

# Waste Water Treatment in Industrial and SMES Sectors

Implemented by Ministry of Industry, Science, Technology and Innovation

Innovation Grant Facility - CCCA3



National Council for Sustainable Development  
General Secretariat  
Department of Climate Change



Ministry of Environment

# Background

Climate change has become one of the greatest risks that humanity has faced and considered as a high priority of global concern in the 21st century. As the earth temperature continues to rise, the severity of climate change impacts on global socio-economic development and environmental sustainability continue to intensify and amplify, prompting the need to seek urgent solutions.

Unmanaged industrial waste led to impact on human health, environment and also to the increase in GHG emissions in the atmosphere, and these also contribute to cause climate change. Paper, brick and tile factories, rubber/plastic processing and bio-fuel production, if without well management or control, will give a big concern for investment, environmental protection and sustainable development.

To deal with the above issues, this project's innovation is developed to deal with waste water challenges, to reduce GHG emissions from industrial SMEs' production processes, to seek for technology solutions for industrial SMEs (mainly food and beverage), to improve regulations/technical guidelines and monitoring capacities, and to explore potential incentive mechanisms.



## Overall Objective

Develop an innovative approach to reduce GHG emissions from waste water for SMEs in the food and beverage industry

## Specific Objectives

1. Improved knowledge and understanding in MISTI on GHG emissions from industrial waste water and potential technologies for SMEs to reduce these emissions;
2. Low carbon technology and management practices for waste water management are demonstrated;
3. Lessons learned from demonstrations disseminated with government and private sector decision makers; and
4. Strengthened regulatory and financing environment for low carbon IWW management.

## Approach

The project will build on information available from UNIDO TEST project and coordinate with UNIDO for information collection on relevant stakeholders and potential targeted companies. The project will consult not only the companies' owners but also their staff (vulnerable group and women) to share their experiences on keeping and storing waste water.

The overall approach of the project relies on the existing process/system or methodology that have been used by leading institutions, that are MOE/DCC, UNIDO and supported

by consultants. MISTI will employ a mix of trainings and on the job capacity building approach for staff and relevant stakeholders on national GHG inventory on IWW sub-sector and demonstration of waste water treatment. This will be done with support from qualified consultants. For the sustainability beyond, the project will provide authorization or support the existing role of Department of Industrial Technique and Safety with under the direct supervision of the General Directorate of Industry.

## Outputs and Key Activities

Result	Key Activities
<ul style="list-style-type: none"> <li>• An inventory of GHG emissions from industrial waste water in the target sector(s) and Technology needs assessment are conducted</li> <li>• Waste water management audit is conducted in selected factories</li> <li>• Best practices for management of industrial waste water (management practices and technologies) are demonstrated in target factories</li> <li>• Financial, GHG reduction and remaining barrier analysis is conducted for the demonstrated best practices</li> <li>• Advocacy materials produced and disseminated based on case studies</li> <li>• Review and update of existing regulatory framework and technical guidance for IWW management are conducted, based on consultations with private sector</li> <li>• Review and recommendation to address financial barriers to adoption of best practices are conducted</li> </ul>	<ul style="list-style-type: none"> <li>• GHG inventory report and its data for industrial waste sector would help and engage the DCC and MoE to ensure and prepare the future national GHG inventory and communication under UNFCCC</li> <li>• Conduct training manual on national GHG inventory in industrial waste sector including the 2006 IPCC guideline will be prepared to train industrial and SMEs sectors and MISTI officials (and DCC). Their participation in training series would ensure success and their participation in the preparation of GHG inventory</li> <li>• Technology needs assessment: Generating the report of compiling the key findings of the innovative technology</li> <li>• Technical guidelines/recommendations and any updated regulations on industrial waste water treatment;</li> <li>• Advocacy documents for SMEs and Government decision makers, including data from case studies of demonstrations</li> <li>• Conduct assessment of financial barriers and recommendations on financial mechanisms and incentives</li> </ul>

## Knowledge Products

- Case studies
- Lessons learned and recommendations
- Workshops and training manuals
- GHG inventory report and its data for industrial waste sector
- Technical guidelines/recommendations and any updated regulations on industrial waste water treatment

Timeframe	June 2021 to November 2022	Partners	UNIDO Phnom Penh Office
Total Budget	USD 132,400 (From CCCA US\$100,000)	Location	Phnom Penh, Kandal, and Battambang Provinces

Contact person:

H.E. Dr. Tung Ciny, Secretary of State, MISTI. Email: tungciny1@yahoo.com

Funded by



General Inquiries:  
Department of Climate Change  
General Secretariat of the National Council for Sustainable Development  
C/O Ministry of Environment  
No. 503, Road along Bassac River, Sangkat Tonle Bassac, Chamkarmon, Phnom Penh

☎ +855 23 640 3833

✉ [secretariat@camclimate.org.kh](mailto:secretariat@camclimate.org.kh)

[www.ncsd.moe.gov.kh](http://www.ncsd.moe.gov.kh)