TOWARDS GREEN COMPETITIVE INDUSTRY

MED TEST

Transfer of Environmental Sound Technology in the South Mediterranean Region

Project Summary and Achievements

UNIDO

gef

MedPartnership

Foreword

In the last few years, in keeping with its mandate, UNIDO has coined the **Green Industry** concept to place sustainable industrial development in the context of new global sustainable development challenges.

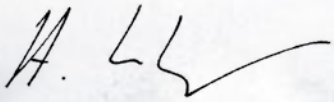
The Green Industry vision grasps the potential for industries to decouple economic growth and revenues from excessive and increasing resource use and pollution. It foresees a world where industrial sectors will minimize waste in every form, use renewable resources as input materials and fuels, and take every possible precaution to avoid harming workers, communities, climate, or the environment. Green industries will be creative and innovative, constantly developing new ways of improving their economic, environmental and social performance.

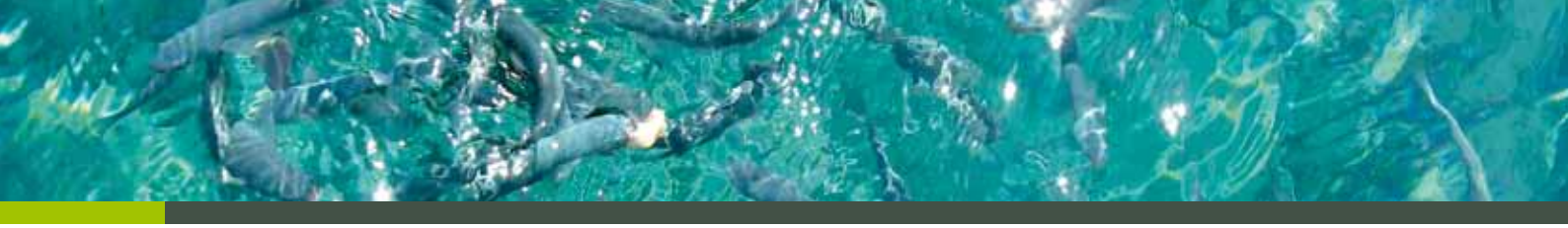
Enterprises of developing and transitional countries are facing numerous challenges in their effort to maintain or increase their competitiveness on the local market, access international markets with good quality products, comply with environmental standards and reduce operational costs. In order to assist companies in dealing with such challenges and to direct them toward the "green industry" paradigm, UNIDO designed a specific methodology, the Transfer of Environmentally Sound Technology (TEST), an integrated approach and a global program.

The first TEST pilot program was launched in 2000 in the Danube River Basin. Since then, TEST has been replicated in several Regions worldwide within industrial hot spots areas, contributing to prevent discharge of industrial effluents into international waters (rivers, lakes, wetlands and coastal areas) and thereby protecting water resources for future generations.

In 2009 UNIDO launched the MED TEST initiative with the financial support of the GEF and the Italian government to promote the transfer and adoption of cleaner technology in industries of the Southern Mediterranean Region. This publication intends to promote this successful experience and the positive results achieved by UNIDO during the implementation of MED TEST in 3 countries of the South Mediterranean Region: Egypt, Morocco and Tunisia.

Heinz Leuenberger
Director Environmental Management Branch
UNIDO





MED TEST Programme

MED TEST is a UNIDO green industry initiative supported by the GEF, the Italian Government and the "Strategic Partnership for the Mediterranean Large Marine Ecosystem (LME)[1]" of UNEP-MAP. The program addresses land-based sources of pollution within priority industrial hot spots of the Mediterranean Strategic Action Plan (SAP-MED).

The project aims at demonstrating the effectiveness of introducing best practices and integrated management systems in industry of the Southern Mediterranean Region, in terms of cost reduction, productivity increase and environmental performance. A pool of 43 manufacturing sites, mostly SMEs, across 7 industrial sectors in Egypt, Morocco and Tunisia have actively participated in MED TEST during 2010-2011.

Building national capacity, a core objective of MED TEST, relies on extensive training and a technical assistance program that has targeted 6 national institutions & service providers and 30 local professionals, in addition to the staff of the 43 demonstration companies. As a result, a network of local resources is now engaged in promoting the TEST approach and will serve to extend the experience gained to other industries in the Region. The active participation of the staff of the demonstration companies in the training and in the implementation of the project ensures sustainability of all identified actions at company level as well as the development of new projects.

National roadmaps for market uptake and upscale of TEST in each country have been designed: dissemination and replication activities targeting new industrial sites will be launched by the project's national partners and their institutional stakeholders with UNIDO support. A wider dissemination of the project's results to other countries of the Mediterranean Region is planned with the support of the MedPartnership.

[1] http://www.medpartnership.org

Project's Components	Outputs
Capacity Building	Network of national resources, institutions and service providers trained and experienced in implementing integrated environmental management approaches (TEST) in industry
Industry Demonstrations	• Best practices leading to economic and environmental benefits introduced in 43 companies • Investment portfolio for cleaner technology transfer tapping existing national financial instruments • Reduction of pollution discharges into the MED sea
Dissemination & Replication	• National and Regional dissemination of best practices and lessons learned • National replication roadmaps and kick-off of the commercially based TEST application in new companies

KEY FIGURES

6 National partners/ service providers
30 TEST Trainees
43 Demonstration industries
958 Man days of training delivered to industry and trainees

RESULTS

17 Millions USD/yr economic savings
9.7 Millions m^3/yr water savings
263 GWh/yr energy savings

PROJECT'S LEVERAGE

20 Millions USD
private sector investments portfolio for cleaner technology

The TEST Approach

TEST combines the essential elements of tools like Resource Efficiency & Cleaner Production (RECP), Environmental Management Systems (EMS) and Environmental Management Accounting (EMA) as part of Corporate Social Responsibility (CSR), applied on the basis of a comprehensive diagnosis of enterprise needs (Initial Review). As a result of the customized integration and implementation of these tools and their elements, the key output is the adoption of best practices, new skills and management culture, enabling the company to carry on the improvement journey towards sustainable entrepreneurship.

WHAT IS TEST?

- A UNIDO Green industry initiative
- An integrated approach for sustainable entrepreneurship
- A capacity building program for skills development in resource efficiency and industrial environmental management

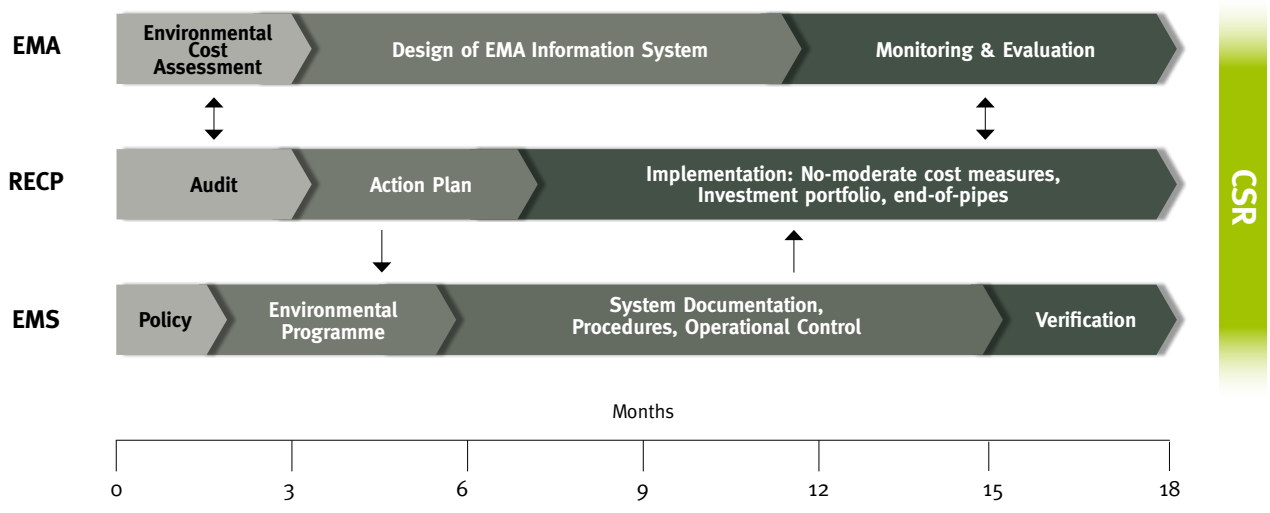
TEST is building on management of change and addresses not only the operational level of a business, but also the managerial and strategic levels, along the following lines:

- At the operational level, TEST gives priority to resource efficiency & pollution prevention techniques (RECP) in production processes, followed by transfer of cleaner technologies and pollution control solutions (end-of-pipe). Existing processes are optimized by implementing no-cost & low-cost measures with a short pay-back period (PBP), before a portfolio of high investment needing measures is put in place.

- At the level of management systems, EMS and EMA tools are used to establish the necessary information management system on relevant material, energy and related financial flows in order to link together the strategic and operational level of the business. The EMA reveals to top management the real costs of production, including hidden environmental costs like non-product output costs. The EMS provides procedures and resources to ensure that the outputs of the RECP audit are implemented, sustained and further developed.

- At the strategic level, TEST places environmental management within the broader strategy of environmental and corporate social responsibilities (CSR) by leading companies towards the adoption of sustainable enterprise strategies.

TEST Implementation Workflow in company



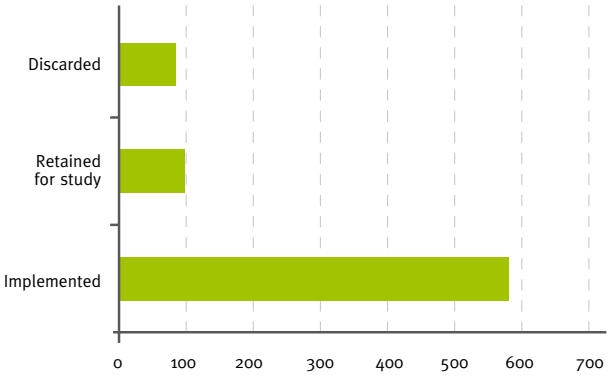
MED TEST demonstration projects: highlights

The effectiveness of the TEST approach has been largely demonstrated in the 43 companies participating in the Mediterranean initiative through the implementation of a large number of resource efficiency measures and cleaner technology investments. The benefits of TEST at the management and strategic levels have resulted in the adoption of new vision and policies by top management, as well as in the implementation of management systems (e.g. ISO 14001) that integrate the environmental dimension.

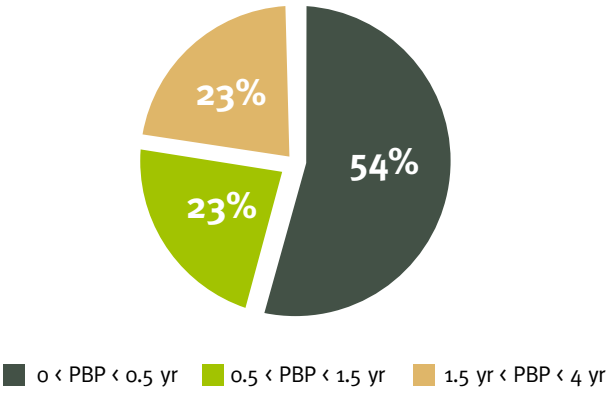
A total of 765 measures have been identified, of which 76% have been implemented, 14% retained for further technical and economical investigations and only 10% discarded. Approximately 54% of the total identified measures have a return on investment of less than 0.5 years, the rest is equally split among measures with PBP between 0.5 and 1.5 years and between 1.5 and 4 years.

In the three countries, the project has identified total annual savings of approximately 17 M USD in energy, water, raw materials and increased productivity corresponding to a portfolio of around 20 millions USD of private sector investments in improved processes and cleaner technology. These investments do not include end-of-pipe solutions, which in some companies have also been launched in order to achieve full environmental compliance with national laws. The total annual water and energy savings are respectively 9.7 millions m^3 and 263 GWh.

Number of measures implemented, retained for study, discarded at the demonstration sites



Return on investment of identified measures at the demonstration sites



Companies' motivation for joining MED TEST

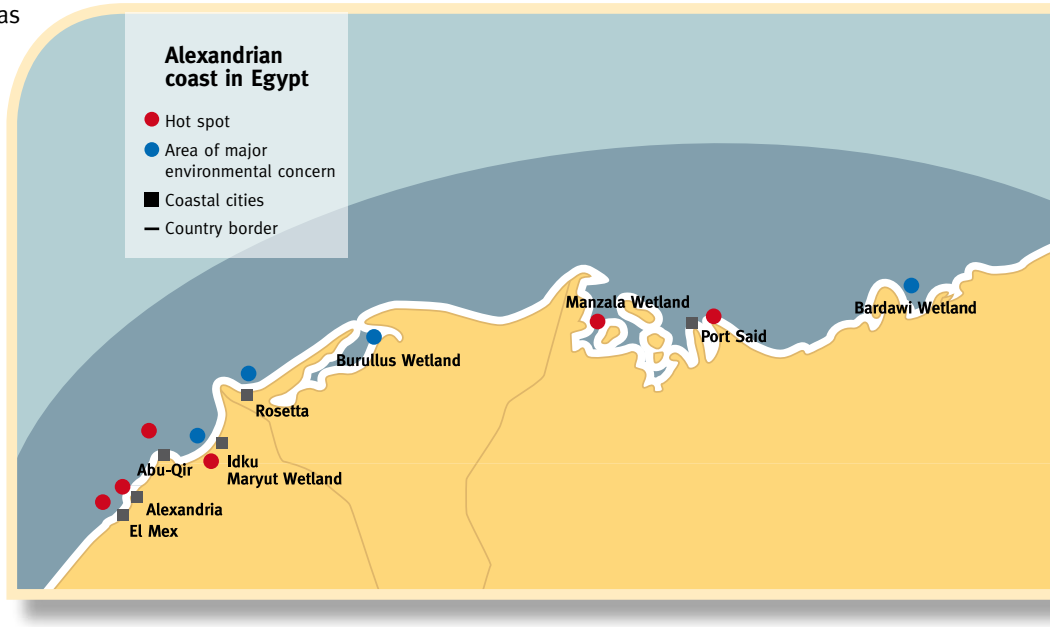
- Decreasing production losses & costs through a more efficient use of resources (energy, water, raw materials)
- Introducing best practices and cleaner technology, including access to grants and financing schemes
- Identifying opportunities for waste minimization and opportunities for their valorisation
- Reducing investment and operational costs of EoP
- Achieving environmental compliance and enhance relationships with stakeholders
- Improving the company's overall environmental management culture and obtain an EMS certification
- Greening their image along the supply chain for increased market penetration
- Training their staff on cleaner production


ATTENTION
انتبه

EGYPT

Country framework conditions for implementing MED TEST

Over the past decade, Egypt has transformed into a liberal private-led economy, implementing a comprehensive program of structural reforms and privatizations to attract foreign investment, ensure economic growth and integrate the environmental dimension into national planning. The Egyptian Environmental Affair Agency (EEAA) is actively leading the enforcement of the environmental protection law, which includes command and control measures, appropriate standards and the application of the polluter pays principle with a stringent penalties and fines regime.



The Egyptian Government, with the essential support of the international donors community, has implemented several programmes to minimize the adverse impact of industrial pollution. The most important schemes are: EPAP II & KfW for investments in cleaner technology and end-of-pipes, IMC for technical assistance and Italian credit lines for technology transfer.

Industry represents about 38% of the GDP and the most important sectors are textile, food and chemicals. Approximately 40% of the Egyptian industrial capacity is located in the Alexandria region, which is affected by intense pollution into the Mediterranean Sea. The wide industrial base of Alexandria mostly comprises SMEs but also many large industries predominantly within the chemical and petrochemical sectors.

MED TEST has targeted 16 industries in Egypt, both SMEs and large industries, across several industrial sectors, contributing to the industrial pollution hot spots of Abou Qir, El Mex Bay and Maryut Lake, within the Alexandria Region.

MED TEST partners

The MED TEST project in Egypt was implemented by the Egyptian National Cleaner Production Center (ENCPC) in cooperation with Environmental and Water Engineering Consultants (EWATEC), a consultancy firm in Alexandria.

Institutional Stakeholders

- Ministry of Industry & Foreign Trade
- Egyptian Environmental Affairs Agency (EEAA), RBO Alexandria
- Federation of Egyptian industry, Environmental Compliance Office (FEI-ECO)
- Friends of the Environment Association (NGO)
- Italian Embassy in Egypt



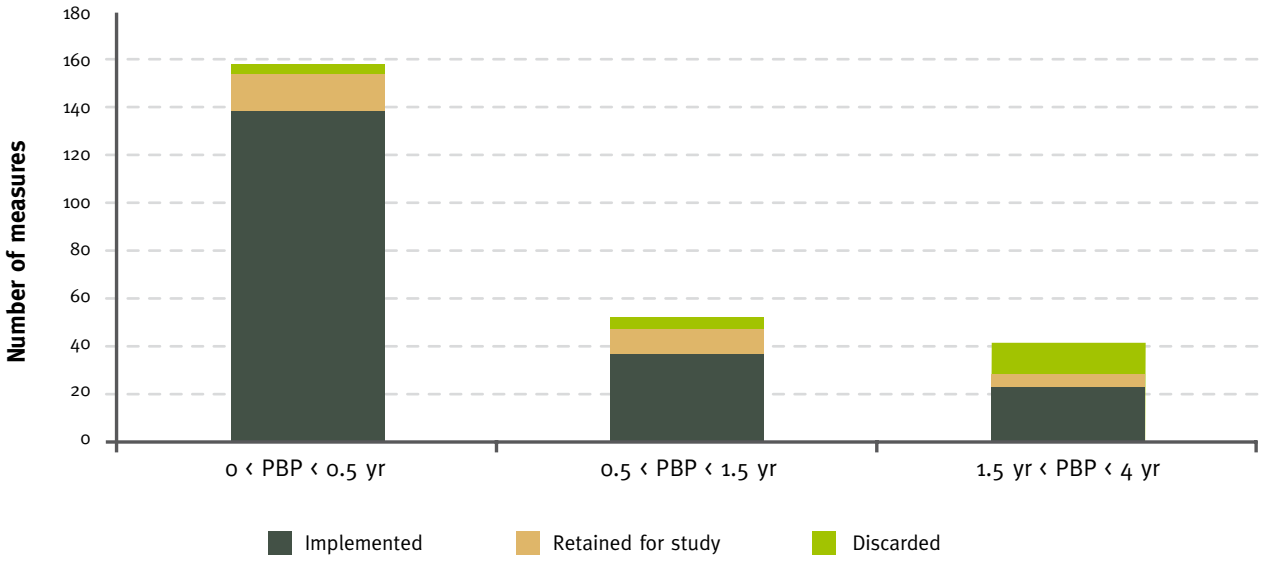
EGYPT

Results of the demonstration projects in Egypt

Following an extensive marketing campaign entailing workshops and one-to-one company site visits, a pool of 16 motivated companies were selected. At project start-up, companies were seeking advice on technological solutions and support in accessing financing to address existing problems and environmental compliance, as well as training of their staff and workers on resource efficiency. The project opened up a wide range of measures new to the management, as well as opportunities for accessing investment subsidies. Many companies were supported in establishing a proper monitoring system for water & energy consumption, including the installation of metering and internal accounting procedures.

A total of 252 measures were identified, out of which 79% have been implemented by the companies, 13% retained for further assessments and 8% discarded.

The identified measures have a PBP of less than 0.5 years in about 63% of the cases, between 0.5 and 1.5 years for 20% of them, between 1.5 and 4 years for the remaining 17%. Most of the measures have demonstrated an attractive return on investment, which accounts for the high implementation rate, as illustrated in the chart below.



Distribution of identified measures by pay-back period and implementation rate in Egyptian demonstration companies

In Egypt, the MED TEST demonstrations were successful in linking up the technical assistance provided by the project's team with the existing grant schemes and investment subsidies available in the country, particularly IMC and EPAP II. This was essential for attracting top management interest and commitment toward implementing the action plan.

Utility costs are generally very low for Egyptian companies. This has resulted in higher return on investments for the selected measures, compared to the other countries (Tunisia or Morocco). In the near future, existing subsidies on water and energy costs in Egypt are expected to be progressively removed. Many more resource efficiency measures will become more profitable, providing the key driver for TEST replications in industry in the medium term.



EGYPT

The table below provides a summary of the financial figures and the water/energy savings associated to the identified measures in the demonstration companies.

Company	Size (*)	Investments [USD/yr]	Savings [USD/yr]	Water Savings [%]	Energy Savings [%]
Food & Beverage Sector					
Edfina Company for Preserved Food	660	257,518	889,000	32	3
Egyptian British Company for Development (Galina-Agrofreeze)	200	32,500	113,500	50	6
Egyptian Company for Starch, Yeast & Detergents	1,130	136,474	1,692,132	40	44
El-Nile Soft Drinks Company (Crush)	1,000	1,564,086	1,264,042	85	19
Chemicals, Petrochemicals and Petroleum Sector					
Extracted Oils and Derivatives Company	2,300	429,627	127,803	18	1
Misr Chemicals Company (MCI)	740	49,033	416,057	26	7
Solvay Alexandria Sodium Carbonate	700	55,383	491,793	20	10
Egyptian Petrochemicals Company (EPC)	3,300	1,536,667	530,638	4	37
Misr Petroleum Company (Lube Oil Blending Plant)	430	100,934	457,371	20	8
Leather Sector, Tanneries					
Atef El Sayed Tannery	40	416,850	97,377	30	47
Pulp and Paper Sector					
General Company for Paper Industry (RAKTA)	1,125	2,443,446	1,518,446	15	10
Moharrem Press Company	940	279,217	304,786	33	15
National Paper Company (NPC)	920	1,731,170	1,228,167	52	12
TOTAL		**9,116,241**	**9,131,112**		

(*) n. of employees, 2009

Estimated Environmental Benefits

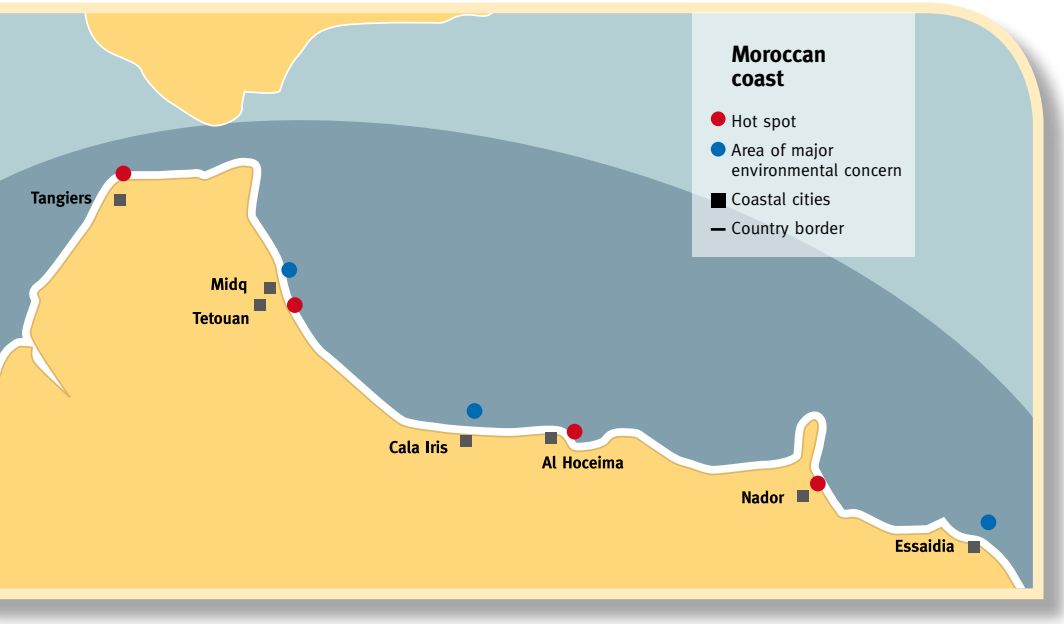
Water Savings [m³/yr]	**Energy Savings** [MWh/yr]	**BOD5 Reductions** [tons/yr]	**COD Reductions** [tons/yr]
8,878,090	212,600	1,628	1,773

Six of the participating companies were already certified ISO 14001 at the beginning of their engagement with TEST. Nevertheless, their EMS needed upgrading to fully integrate resource efficiency: new actions and procedures identified during the course of the project were included. Four companies with no EMS in place at project start-up have launched its design and implementation according to ISO 14001 standard during the course of the project.

The individual company case studies can be downloaded from the website www.unido.org/MEDTEST

MOROCCO

Country framework conditions for implementing MED TEST



Morocco, with its rather stable and diversified economy mostly driven by internal demand, has kept undergoing macroeconomic and structural reforms over the past decade, offering favorable prospects for growth.

The country's core economy relies on Small and Medium Enterprises (SMEs), which gather about 93% of the industrial activities and employ over 40 percent of the work force. The main industrial sectors are the Chemical sector, Agro Food processing, Textile and Leather, Mechanics and Metallurgy, Electronics and Electrics.

The Moroccan environmental framework comprises a set of laws based on the polluter pays principle. The enforcement of the environmental legislation is still in progress. In 2006 the Moroccan Confederation of Enterprises (CGEM) adopted the Corporate Social Responsibility Label and accreditation scheme, which underline the government's commitment towards sustainable development.

Over the past decade, with the support of the EU and of KfW, the Moroccan government has managed the industrial depollution incentive and financing scheme (FODEP). The latter is to be replaced by the newly established National Environmental Fund. The ANPME, the national agency for SMEs promotion, is managing a large technical assistance program, which includes – among other things – subsidies for energy and environmental services.

MED TEST has targeted 12 companies in Morocco, mostly SMEs, within several industrial sectors located in the geographical areas of Tangier and Tetouan, the Mediterranean hot spots. Tangier is Morocco's second most important industrial centre with an ambitious development plan, four large industrial parks of which two have the status of economic free trade zone.

MED TEST partners

In Morocco the project was implemented with the local support of the Moroccan Cleaner Production Centre (CMPP) and the assistance of ECTI[2].

[2] Échanges et Consultations Techniques Internationales (ECTI)

Institutional Stakeholders

- Ministry of Industry
- Ministry of Environment
- Moroccan Confederation of Enterprises (CGEM)
- Water Basin Authority Tangier
- Italian Embassy in Morocco

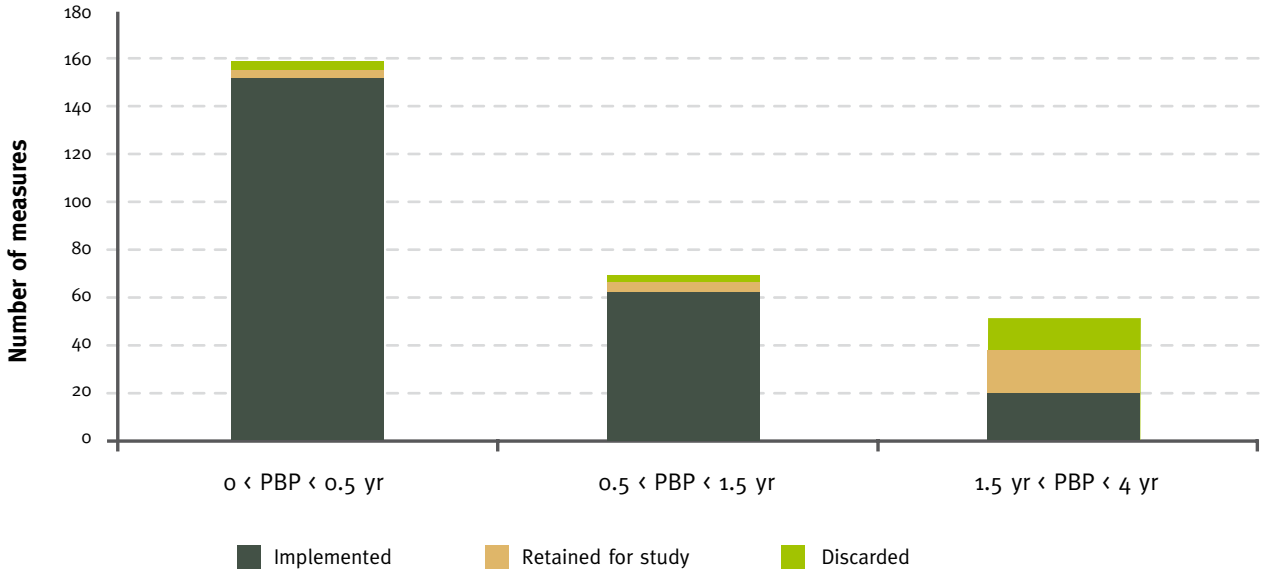
MOROCCO

Results of the demonstration projects in Morocco

The twelve demonstration companies adhered to MED TEST with the expectation that the project's team would assist them in identifying feasible opportunities for cutting production costs, increasing productivity, valorising waste into by-products as well as reducing pollution loads and therefore the investment & operating cost of future wastewater treatment plants (WWTP). At project start-up there was a general lack of awareness on the existing green financial tools available for companies.

A total of 280 measures were identified, out of which 85% have been implemented by the companies, 8% retained for further assessments and 7% discarded. Energy efficiency solutions, including heat recovery, have demonstrated very good potential in Morocco, due to the high energy costs of fuel (e.g. propane).

The identified measures have a PBP of less than 0.5 years in about 40% of the cases, between 0.5 and 1.5 years for 25% of them, between 1.5 and 4 years for the remaining 35%. Most of the measures have demonstrated an attractive return on investment, which accounts for the high implementation rate, as illustrated in the chart below.



Distribution of identified measures by pay-back period and implementation rate in Moroccan demonstration companies

The MED TEST project in Morocco has been timely in raising awareness of industries on environmental performance and existing green financing tools, in view of the upcoming enforcement of the environmental regulatory framework. High energy costs represented a major drive to implement TEST for local industry.

At project startup only one company had an operating wastewater treatment plant (WWTP) in place: most of the others had no data on their wastewater pollution loads. Through the project, a partnership was established with the water basin authority and eight of the participating companies were assisted in analyzing their wastewater flows, preparing technical specifications for setting up a WWTP and sending a request to the national depollution fund (FODEP) to obtain an investment grant. One of these eight companies completed the WWTP tendering phase during the project, selecting the contractor that will build the facility.



MOROCCO

The table below provides a summary of financial figures and water/energy savings associated to the identified measures in the demonstration companies.

Company	Size (*)	Investments [USD/yr]	Savings [USD/yr]	Water Savings [%]	Energy Savings [%]
Food Sector					
Fromagerie BEL (dairy)	500	280,328	333,830	20	7
Colainord (dairy)	600	117,929	381,436	23	13
Cumarex (fish)	320	1,252,565	3,943,800	10	20
Conserverie des 2 Mers (fish)	350	120,175	73,970	22	65
Boyauderie de l'Atlas (meat)	320	79,125	133,500	48	26
Textile Sector, Finishing					
Ecolorentel	400	324,327	242,041	4	7
Lavesma	300	250,911	474,615	2	27
Metal Sector					
Aluminium du Maroc	200	262,164	370,431	7	11
Industube	90	85,800	327,375	1	12
Ceramic Sector					
Ghorghiz	200	347,583	433,180	80	4
Ceramica Dersa	50	87,125	205,306	80	12
TOTAL		**4,228,231**	**5,899,267**		

(*) n. of employees, 2009

Estimated Environmental Benefits

Water Savings [m³/yr]	**Energy Savings** [MWh/yr]
153,806	18,000

The companies received training and technical assistance for the EMS preparation, fully integrating resource efficiency principles in line with the identified measures. During the course of the project, one company obtained the ISO 14001 certification (June 2011). Two companies have established the EMS basic documentation, and two more companies have applied to the ANPME subsidy to receive additional assistance and complete the design of their EMS.

The individual company case studies can be downloaded from the website www.unido.org/MEDTEST

TUNISIA

Country framework conditions for implementing MED TEST

Tunisia is one of the most competitive African countries, that has been the first to sign up to the Euro Mediterranean partnership, and its proximity to the EU and its market has encouraged the introduction of institutional reforms, including those related to environmental protection.

The country has put in place a consolidated environmental regulatory and enforcement frame-work, as well as several national programmes and incentive schemes to rehabilitate and renovate industries, with the objective of guaranteeing a sustainable industrial development. Some of the most important schemes targeting industry include FODEP for investments in cleaner technology and end of pipe, FOCRED for technical assistance and technology upgrade, FNME for energy efficiency, and AFD for environmental credit lines.

The industrial sector in Tunisia essentially consists of small and medium enterprises (SME), most of which belong to the private sector while the role of the public sector is limited to heavy, extractive or transformation processing industries. The main areas affected by industrial pollution within the Mediterranean Sea hot spots are Tunis, Sfax, Ariana, Bizerte, Sousse, Na-beul, and Gabes.

MED TEST has targeted 3 industrial sectors in Tunisia, textile, agro food and leather, which are crucial for the country's economy and rank among the major contributors to industrial pollution generation in terms of wastewater, organic loads and toxic substances release, as well as water and energy usage.

MED TEST partners

In Tunisia the project was implemented with the local support of a consortium of three technical centres affiliated to the Ministry of Industry:

- CETTEX, textile
- CTAA, agribusiness
- CNCC, leather

Institutional Stakeholders

- Ministry of Industry, Energy and Small Medium Enterprises: industrial strategy unit and modernization bureau
- National Agency for Environmental Protection (ANPE)
- UTICA, industrial association
- Italian Embassy in Tunisia



TUNISIA

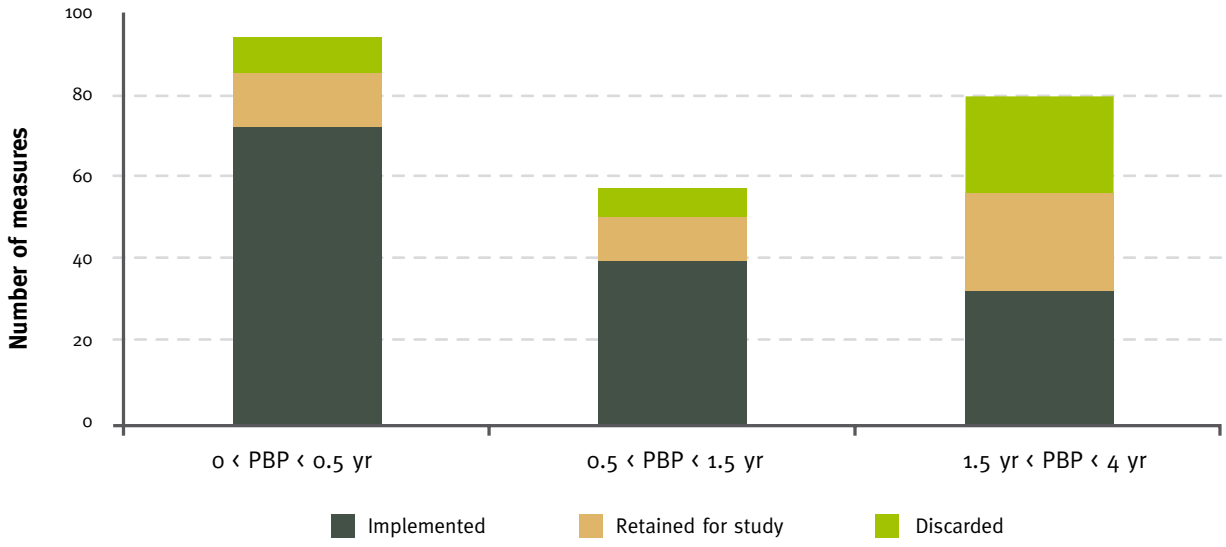
Results of the demonstration projects in Tunisia

A total of 15 companies, out of a group of 50 initially contacted, decided to join MED TEST on a voluntary base providing cash co-financing. The increasing utilities and production costs, the growing governmental pressure and sanctions coupled with inefficient existing WWTP, the need to improve image and meet expectation of new clients were amidst the key driving factors that induced industry to actively participate in the UNIDO initiative.

The assessments conducted at these companies revealed a consistent gap between actual industry performance and international sector best practices, which indicated a high potential for resource efficiency in Tunisian industry. It was demonstrated that the introduction of best practices would enable to reduce this gap, leading to the adoption of action plans and investment programmes in each company.

A total of 232 measures were identified, out of which 63% have been implemented by the companies, 20% retained for further assessments and 18% discarded.

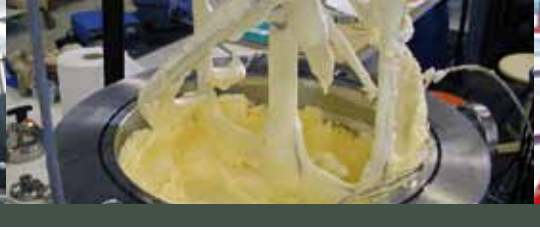
The identified measures have a PBP of less than 0.5 years in about 40% of the cases, between 0.5 and 1.5 years for 25% of them, between 1.5 and 4 years for the remaining 35%. Most of the measures have demonstrated an attractive return on investment, which accounts for the high implementation rate, as illustrated in the chart below.



Distribution of identified measures by pay-back period and implementation rate in Tunisian demonstration companies

The Tunisian context offers very favourable conditions for future TEST applications and scale up. The capacity built through the MED TEST initiative at the textile, agro-food and leather technical centres has contributed to develop the local market of environmental service providers.

The three technical centres are now a recognized national player in terms of provision of services related to resource efficiency, cleaner production and environmental management to industry, and are currently supporting CITET (Centre International des Technologies de l'Environnement de Tunis) in the implementation of other EU and UNIDO CP programmes in Tunisia.


TUNISIA

The table below provides a summary of financial figures and water/energy savings associated to the identified measures in the demonstration companies.

Company	Size (*)	Investments [USD/yr]	Savings [USD/yr]	Water Savings [%]	Energy Savings [%]
Food & Beverage Sector					
Générale Industrielle Alimentaires Slama (GIAS)	493	191,200	133,700	12	17
Société de Conserves Alimentaires du Cap Bon	50-250	98,139	73,639	44	9
Tunisie Lait	308	827,410	746,638	16	13
Société de Boissons du Cap-Bon (SBC)	119	56,331	75,454	22	21
Societè Nouvelle de Boisons (SNB)	202	29,200	194,600	12	14
Centrale Latiere du Cap nord (CLC)	547	484,945	546,903	13	19
Textile Sector, Finishing					
Teinturerie et Finissage Mediterraneenne (TFM)	55	1,264,645	491,860	56	10
Gartex	185	76,200	67,200	19	15
Megastone	150	76,500	55,600	10	30
Traitex	60	181,800	111,836	19	39
Garment Dyeing Service	80	139,000	91,300	24	7
Star Wash	40	37,500	28,000	30	14
Leather Sector, Tanneries					
Tanneries Megisserie du Maghreb (TMM)	180	523,000	446,800	14	15
Société Moderne des Cuirs et Peaux (SMCP)	35	287,000	97,200	22	3
Tannerie du Nord Utique (TNU)	50	184,000	125,000	8	70
TOTAL		**4,456,870**	**3,286,530**		

(*) n. of employees, 2009

Estimated Environmental Benefits

Water Savings [m³/yr]	**Energy Savings** [MWh/yr]	**BOD5 Reductions** [tons/yr]	**COD Reductions** [tons/yr]
650,00	25,083	1,610	2,762

During the course of the demonstration projects, the companies received assistance to integrate resource efficiency into existing management systems and to adopt international environmental management standards. Four companies advanced the design of their EMS according to the ISO 14001 standard.

The demonstration companies from the textile sector, with an increased awareness about environmentally friendly products that was facilitated by the MED TEST project, decided to move toward the adoption of the "Oeko-Tex Standard": two companies obtained certification during the course of the project.

The individual company case studies can be downloaded from the website www.unido.org/MEDTEST

National Teams

EGYPT
Hanan El Hadary (ENCPC Director), Ghada Abd El Moneim (National Coordinator), Maysara Fouad A. (ENCPC), Ali Hosni (ENCPC), Tamer Samir (ENCPC), Samia Massoud (EWATEC Director), Fathia Abdel H. Soliman (Expert), Osman Aita (Expert), Yehia El Taweel (Expert), Mohamed M. Mahmoud (ENCPC), Ahmed Tawfik (ENCPC), Nagwa Monsef M. (EWATEC), Mena Mahrous (ENCPC), Mai Ibrahim (EWATEC), Doaa Tawfik (ENCPC)

MOROCCO
Hanan Hanzaz (CMPP Director), Abdallah Nait Brahim (National coordinator), Abdellatif Touzani (expert), Driss Zakarya (expert), Henia Lahlou (expert).

TUNISIA
Rachid Nafti (national coordinator), Houcine Beltaief (CETTEX), Imène Slama (CETTEX), Manel Ben Saida (CETTEX), Anis Gaida Mahjoub (CTAA), Jihen Guidara (CTAA), Hela Zghidi (CTAA), Mahmoud Mansouri (CNCC), Nadia Somai (CNCC), Naima Jedda Sanaa (CNCC), Samir Gazbar (expert).

Chief Technical Advisor
Roberta De Palma

Local Partners

Centre Technique du Textile (CETTEX)
Avenue des industries, Z.I Bir El Kassaa,
B.P. 279, 2013 Ben Arous
TUNISIA
Tel. (+216) 71 38 11 33
Fax (+216) 71 38 25 58
cettex@cettex.com.tn
www.cettex.com.tn

Centre National du Cuir et de la Chaussure (CNCC)
17 rue du Cuir, Z.I. 2033,
Mégrine, TUNISIA
Tel. (+216) 71 43 22 55
Fax (+216) 71 43 22 83
boc@cnccleather.tn
www.cnccleather.nat.tn

Centre Technique de l'Agro-Alimentaire (CTAA)
12 rue de l'usine, ZI Charguia II 2035, Ariana, TUNISIA
Tel. (+216) 71 94 00 81
Fax (+216) 71 94 10 80
CTAA@topnet.tn
www.ctaa.com.tn

Egyptian National Cleaner Production Center (ENCPC)
26 A Sherif St., Downtown,
Cairo, EGYPT
Tel. 02 23916154
02 23925984
h_elhadary@link.net
www.encpc.org

EWATEC Consultants
55 Adham Street - (5)
Rassafa Tower,
Moharam Bay,
Alexandria, EGYPT
Tel. (+203) 3930700
Tel/Fax (+203) 3906191
ewatecteam@gmail.com
www.ewatec-eg.com

Moroccan National Cleaner Production Centre (CMPP)
23 Boulevard Mohamed Abdou, Quartier Palmiers,
Casablanca, MOROCCO
Tel. (+212) 5 22 99 70 53
Fax (+212) 5 22 98 15 31
cmpp@cmpp.ma
www.cmpp.ma

www.unido.org/MEDTEST

Printed in Italy
March 2012

MED TEST is a UNIDO green industry initiative to promote sustainability and competitiveness in the private sector in Egypt, Morocco and Tunisia. TEST integrated approach includes tools like resource efficiency and cleaner production, environmental management system and accounting, cleaner technology transfer and CSR.

Learn more about TEST approach at www.unido.org/MEDTEST

MED TEST is sponsored by the Global Environment Facility,
the Italian Government and the MedPartnership.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Center, P.O. Box 300, 1400 Vienna, Austria
Telephone: (+43-1) 26026-0, Fax: (+43-1) 26926-69
E-mail:unido@unido.org, Internet: www.unido.org