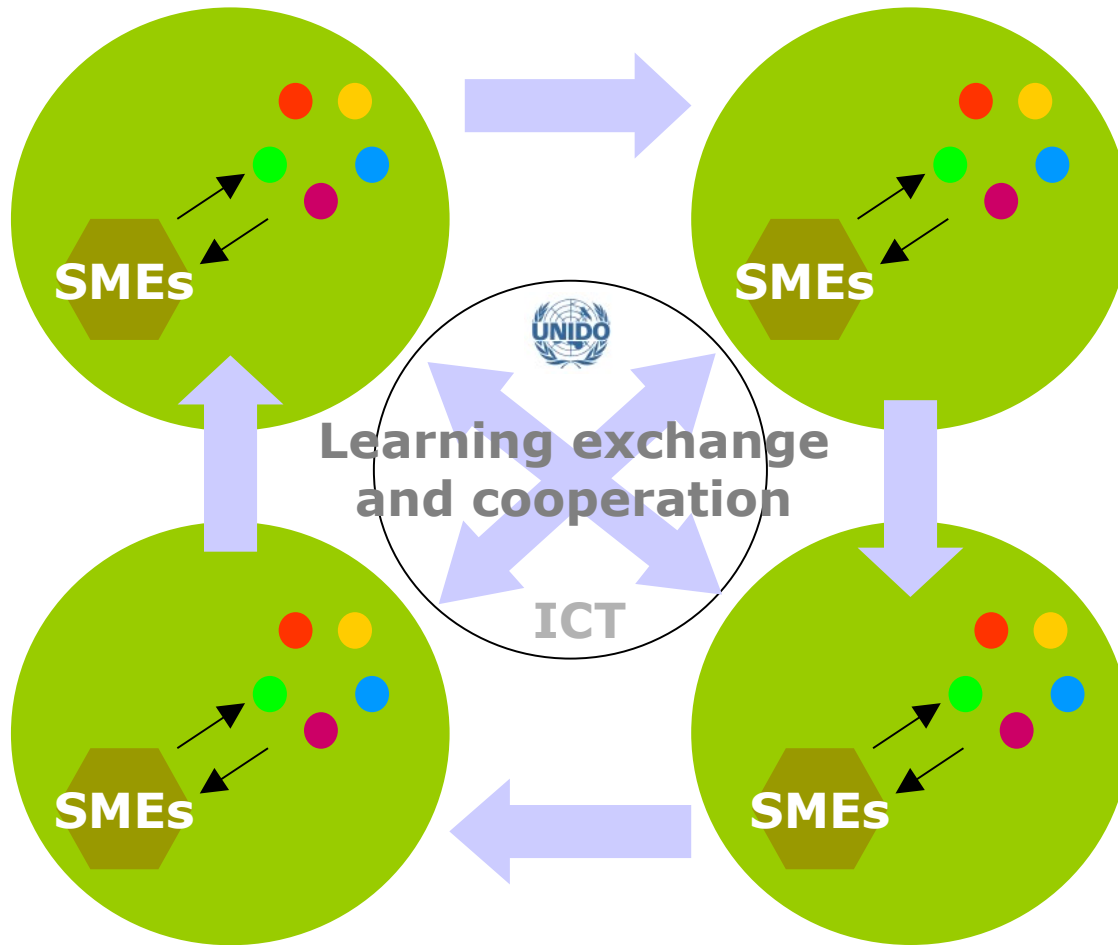
- **Contacts with a network of institutions, centers and experts broadly distributed worldwide**, dealing with environmental solutions, and for the requested assistance, UNIDO's long lasting working relations with technology park networks, such International Association of Science Parks (IASP);(no commercial interest, international broker)

- Specifically on technology parks, UNIDO has opened **an on-line support system dedicated to network and facilitate exchange of information and cooperation** between institutions, experts and enterprises world-wide and thus to promote opportunities for the establishment of growth of new business ventures in local and/or international parks.

Worldwide Network of UNIDO ITPOs and IPU's



Eco-Technology Park & Incubator Network Model



- Shared Eco-equipment for test and or demonstration
- Shared eco-technologies for production
- Advisory eco-services (testing, environmental audit, eco-certification and feasibility study, etc...)
- ICT upgrading support for set-up & use of infostructure
- Institutional support to industrial parks for enhancement of park dynamics (incubators)

Why UNIDO?

UNIDO's Roles in the International Technology Cooperation

- Ensure transparency
- Provide technology options
- Ensure independent evaluation and selection of right technologies
- Provide support services through UNIDO tools and methodologies
- Strengthen trust between technology owners and recipients
- Decrease financial risks in the transfer of technology
- Develop multiple partnerships for sustainability

Technology & Innovation: Related Tools & Methodologies

- Training Package on Technology Management
- Technology Needs Assessment Manual and reporting software system
- Global UNIDO-University Chairs and Innovation Network
- UNIDO Consultative Committee on Innovation Systems Strategies
- UNIDO Manual on Technology Transfer Negotiation and Training Kit
- Guidelines on Business Alliances
- Guide on Joint Ventures
- UNIDO's Subcontracting System

Integrated Strategies for Technology & Investment Promotion

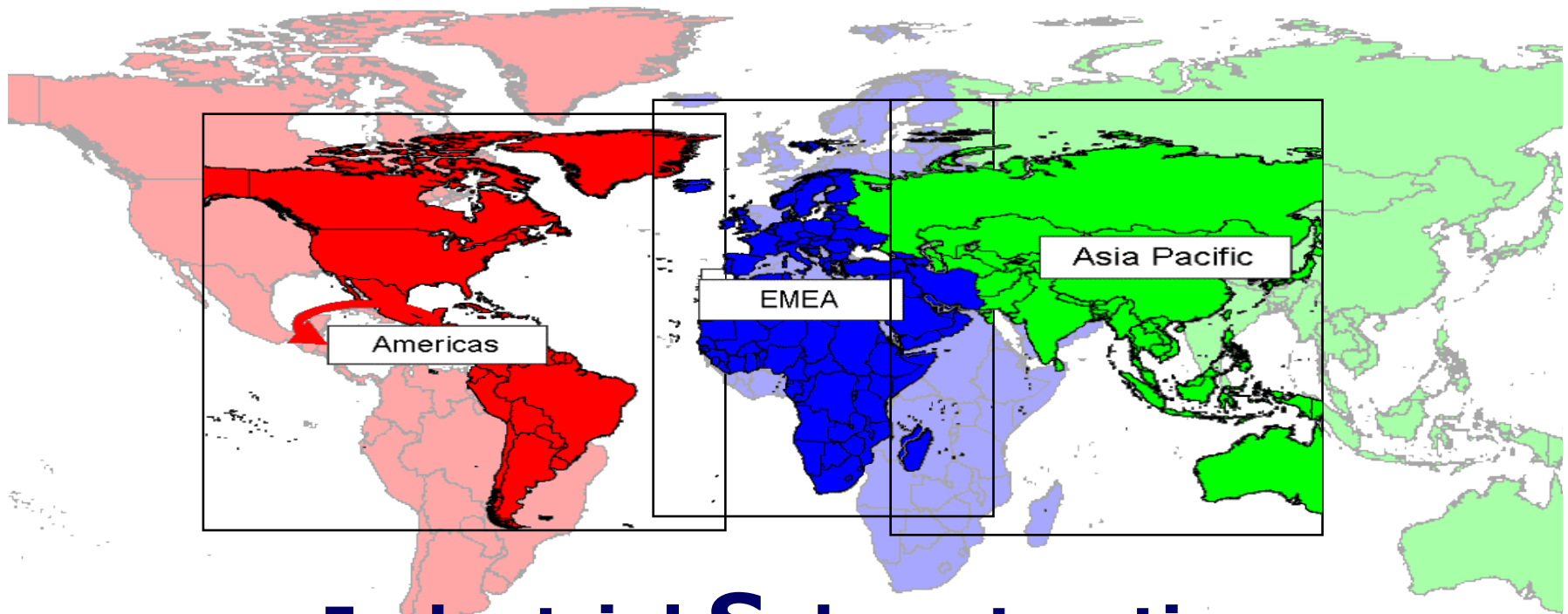
- **Technology Needs Assessment to identify Technologies for Development**
- **Country Investment Surveys in priority areas of National Industrial Development**
- **Mobilization and Promotion of Technology and Investment resources through ITCs, ITPOs & SPXs**
- **Application of ICTs**
- **Regional and sub-sectoral networking of main stakeholders in public & private sectors**

Investment and Technology Promotion Network: (Locations)



● ITCs
● ITPOs

75 SPXs in 41 countries



**Industrial Subcontracting
and Partnership
eXchanges (SPXs)**



Thank you!



United Nations
Industrial Development Organization