UNIDO TEST
Transfer of Environmentally Sound Technologies
By Sooksiri Chamsuk
UNIDO Regional Hub Office in Thailand
ศุกรศิริ แจ่มสุข
Our HQ is in Vienna.
The Mission - ISID
167 Member states (as of 2018)

The mission => ISID
UNIDO Offices around the world
Core thematic areas and SDGs
Main Activity Lines

Advancing economic competitiveness
- Agribusiness and rural development
- Women and youth in productive activities
- Human security and post-crisis rehabilitation

Creating shared prosperity

Safeguarding the environment
- Resource-efficient and low-carbon industrial production
- Clean energy access for productive use
- Implementation of multilateral environmental agreements (MEA)

Includes
- Investment, technology and SME development
- Competitive trade capacities and corporate responsibility
- Entrepreneurship development
UNIDO fosters ISID through

- Creating shared prosperity
- Advancing economic competitiveness
- Safeguarding the environment

By providing technical cooperation, analytical and policy advisory services, standard setting and compliance, and by convening for knowledge transfer, partnership and networking.
The 2030 Agenda for Sustainable Development:
Achieving the industry-related goals and targets
What is TEST?

“Transfer of Environmentally Sound Technologies”

Objective: Support the sound management of resources’ use at priority industrial hot spots, to minimize use of resources, maximize productivity, and promote zero discharge, through demonstration of best practices, application of clean technologies, and capacity building.

The methodology demonstrates that industries can achieve economic benefits through the application of best environmental practices and resource efficiency.
SDGs & TEST

**Target 6.3:** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and increasing recycling and safe reuse globally;

**Target 6.4:** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity;

**Target 9.2:** Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry’s share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries;

**Target 9.3:** Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit and their integration into value chains and markets;

**Target 12.2:** By 2030, achieve the sustainable management and efficient use of natural resources.

**Target 12.4:** By 2020, achieve the environmentally sound management of chemicals and wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their releases to air, water and soil in order to minimize their adverse impacts on human health and the environment.
1. Revealing the “total costs” of resource use inefficiencies within production.

2. Assess industry resource efficient & environmental performance against sector benchmarks and international best practice

3. Understand root causes of inefficiency

4. Install an effective information system on priority material and energy flows

**TEST integrated tools**

- Resource Efficiency & Cleaner Production (RECP)
- Material Flow Cost Accounting (MFCA)
- Environmental Management Systems (EMS)
- Energy Management System (EnMS)
UNIDO assists developing countries and countries with economies in transition with the transfer of best available environmentally sound technologies and environmental practices to improve water productivity in industry and prevent discharge of industrial effluents into international waters (rivers, lakes, wetlands and coastal areas) thereby protecting water resources for future generations.
TEST Global Application

- **Hungary, Croatia, Slovakia, Romania and Bulgaria**: TEST in the Danube River Basin.
- **Mexico**: Strengthening the Effective and Democratic Water and Sanitation Management in Mexico to Support the Achievement of the Millennium Development Goals.
- **Honduras**: TEST in the Rio Blanco Basin.
- **Cambodia**: Identification, assessment and prioritization of pollution hot spots and TEST in the Cambodian section of the Mekong river basin.
- **Kenya, Senegal, Tanzania** and **Mozambique**: The COAST project uses TEST in the ecotourism sector.
- **Russian Federation**: TEST for industrial climate change mitigation in the Republic of Tatarstan.
- **Algeria, Morocco, Tunisia, Egypt, Palestine, Israel, Lebanon, Jordan**: MED TEST II in the Southern Mediterranean Region.
TEST projects
SwitchMed project

Objective: Facilitate the shift toward Sustainable Consumption and Production (SCP) in the Southern Mediterranean Region.

The programme consists of 3 Components:

- **Policy Component:** strengthen relevant environmental governance and policy frameworks
- **Demonstration Component:**
  - Sustainable production - MED TEST II
  - Green entrepreneurship and civil society empowerment
  - SCP Nation Action Plans demo
- **Networking Component:** Facilitate networking & knowledge sharing among partners, and foster lessons learned
Coca-Cola Bottling Company

- Carbonated soft drinks, drinking water
- 410 employees
- Experience in this facility will be shared with partner companies in the region

### Saving opportunities

<table>
<thead>
<tr>
<th>Action</th>
<th>Economic key figures</th>
<th>Resource savings &amp; Environmental impacts per year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Investment euro</td>
<td>Savings euro / Yr.</td>
</tr>
<tr>
<td>Optimization of CIP</td>
<td>€6,600</td>
<td>€27,755</td>
</tr>
<tr>
<td>Water conservation</td>
<td>€10,133</td>
<td>€225,060</td>
</tr>
<tr>
<td>Raw materials savings</td>
<td>€2,933</td>
<td>€20,744</td>
</tr>
<tr>
<td>Lighting and cooling systems</td>
<td>€23,860</td>
<td>€108,555</td>
</tr>
<tr>
<td>Steam and compressed air systems</td>
<td>€62,240</td>
<td>€71,245</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>€105,766</strong></td>
<td><strong>€453,359</strong></td>
</tr>
</tbody>
</table>

1 Numbers based on production value from 2015
**Cambodia**

<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>Low carbon development for productivity and climate change mitigation through the Transfer of Environmentally Sound Technology (TEST) methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time</strong></td>
<td>48 months (2018 – 2021)</td>
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<tr>
<td><strong>Implementation agency</strong></td>
<td>United Nations Industrial Development Organization</td>
</tr>
<tr>
<td><strong>Project Counterparts</strong></td>
<td>Ministry of Industry and Handicraft (MIH)</td>
</tr>
<tr>
<td></td>
<td>Ministry of Environment (MoE)</td>
</tr>
<tr>
<td><strong>Donor</strong></td>
<td>Global Environment Facility (GEF)</td>
</tr>
<tr>
<td><strong>Total funding</strong></td>
<td>USD 1,826,484</td>
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Project development objective

Reducing the long-term risk of climate change through the Transfer of Environmentally Sound Technologies in Cambodian industries
Target regions & sectors

- Phnom Penh and its surrounding areas
- Battambang
- Preah Sihanouk
- Siem Reap

- Garment industry including laundry, knitting, dyeing, printing and footwear
- Food & beverage
- Ice making factory
- Other related factories
The project has 4 Outputs

<table>
<thead>
<tr>
<th>Output 1</th>
<th>Necessary policy measures and technical guidelines strengthened to ensure industrial low carbon development and resource efficient operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output 2</td>
<td>Incentives established to encourage industries improve the economic, social and environmental dimensions of their activities</td>
</tr>
<tr>
<td>Output 3</td>
<td>TEST integrated approach implemented at the national level through trainings and demonstration in selected enterprises</td>
</tr>
<tr>
<td>Output 4</td>
<td>Awareness increased with focus on resource efficiency and dissemination of the lessons learnt during the project</td>
</tr>
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</table>
Climate change mitigation through methane recovery and reuse from industrial wastewater treatment - Myanmar

“Increasing Myanmar's efforts towards climate mitigation by minimizing GHG emissions through the application of integrated low-emission wastewater treatments and the Transfer of Environmentally Sound Technologies (TEST).”
Project overview

Project status

Project Identification Form (PIF) ‘Climate change mitigation through methane recovery and reuse from industrial wastewater treatment”, GEF Work Program approved in October 2017. To be submitted to the GEF in 2Q 2019 for final approval

Duration

5 years

Budget

23,089,911 USD (GEF Grant: 3,984,589 USD, Co-financing: 19,105,322 USD)

Aim

To reduce emissions of greenhouse gases (GHGs), specifically methane, by improved wastewater management of industrial organic effluents
The Project

Context

- Around **90% of industrial wastewater in Myanmar remain untreated** before discharge to waterways, leading to human health threats, as well as GHG emissions including methane and nitrous oxide.
- **1 in 10 Myanmar factories treat industrial effluents properly** before releasing them into various waterways.
- There are currently 25 industrial zones in Myanmar with a total of **9,827 factories** employing **187,885 people**.
- Physical proximity of industries to waterways **intensifies the potential of environmental degradation** in the country as many companies illegally discharge their wastewater into nearby rivers as common practice.

Result

The full-scale project will increase Myanmar’s efforts towards climate change mitigation by minimizing GHG emissions through the application of integrated low-emission wastewater treatments and TEST.
Why TEST Programme?

- Significant and unexploited potential for resource efficiency in industry, where there is a big opportunity for companies to achieve economic savings, while at the same time reducing their impact on the environment;

- Demonstrations are key to convince local industry that sustainable production is a sound business strategy within their country’s context;

- Need to enlarge the base of national experts to cover future needs for sustainable production services;

- Industry can be motivated and through these best practices can become engaged in Sustainable Development;