



# GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Medium-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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## PART I: PROJECT INFORMATION

|                             |   |   |            |
|-----------------------------|---|---|------------|
| Project Title:              | Low-carbon development for productivity and climate change mitigation through the Transfer of Environmentally Sound Technology (TEST) methodology                                 |   |            |
| Country(ies):               | Cambodia  | GEF Project ID: <sup>1</sup>                    | 9640       |
| GEF Agency(ies):            | UNIDO (select) (select)   | GEF Agency Project ID:                          | 150275     |
| Other Executing Partner(s): | National Productivity Center of Cambodia, Department of Techniques, Science and Technology, Department of Climate Change, Overseas Environmental Cooperation Center, Japan (OECC) | Submission Date:                                | 09-08-2016 |
|                             |   | Resubmission Date:                              | 10-05-2016 |
| GEF Focal Area(s):          | Climate Change  | Project Duration (Months)                       | 48         |
| Integrated Approach Pilot   | IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>   | Corporate Program: SGP <input type="checkbox"/> |            |
| Name of parent program:     | [if applicable]   | Agency Fee (\$)                                 | 169,178    |

## A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES<sup>2</sup>

| Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs) | Trust Fund | (in \$)               |                   |
|--|------------|-----------------------|-------------------|
|  |            | GEF Project Financing | Co-financing      |
| CCM-1 Program 1  | GEFTF      | 1,780,822             | 10,000,000        |
| (select) (select) (select)   | (select)   |                       |                   |
| (select) (select) (select)   | (select)   |                       |                   |
| (select) (select) (select)   | (select)   |                       |                   |
| (select) (select) (select)   | (select)   |                       |                   |
| (select) (select) (select)   | (select)   |                       |                   |
| (select) (select) (select)   | (select)   |                       |                   |
| (select) (select) (select)   | (select)   |                       |                   |
| (select) (select) (select)   | (select)   |                       |                   |
| (select) (select) (select)   | (select)   |                       |                   |
| <b>Total Project Cost</b>  |            | <b>1,780,822</b>      | <b>10,000,000</b> |

## B. INDICATIVE PROJECT DESCRIPTION SUMMARY

| Project Objective: Reducing the long-term risks of climate change through the transfer of environmentally sound technologies in Cambodian industries |                               |  |   |            |                       |              |
|--|-------------------------------|--|---|------------|-----------------------|--------------|
| Project Components   | Financing Type <sup>3</sup>   | Project Outcomes   | Project Outputs   | Trust Fund | (in \$)               |              |
|  |                               |  |   |            | GEF Project Financing | Co-financing |
| 1. National capacity building, transfer of low carbon technologies and awareness raising to reduce risks of climate change                           | TA (select) (select) (select) | 1.1 Knowledge and technical capacity is enhanced in Cambodia to reduce industrial polluted discharges and greenhouse gas (GHG) emissions | 1.1.1 Necessary policy measures and technical guidelines strengthened to ensure industrial low carbon and resource efficient operations | GEFTF      | 100,000               | 15,000       |
|  |                               |  | 1.1.2 Incentives  |            | 160,000               | 200,000      |

<sup>1</sup> Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

<sup>2</sup> When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#) and [CBIT guidelines](#).

<sup>3</sup> Financing type can be either investment or technical assistance.

|  |          |   |  |          |           |                      |
|--|----------|---|--|----------|-----------|----------------------|
|  |          |   | established to encourage industries improve the economic, social and environmental dimensions of their activities            |          |           |                      |
|  |          |   | 1.1.3 TEST integrated approach implemented at the national level through trainings and demonstration in selected enterprises | GEFTF    | 1,100,400 | 9,435,000            |
|  |          |   | 1.1.4 Awareness increased with focus on resource efficiency and dissemination of the lessons learnt during the project       | GEFTF    | 208,529   | 155,000              |
| 2. Monitoring and evaluation               | TA       | 2.1. Project achieves objective on time through effective monitoring and evaluation | 2.1.1 Periodic monitoring and terminal evaluation of project implementation completed  | GEFTF    | 50,000    | 45,000               |
|  | (select) |   |  | (select) |           |                      |
|  | (select) |   |  | (select) |           |                      |
|  | (select) |   |  | (select) |           |                      |
|  | (select) |   |  | (select) |           |                      |
|  | (select) |   |  | (select) |           |                      |
| Subtotal                                   |          |   |  |          | 1,618,929 | 9,850,000            |
| Project Management Cost (PMC) <sup>4</sup> |          |   |  | GEFTF    | 161,893   | 150,000              |
| <b>Total Project Cost</b>                  |          |   |  |          |           | 1,780,822 10,000,000 |

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ( )

**C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE**

| Sources of Co-financing   | Name of Co-financier  | Type of Co-financing | Amount (\$)       |
|---------------------------|---|----------------------|-------------------|
| Recipient Government      | Ministry of Industry and Handicraft   | In-kind              | 80,000            |
| Recipient Government      | Ministry of Environment   | In-kind              | 80,000            |
| GEF Agency                | UNIDO   | Grants               | 45,000            |
| GEF Agency                | UNIDO   | In-kind              | 100,000           |
| CSO                       | OECC  | In-kind              | 340,485           |
| Private Sector            | Garment Manufacturers Association in Cambodia; Federation of Associations of SMEs of Cambodia; Garment sourcing companies; Special Economic Zones; Manufacturing companies. | Unknown              | 9,354,515         |
| <b>Total Co-financing</b> |   |                      | <b>10,000,000</b> |

<sup>4</sup> For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

**D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS <sup>a)</sup>**

| GEF Agency                 | Trust Fund | Country/<br>Regional/ Global | Focal Area     | Programming of Funds   | (in \$)                   |                              |                  |
|----------------------------|------------|------------------------------|----------------|------------------------|---------------------------|------------------------------|------------------|
|                            |            |                              |                |                        | GEF Project Financing (a) | Agency Fee (b) <sup>b)</sup> | Total (c)=a+b    |
| UNIDO                      | GEFTF      | Cambodia                     | Climate Change | (select as applicable) | 1,780,822                 | 169,178                      | 1,950,000        |
| (select)                   | (select)   |                              | (select)       | (select as applicable) |                           |                              | 0                |
| (select)                   | (select)   |                              | (select)       | (select as applicable) |                           |                              | 0                |
| (select)                   | (select)   |                              | (select)       | (select as applicable) |                           |                              | 0                |
| (select)                   | (select)   |                              | (select)       | (select as applicable) |                           |                              | 0                |
| <b>Total GEF Resources</b> |            |                              |                |                        | <b>1,780,822</b>          | <b>169,178</b>               | <b>1,950,000</b> |

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

**E. PROJECT PREPARATION GRANT (PPG)<sup>5</sup>**

Is Project Preparation Grant requested? Yes  No  If no, skip item E.

**PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS**

| Project Preparation Grant amount requested: \$45,662 |            |                             |                |                        | PPG Agency Fee: 4,338 |                             |                 |
|--|------------|-----------------------------|----------------|------------------------|-----------------------|-----------------------------|-----------------|
| GEF Agency   | Trust Fund | Country/<br>Regional/Global | Focal Area     | Programming of Funds   | (in \$)               |                             |                 |
|  |            |                             |                |                        | PPG (a)               | Agency Fee <sup>6</sup> (b) | Total c = a + b |
| UNIDO  | GEF TF     | Cambodia                    | Climate Change | (select as applicable) | 45,662                | 4,338                       | 50,000          |
| (select)   | (select)   |                             | (select)       | (select as applicable) |                       |                             | 0               |
| (select)   | (select)   |                             | (select)       | (select as applicable) |                       |                             | 0               |
| <b>Total PPG Amount</b>                              |            |                             |                |                        | <b>45,662</b>         | <b>4,338</b>                | <b>50,000</b>   |

<sup>5</sup> PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$50k for PF up to \$2m (for MSP); up to \$100k for PF up to \$3m; \$150k for PF up to \$6m; \$200k for PF up to \$10m; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

<sup>6</sup> PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

## F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS<sup>7</sup>

Provide the expected project targets as appropriate.

| Corporate Results   | Replenishment Targets  | Project Targets  |
|---|--|--|
| 1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society  | Improved management of landscapes and seascapes covering 300 million hectares  | <i>Hectares</i>  |
| 2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)   | 120 million hectares under sustainable land management   | <i>Hectares</i>  |
| 3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services | Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins; | <i>Number of freshwater basins</i>   |
|   | 20% of globally over-exploited fisheries (by volume) moved to more sustainable levels                                  | <i>Percent of fisheries, by volume</i>   |
| 4. Support to transformational shifts towards a low-emission and resilient development path   | 750 million tons of CO <sub>2e</sub> mitigated (include both direct and indirect)                                      | <i>300,000 metric tons (direct) and 180,000-450,000 metric tons (indirect)</i> |
| 5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern  | Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)   | <i>metric tons</i>   |
|   | Reduction of 1000 tons of Mercury  | <i>metric tons</i>   |
|   | Phase-out of 303.44 tons of ODP (HCFC)   | <i>ODP tons</i>  |
| 6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks  | Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries | <i>Number of Countries:</i>  |
|   | Functional environmental information systems are established to support decision-making in at least 10 countries       | <i>Number of Countries:</i>  |

## **PART II: PROJECT JUSTIFICATION**

1. *Project Description*. Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area<sup>8</sup> strategies, with a brief description of expected outcomes and components of the project, 4) [incremental/additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and [co-financing](#); 5) [global environmental benefits](#) (GEFTF) and/or [adaptation benefits](#) (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

### **1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed**

Climate change has a close link to extreme events where most of them turn into hydro-meteorological disasters such as floods, storms and droughts. The frequency and magnitude of these extreme events caused by excessive emissions of greenhouse gas (GHG) have significantly increased in recent decades, becoming one of the main global environmental challenges. GHG emissions increased drastically after the industrial revolution due to excessive burning of fossil fuels (coals, natural gas, and oil), agriculture particularly animal raising and land use change as well

<sup>7</sup> Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF, SCCF or CBIT.

<sup>8</sup> For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving.

as the destruction of tropical forests. Carbon dioxide, although not the most potent, is the biggest GHG emitted into the atmosphere whereby 35.7 billion tonnes of CO<sub>2</sub> were emitted globally in 2014.

Rapid industrialization, growing population pressures, as well as the lack of knowledge and access to technologies to promote a sustainable and inclusive industrial development represent a growing threat to the environment in the country. While Cambodia is not a heavily industrialized country, most of its factories still use outdated technology and inefficient equipment. Consequently, excessive GHG are emitted and harmful wastewater discharged into water bodies and land, contaminating agricultural land, groundwater bodies, as well as irrigation networks. Cambodia's industrial sector is dominated by garment production, construction as well as food and beverage industries. According to Industrial Development Policy (IDP), manufacturing's GDP accounted for 15.5% in 2013 and is forecasted to reach 20% by 2025 becoming a significant emitter of GHG emissions. The garment sector, being the largest industrial sector in Cambodia is of particular concern for the environment. The excessive fresh water usage and discharging of untreated wastewater containing toxic dyes and harmful chemical by some textile factories are having negative impacts on the local streams, rivers and the coast. As such, poor infrastructure, weak institutions and regulatory frameworks limit Cambodia's ability to reduce GHG emissions and the long-term risks of climate change.

There are, however, barriers to successfully implement the TEST approach by companies or government itself due to the following:

- i. Lack of awareness, confidence, and willingness by the company;
- ii. Lack of human and institutional capacity to assess/evaluate and implement necessary measures;
- iii. Lack of access to environmentally sound technology (EST), best available technique and best environmental practices;
- iv. Lack of access to financial investment schemes; and
- v. Perception of zero-sum gain with regards to environmental protection activities.

## **1.b The baseline scenario or any associated baseline projects**

### **Baseline scenario**

As most industries in Cambodia are located along surface water bodies the basins' ecosystems are in constant risk, such as the Mekong River, its two main tributaries the Tonle Sap and Tonle Bassac Rivers or the coast of the Gulf of Thailand. Due to the general lack of enforcement on environmental regulations, harmful industrial wastes are discharged to nearby waterbodies and GHGs are emitted directly to the atmosphere. Lack of particulate matter removal leads to the formation of acid rain through releases of harmful substances such NO<sub>x</sub> and SO<sub>x</sub> into the air. Untreated wastewater discharge causes eutrophication and pollutes the surface water bodies. To compound the problem, inefficient industrial operations further increase the amount of waste both in terms of quantity and toxicity. Local communities who depend on the surface water to ensure their social, cultural and economic well-being are highly impacted by these detrimental developments.

In order to respond to such issues, the Royal Government of Cambodia has passed new environmental regulations stipulating that dischargers of industrial wastewater, including small and medium enterprises, will be held responsible for wastewater pollution. Thus, companies are obliged to treat wastewater meeting national parameters on-site before releasing it into the environment. However, Cambodia lacks the capacity of implementation of such existing environmental regulations and policies facing high amounts of non-compliance by companies. One of the root causes can be attributed to the political institutional set-up with gaps and overlaps of roles and responsibilities among different ministries and agencies in key functional areas, such as land tenure, coastal and marine resource management. Additionally, capacities vary among departments and ministries as a result of low wages, corruption and nepotism (e.g. purchasing of promotions).

Without GEF support, the degradation of the environment by industries and the threats to the local population will increase in Cambodia. A sustainable approach to promote low carbon development and resource efficiency needs to be integrated into the companies' strategies. The proposed project also assists the country to streamline the national policy framework in order to mitigate the long term risks of climate change.

## Baseline projects

The launch of Cambodia's Climate Change Strategic Plan 2014-2023 provides an opportunity under this project to strengthen policies and environmental governance capacity. The national policy document demonstrates the country's political commitment and readiness to take concrete measures in reducing climate change impacts and contributing to the efforts of mitigating GHG emissions. Under this policy, this project particularly assists Cambodia to meet its targets presented its Intended Nationally Determined Contribution (INDC). Thus, the proposed project activities would significantly contribute towards the mitigation actions outlined under Section 3 of the INDC, with the objective of mitigating and reducing GHG emissions in manufacturing industries especially garment factories. This project would ensure combined benefits of strengthened knowledge among companies and local communities as well as increased capacity of the respective authorities to implement environmental policies and regulations. Additionally, the project assesses the role and function of various ministries and departments involved in this process and provides a strategic plan to streamline and operationalize the process.

As most manufacturing companies use fuel-wood boilers, saving of fuel-wood will have a direct positive impact on reduction of deforestation. A desk study of work conducted by National Cleaner Production Office-Cambodia in 6 garment-knitting companies revealed an average reduction of GHG emissions of about 18.3% after implementation of RECP. There is therefore a great potential to reduce GHGs in textile, garment and footwear industries. The garment industry is the most important manufacturing sector in Cambodia accounting for over 19% of the overall GDP with 80% of it being exported reaching a volume of USD 4.97 billion in 2013. The garment industry in Cambodia is primarily a cut, make and trim industry whereby most raw materials and fabrics are imported. Overall, Cambodia hosts around 559 known producing factories, which are mainly subsidiaries of larger parent companies based in other parts of Asia. Additionally, so-called cottage factories exist, which are not formally registered but are subcontracted to the formal sector during peak season. However, inefficiencies in the production process result in avoidable GHG emissions and a disproportionate consumption of high energy costs, which decreases the industry's competitiveness on the international market. Despite the industry's and government's awareness of the faced inefficiencies and high energy costs, companies have failed to reach increased energy efficiency due to lacking technical capacity as well as lack of financial resources.

In order to reduce the environmental footprint of Cambodian industries, while increasing their competitiveness, UNIDO previously implemented the "Hot-Spot" and "Transfer of Environmentally Sound Technologies" (TEST) methodologies in Pannom Penh and Kandal province, from January 2011 to mid-2013. The project was developed in cooperation with the Ministry of Industry, Mines and Energy (MIME) of Cambodia and with the financial support of the Korea International Cooperation Agency (KOICA). During this initial project, a number of new management tools were introduced in selected enterprises, including Environmental Management Accounting (EMA), based on ISO 14051; Environmental Management System (EMS), based on the principles of ISO 14001; and Corporate Social Responsibility (CSR), based on the first steps of ISO 26000. As these tools address the management and strategic levels of a company, they were complemented with the introduction of the Resource Efficient and Cleaner Production (RECP) methodology at the production level. These combined approaches dealing with the various levels within a company are the components of the TEST approach, an integrated methodology developed by UNIDO. The combination of these tools triggers a cycle of continuous improvement by developing relevant capacities to ensure low carbon and sustainable industrial development. These principles are mainstreamed at the production, management and strategic levels of a company.

The initial project was a learning phase for government officials and for selected companies. The project was very successful in implementing the TEST methodology in 11 demonstration companies, covering the garment, food processing, pulp and paper (cardboard recycling) and paint preparation sectors. Concrete results were obtained through the implementation of 379 cleaner production options in 9 companies resulting in 400,000 m<sup>3</sup> of water and 3.8 million kWh of electricity saved annually which directly contribute to reduction of GHG emission and amount of wastewater discharged. The project did not financially support technological upgrades, but leveraged USD 208,000 in private investments during the project lifetime. Training material on the various tools constituting the TEST methodology was translated in Khmer to foster learning and disseminate information to the local small and medium-sized enterprises (SMEs) and industries. Finally, a Green Industry Award mechanism was developed to incentivize and encourage Cambodian companies to reduce their environmental footprint. The award was aimed to disseminate and broaden the activities as well as stimulate and support other industries in Cambodia to undertake voluntarily

activities, in the field of climate protection, resource efficient and cleaner production, environmental management accounting and system as well as corporate social responsibility. It also aimed to raise environmental awareness in industries and in the public in general. The award has bolstered the company image and served as a platform for improvement on green activities as well as social well-being in the company. The other important achievement of the project is the visible positive change of mind set of partner company managers/owners toward green practices testified by their willingness to advocate for the activities. The terminal evaluation reported has recommended UNIDO to upscale the initial project specifically to support Ministry of Industry and Handicraft (MIH) on formulation of policy, technical guidelines, replication of TEST, and continuation of the awareness program. The following main recommendations were drawn:

- Strengthen the national monitoring and laboratory capacity by acquiring modern analytical equipment, proper training of the laboratory personnel, and international certification of the laboratories;
- Upscale the application of TEST methodology in other geographical areas and sectors, give priority to industries where a major impact on reduction of pollution can be achieved;
- Institutionalize and strengthen the reputation of Cambodian green industry award by organizing it annually;
- Promote access to financial support for the green activities for private sector.
- Establish incentives for environmental friendly production;
- Raise awareness on green practices by targeting public institutions, enterprises, and the general public;
- Develop national policies and laws relating to resource efficient production;
- Provide support to integrate the TEST methodology into the curriculum of technical students (through cooperation with appropriate universities, such as the Institut de Technologies du Cambodge)
- Address the problem of service provision to companies through an appropriate local partner organization;
- Develop incentives and enforcement measures for compliance of industries with environmental norms.

Besides UNIDO's project described above, other initiatives are being developed in Cambodia on the topic of climate change. Some of them are:

- "Local Governments and Climate Change (LG-CC)": the project, developed by the United Nations Capital Development Fund (UNCDF) in partnership with Cambodia Climate Change Alliance (CCCA), aimed to demonstrate the role of local governments in fostering climate change resilience and to identify practical ways to mainstream it into sub-national planning and finance systems. The 15 months project was implemented from 2011 to 2012 with a total fund of USD 300,000. The initiative has resulted in having awareness to climate change at local level and how it is expressed within sub-national decision making, planning and budgeting processes analysed and proposal for raising that awareness and identification of appropriate national and local partners formed. The project has also designed and put in operation of practical system for mainstreaming climate resilience in a fiscally sustainable manner and within existing local government financing systems, including the piloting of fiscal grants that support climate resilience;
- "Waste to Energy for the Rice Milling Sector": the project is developed by the national organization Foundation Ensemble, together with a wide range of national implementing partners in nine provinces across Cambodia. The objective of the project is to mitigate climate change and contribute towards economic prosperity and poverty reduction by enhancing the competitiveness of the national rice sector. This is done through the increased uptake of environmentally responsible waste to energy technologies, in particular rice husk gasification. This project also includes a policy component by consolidating the fragmented guidelines into a single operational industry standard with policy makers, small and medium enterprises and financial sector actors together in a multi-stakeholder platform. This project is complimented by the SWITCH-Asia Project waste to energy also targeting the rice milling sector in Cambodia enabling the take-up of technology investments.
- "Mekong Integrated Water Resources Management Program": the project is developed and implemented by the World Bank Group with the Royal Government of Cambodia with the overall executing agency the

Cambodia National Mekong Committee. The project focuses on fisheries resources management in Stung Treng and Kratie Province as well as river basin management in North-eastern Cambodia. An environmental management plan is being developed in order to propose mitigation measures that should be taken during the implementation and operation to eliminate and offset adverse environmental impacts.

- “Sustainable Management of Resources”: this project is implemented by BORDA Cambodia (Bremen Overseas Research & Development Association) established in 2008. The project disseminates decentralized wastewater treatment systems for public institutions, communities and small and medium enterprises. This system is designed to provide wastewater treatment for domestic and industrial sources and for flows as high as 1000m<sup>3</sup> per day with a tolerance to flow fluctuations and low maintenance requirements.
- Garment Manufacturers Association in Cambodia (GMAC): works closely with the Royal Government of Cambodia in order to strengthen industrial relations and a strong business environment as well as sound cooperation in the area of compliance, with a particular focus on basic labour standards. As such, members are supported in the policy dialogue on the national level as well as through the provision of various training sessions. The training aims to improve the knowledge and performance of companies and their staff in previously identified competencies that require strengthening.

In the last years, the Cambodian private sector has also made efforts to meet the requirements of international clients and customers in relation to pollution prevention. However, based on the identified remaining gaps, the project will contribute towards Cambodia’s green growth transformation in introducing state-of-the-art and proven successful resource efficient and cleaner production methods and approaches to interested manufacturing companies. Additionally, the capacity building programme will focus on government officials and companies as well as provide marketing and awareness raising initiatives. Thus, many companies lack knowledge and technical capacity to introduce and implement environmentally sound technology to reduce the negative impact of their discharges and emissions. The lack of regulation enforcement is also a deterrent for companies to invest into pollution control while competitors continue to operate with a business as usual strategy.

### **1.c The proposed alternative scenario, with a brief description of expected outcomes and components of the project**

The proposed project greatly contributes towards CC1 programme 1, whereby previously identified environmentally sound technologies will be transferred to targeted industries in Cambodia. In order to ensure uptake of the technology and methods introduced under the project, demonstration and deployment of such mechanisms within companies will build on the experience gained under the first UNIDO project. Additionally, capacity building and awareness raising initiatives among company representatives and government officials will ensure the sustainability and acceleration of implemented mitigation efforts. Thus, these initiatives will build on the achievements of the initial Hot-Spot and TEST project and will effectively support the greening of Cambodian industries through the reduction in terms of both quantity and toxicity of industrial polluted discharges and GHG emissions.

In order to reduce the long-term risks of climate change and support Cambodia in its efforts to achieve the objectives outlined in its INDC, the proposed project will develop the necessary policy, technical guidelines, incentives and advocacy instruments to initiate a self-sustaining dynamic and promote low carbon and sustainable development of Cambodian industries. The project will combine policy and advocacy elements with technology transfers in the areas where most manufacturing industries are located and present major negative effects on environment and biodiversity as well as social-economic factors. In other words, the TEST integrated approach will be introduced and implemented in close consultation with the government in Phnom Penh and its surrounding areas including Kandal, Kampong Speu, Kampong Chhnang and the other industrialized provinces of Cambodia, mainly, Battambang, Siem Reap and Preah Sihanouk. As the garment industry dominates Cambodia's manufacturing sector, the project will focus on this industrial sector. Nevertheless, other sectors will also be involved as the TEST methodology can be applied to and adopted by all types of industries.

The proposed project aims to further integrate the TEST approach in the industrial sector. TEST is a proven methodology that improves all pillars of sustainable industrial development. It improves the economic performance of the company through saving of resources and improved productivity by implementing RECP while EMA identifies the environmental cost and provides justification for the RECP project. EMS ensures the environmental



policy is in place while CSR is an umbrella tool for all the tools tackling the strategic and vision level making sure that a company has a sustainable and inclusive development vision. The TEST methodology helps companies save raw materials, fresh water and electricity consumption, better chemical management which will have a direct impact on both quantity and toxicity of GHG emission and discharge of wastewater and solid waste while improving the productivity and working condition of the company.

The following outputs and activities are planned as part of the project:

**Output 1.1.1 Necessary legislative, policy measures, and technical guidelines to sustain the low carbon development of Cambodian enterprises strengthened established**

Policies will be strengthened and/or developed to sustain the greening of Cambodian enterprises. The policies will focus mainly on the promotion of low carbon growth of Cambodia and resource efficiency as a paradigm for inclusive and sustainable industrial development. Under the broad umbrella of resource efficiency, the policy will include the following components:

- (a) Resource efficient and cleaner production as a tool to reduce raw material use, greenhouse gas emissions and pollution loaded effluent discharges;
- (b) Chemical management and pollution prevention; and
- (c) Waste minimization through the reduction, reuse and recycling of raw material, energy and water, in line with the 3R principles (reduce, reuse and recycle).

A second pillar of policy development will include the promotion of industries and SMEs that are providing services related to resource efficiency. The combination of these two components - the greening of existing industries and the promotion of green industries (i.e. companies providing environmentally related services) - will define the policy framework and ensure a sustainable industrial development in Cambodia.

In order to support the implementation of the policy, the TEST implementation guide for manufacturing company will be developed. The activities proposed to achieve this output are:

**Activity 1.1.1.1** Assess current legal, regulatory, policy and institutional frameworks on industrial development;

**Activity 1.1.1.2** Develop and submit a draft policy based on the principles of RECP for formal appraisal process

**Activity 1.1.1.3** Submit policy to the legislative authority; and

**Activity 1.1.1.4** Adapt the TEST implementation guide to local conditions targeting selected industrial sectors building on the TEST integrated approach principle developed under the previous project and translate into Khmer language.

The strengthening and/or development of policies and technical guidelines will be spearheaded by international and national consultants in close collaboration with officials from the Ministry of Industry and Handicraft (MIH), Ministry of Environment (MoE) and other relevant ministries. Coordination with parallel initiatives will be established to avoid overlaps.

**Output 1.1.2 Incentives established to encourage industries in their efforts to improve the social and environmental dimensions of their activities**

This output is designed to ensure the sustainability of the project's efforts through an appropriate incentive scheme for industries to be rewarded for their environmental and social performance. Based on international good practice, the Green Industry Award encourages companies to ensure sustainable production methods. The award scheme was piloted under the first UNIDO-led project and was proven successful. However, due to the absence of a legal framework, the award was not sustainable. Thus, the proposed project aims to develop a legal framework in order to ensure replication on a national scale. In order to mainstream the Green Industry Award and reach more manufacturing companies across the country, the incentive scheme will be also mainstreamed and introduced in other industrial polluted areas throughout the country. In order to increase the ownership of the award system, it will be operationalized and included as part of the Ministry's future activities with a strong legal link. It is expected that the Green Industry Award will (i) encourage Cambodian industries and SMEs to adopt more sustainable production

practices, (ii) disseminate information on best available technologies and best environmental practices, and (iii) raise awareness on sustainable industrial practices in the private sector and in the general public. The award consists of three levels: gold, silver, and bronze. Bronze represents the entry award, for “simple and basic” green activities; silver is reserved for all applications with a more than average performance; and, gold is for activities that can serve as good practice examples. The publicity and positive impact generated by the awarded will improve the competitive advantage of the company.

In addition, the project will enable an exchange programme for the sharing of experience between previous winners of the Cleantech program from either Malaysia or Thailand with companies and government officials in Cambodia. The Global Cleantech Innovation Programme is a competition-based approach that is applied to identify the most promising start-ups in this area, which are continuously being trained and mentored. The programme brings stakeholders together to find, fund and foster entrepreneurs with solutions to address the most urgent energy, environmental and economic challenges.

The planned activities under this output are as follows:

**Activity 1.1.2.1** Develop a legal framework for the existing piloted green industry award scheme and mainstream it to other industrial areas and the different dimensions of low carbon and sustainable development

**Activity 1.1.2.2** Operationalize a sustainable structure for the Green Industry Award

**Activity 1.1.2.3** Host three annual Green Industry award ceremonies

**Activity 1.1.2.4** Introduction to the Cleantech program and promote it through the project.

The development and expansion of the Green Industry Award will be led by UNIDO international expert in close collaboration with National Productivity Center of Cambodia (NPCC) and MIH.

### **Output 1.1.3 TEST integrated approach implemented at the national level through trainings and demonstration in selected enterprises**

The TEST integrated approach will be implemented primarily in enterprises located at the Phnom Penh and its suburb, the coastal area of the Gulf of Thailand and along the Tonle Sap Great Lake. Similarly to the successes obtained in the initial “Hot Spot & TEST”, the project will help selected enterprises to increase their environmental and economic performances. In addition, the project will also improve the laboratory analytical capacity of the Ministry of Environment through trainings. The technical and management improvements undertaken by these enterprises will then be used as examples during the dissemination campaign part of the awareness raising (Output 4). The project aims to implement the TEST integrated approach in 50 to 60 companies/enterprises. The activities are as follows:

**Activity 1.1.3.1** Identify and select enterprises for TEST implementation on the basis of their environmental footprint using UNIDO's Hot-Spot methodology (see annex for more detailed information and description of the approach). This multi-criteria approach enables the assessment and subsequent ranking of industries that are discharging their effluents in common water. Following a preliminary screening of all discharging enterprises, a detailed assessment will be conducted with a heavy weighting factor of GHG emissions as priority, taking also into consideration the following criteria (a) pollution control, (b) water quality and human health, (c) biodiversity, and (d) socio-economic aspects. Finally, based on score given for each assessed category, the enterprises will be ranked and prioritized for the next activities under this project. The selected enterprises will thus have the biggest improvement potential.

**Activity 1.1.3.2** Deliver general training on the TEST integrated approach to identified industries

**Activity 1.1.3.3** Deliver training on RECP followed by RECP assessment and generation of improvement options to selected companies and their staff

**Activity 1.1.3.4** Deliver training on energy auditing to identified industries. Under the RECP assessment, the proposed project will benefit from the collaboration with the Overseas Environmental Cooperation Center (OECC) from Japan who will deliver the training and conduct energy audits using an innovative and cost-efficient device that measures the efficiency of electrical equipment

**Activity 1.1.3.5** Deliver trainings to identified industries on the following topics: EMA, EMS and CSR to targeted companies. Hereby the project will organize train-the-trainer workshops for the National Cleaner Production Office Cambodia (NCPO-C) in order to enable less experienced participants to develop the skills and knowledge they need to deliver the course themselves in the future.

**Activity 1.1.3.6** Develop specific assessments and improvement roadmaps on EMA, EMS and CSR for each demonstration companies

**Activity 1.1.3.7** Low carbon technology transfer self-financed by demonstration companies and implementations of the improvement options/recommendations to improve economic, environmental, and social performance

**Activity 1.1.3.8** Delivery training to the Ministry of Environment's pollution control laboratory on analytical methods to monitor effluent discharges

The implementation of TEST integrated approach will be led by the NCPO-C hosted as an official specialized unit under the NPCC within the Ministry of Industry & Handicraft with support from UNIDO international and national experts.

#### **Output 1.1.4 Awareness increased with focus on resource efficiency and dissemination of the lessons learnt during the project and curriculum developed to be used in Universities**

The focus under this output is to generate greater awareness for the replication and upscaling past and existing efforts by organizing numerous advocacy and awareness raising campaigns. The results and achievements of the initial project along with the policy and incentives developed under this proposed project will serve as a basis for future advocacy activities. In order to ensure adequate communication and awareness raising among the target group under this project, low threshold awareness raising material will be specifically developed for public institutions, industries and universities. This will ensure that information is distributed on the activities implemented by the project and particularly knowledge is shared on the technical guidelines of the TEST approach. The activities planned under this component are:

**Activity 1.1.4.1** Implement awareness raising activities for industries and policy makers, preparing them to better tackle climate change through resource efficiency and low carbon development

**Activity 1.1.4.2** Disseminate the lessons learned, technical guidelines and best practices through seminars, workshops, publications and outreach/ educational materials

**Activity 1.1.4.3** Develop training material on integrated and sustainable industrial development to be used in universities and technical schools

The awareness training program will be led by NPCC of MIH and Department of Climate Change (DoCC) of National Council for Sustainable Development (NCSDD).

The project Logframe and a chart of execution arrangement are attached in annex A and B respectively.

## **2. Monitoring and Evaluation**

### **Output 2.1 Project achieves objective on time through effective monitoring and evaluation**

To ensure effective monitoring and evaluation, the project will include periodic progress reports on the impact status for each of the components of the project. The quarterly reports will be short activity reports while the semi-annual and annual reports will be technical reports on each of the project themes, which will serve as a basis for the mid-term and final evaluations.

#### **1.d Incremental/ additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF/SCCF and co-financing**

Although the main project stakeholders are aware of the negative impact of polluted discharges and GHG emissions on the environment, the country lacks technical capacity and knowledge, as well as institutional and policy framework to prevent industrial pollution. This applies in particular to the owners of industries in Cambodia who are willing to invest into technologies that will allow them to reduce the quantity and toxicity of their emissions and effluents.

With a co-financing investment estimated at USD 10,000,000, the very positive results obtained with the initial UNIDO project can be replicated and up-scaled as the government is convinced of the importance of low carbon industrial development and industries, as well as SMEs, are ready to invest in low carbon technologies. The proposed project will have a catalytic effect in providing the legal and institutional frameworks to support countrywide investments in low carbon technology upgrades. As proven in the initial UNIDO-led project, the economic performance could be achieved via investment in low carbon development (USD1.7 million combined saving annually for 9 partner companies) such as RECP. The economic incentive brought by the implementation of TEST is a key factor inducing more investment. The investment in low carbon growth development will bring economic incentive and competitive edge for the company. The development of training material funded under the project, to be included in the program of universities and technical schools is planned to have a significant impact thanks to the GEF resources to be made available.

Owing to the success and awareness created in the initial project, this proposed replication and expansion project have received strong support from the government counterparts as well as from private sectors. The project have received nine (9) letters of interest from federations/associations, manufacturing companies including garment and food, special economic zone developer as well as garment corporate buyer.

### **1.e Global environmental benefits (GEFTF), and adaptation benefits (LDCF/SCCF)**

The project will deliver global environmental benefits by supporting Cambodia in the transition towards a sustainable and low-carbon development path. The project will contribute to reduce polluted discharges and GHG emissions and by facilitating the transfer of low carbon and resource efficient technologies.

The case study conducted by National Cleaner Production Office-Cambodia in 6 garment production companies reported an average GHG emission reduction of 18.3% corresponding to 571t-CO<sub>2</sub>eq annually per company. The proposed project aims to work with 50 to 60 companies which would have GHG emission reduction of about 300,000 tCO<sub>2</sub>eq over the period of 10 year extrapolation based on the existing data generated under the previous UNIDO project and in line with the GEF methodology. The initial UNIDO-led project has also reported a significant reduction of fresh water consumption as well as raw material uses which translated directly to the reduction of wastewater and solid waste discharge. After the completion of th proposed project, investments are expected to increase due to the estimated long term outcomes of the project activities. As such, the policy component will strengthen the institutional framework and technical guidelines to enhance company's environmental performance and scale up the use of the TEST integrated approach as well as activities of awareness raising and capacity building will contribute to significant indirect CO<sub>2</sub> emissions reduction. Considering the garment as well as food and beverage industries, a conservative estimate for a replication factor of 1.5 can be used on the demonstration projects, which will result in deployment of 30 TEST projects with the cumulative amount of emission reductions achieved at 450,000 tCO<sub>2</sub>eq over the project and post-project duration. Using the GEF top-down methodology using level 3 as a causality factor, indirect emission reductions attributable to the project are estimated at 180,000 tCO<sub>2</sub>eq. The range of indirect CO<sub>2</sub> emission reductions is therefore 180,000 to 450,000 tCO<sub>2</sub>eq. See attached the calculation sheet in annex C.

In addition to the reduction of GHG emission, sensitive biodiversity will also benefit from the project through efficiently use of resources. By increasing resource efficiency (raw material, energy and water), Cambodian industries will generate less waste and, as a direct consequence, fewer pollutants will be released into the atmosphere and discharged in sensitive environmental areas along which most of the industries are located in Cambodia. Some of these areas are:

- The Mekong River that boasts the most concentrated biodiversity per hectare of any river in the world;
- The Tonle Sap Great Lake, the largest freshwater lake in South East Asia and most important fish source designated as an ecological hot spot and UNESCO biosphere reserve since 1997; and,
- The Cambodian section of the Gulf of Thailand consisting of estuaries, bays, mangroves, coral reefs (70 hard corals and 17 soft corals) and approximately 64 islands. No official marine protected area (MPA) currently exists, but Ream National Park and a region surrounding Koh Rung / Koh Rung Sanloem are pioneering pilot sites.

The TEST integrated approach, the key tools of the proposed project is centred on the efficient use of resources and a systematic approach for managing the environmental policy of the company greatly contributing towards climate change mitigation. As such, the company is enabled to mitigate its climate change effects by reducing their environmental footprint through minimized GHG emissions and wastewater discharge.

**1.f) Innovation, sustainability and potential for scaling up**

**Innovation**

The TEST methodology is a proven integrated approach to reducing GHG emissions in industries. By combining TEST with the Hot-Spot approach it allows to select enterprises with the highest potential for environmental improvement as well as to introduce the methodology to new industries and other regions in Cambodia. The Global Cleantech Innovation Programme is an innovative a competition-based approach that is applied to identify the most promising start-ups in the area of climate mitigation and environmental performance. As such, entrepreneurs are supported in the scaling-up of their business idea and are enabled to exchange their ideas with key stakeholders and leading scientific and research institutions, such as Silicon Valley. The proposed project will harness this great potential and share the experience of previous winners with company representatives and government officials in Cambodia.

**Sustainability**

The continuous improvement approach to be initiated by the introduction of the TEST methodology, the economic viability and the positive change of the traditional mind set of the managers/owners toward green practices as well as their willingness to advocate for green practices achieved in the project will ensure the sustainability of the project beyond its completion. In parallel, sustainability will be achieved by the strengthening of the regulatory framework that will incentivize resource efficient industrial development and by the creation of institutional capacities in key public institutions to further promote low carbon growth. A series of training sessions will be conducted in selected industries and national institutions to ensure stakeholder ownership of technologies, tools and methods introduced by the project beyond its completion. During the trainings and workshops, awareness will be raised on international good practice and previous return on investment in order to encourage companies to participate in the project, as well as invest in clean and low carbon technologies.

**Potential for scaling up**

The proposed initiative has a great potential to be replicated and scaling up in Cambodia as well as in the region. It will be used as a showcase in other regions and in neighbouring countries that are at similar development stages, such as Lao PDR and Myanmar. Lessons learned and experiences gained in selected companies, as well as the environmental and socio-economic gains achieved in this project through the application of low carbon and resource efficiency technologies, will be shared through the various awareness raising activities conducted under this project. These demonstrations will serve as a model for companies and other countries in Asia facing similar challenges and seeking to implement green growth strategies to address issues related to climate change. The pilot applications will also demonstrate the TEST method as a business model that should trigger further replication. The development of a curriculum for universities and technical schools programs will also contribute to the sustainability and potential for scaling up of the proposed initiative.

2. Stakeholders. Will project design include the participation of relevant stakeholders from civil society organizations (yes  /no ) and indigenous peoples (yes  /no )? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

| Sr. No | Stakeholder  | Envisaged Role in the Project   |
|--------|--|---|
| 1.     | UNIDO  | UNIDO, as the GEF Implementing Agency, will lead the process of project preparation and provide implementation support throughout the project, including monitoring and evaluation. |
| 2.     | Cambodian Government:<br>- Ministry of Industry and Handicraft | The two Ministries will act as the lead national entities, providing technical inputs for the project activities.   |

|     |  |  |
|-----|--|--|
|     | (MIH)<br>- Ministry of Environment (MoE)   | Both Ministries will be consulted throughout project execution.  |
| 3.  | National Productivity Center of Cambodia (NPCC) under the Ministry of Industry and Handicraft (MIH)  | NPCC will be the lead executing agency in charge of outputs 1, 2 and 4. NPCC is the government entity responsible for generating productivity consciousness and acting as a catalyst and agent of change to enhance productivity in Cambodia.  |
| 4.  | Department of Techniques, Science and Technology (DTST) under Ministry of Industry and Handicraft (MIH) in close collaboration with the National Cleaner Production Office Cambodia (NCPO-C) | In close collaboration with National Cleaner Production Office Cambodia (NCPO-C) of NPCC, DTST will be the executing agency for output 3, except energy audits that will be conducted by OECC. The NCPO-C is an official specialized unit inducted in the NPCC within MIH providing knowledge transfer and demonstrating resource efficient technologies to various stakeholders including government counterparts and the private sector. |
| 5.  | Overseas Environmental Cooperation Center, Japan (OECC)  | OECC will provide capacity building on energy audits, and be responsible for conducting the energy audits as part of output 3.   |
| 6.  | Department of Climate Change (DoCC), National Council for Sustainable Development (NCSD)   | In Collaboration with NPCC, DoCC will be responsible for the execution of output 4.  |
| 7.  | Universities and technical schools   | The participation of students from Cambodian universities and technical schools will be encouraged in the awareness raising events. Training materials and a standard curriculum on low carbon and sustainable industrial development will be developed for universities and technical schools.  |
| 8.  | CSOs and non-profit organizations  | Similarly to GMAC, the Federation of Association of SMEs in Cambodia (FASMEC) will act as a catalyst to ensure the interest and commitment of the private sector, in particular SMEs.  |
| 9.  | Gender Dimension   | Relevant women entrepreneurs, representatives of the Ministry of Women's Affairs (MoWA) and associations (e.g. Cambodia Women Entrepreneurs Association, CWEA) will be invited to participate in all phases of the project. In particular, CWEA will support our efforts to involve women entrepreneurs in the project.  |
| 10. | Parallel initiatives   | Additional organizations, groups and partners implementing similar projects in the region will be engaged. Activities will be coordinated with these organizations to avoid overlapping of activities and also to create synergies and increase impacts.   |

For better illustration of the project execution relations, kindly find the execution diagram describing the different roles in Annex B.

3. *Gender Equality and Women's Empowerment.* Are issues on [gender equality](#) and women's empowerment taken into account? (yes  /no ). If yes, briefly describe how it will be mainstreamed into project preparation (e.g. gender analysis), taking into account the differences, needs, roles and priorities of women and men.

UNIDO recognizes that gender equality and the empowerment of women have a significant positive impact on sustained economic growth and inclusive industrial development, which are key drivers of poverty alleviation and social progress. Gender mainstreaming will be based on GEF's Policy on Gender Mainstreaming and UNIDO's Policy on Gender Equality and the Empowerment of Women (2009), as well as on the Guide on Gender Mainstreaming Environmental Management Projects, an operational environment-gender guide to support gender mainstreaming of its environmental initiatives.

Special attention will be paid to gender equality when inviting members to participate at the National Steering Group or to attend trainings and awareness workshops. The time and location of these events will be adjusted according to the needs and cultural traditions of gender groups. The training materials will be adapted to the audience and gender sensitized, taking into account local specificities. As the project will deal with chemical products, since different gender groups have distinctive sensibility or exposures to these substances, customized measures will be developed.

A gender assessment will be conducted during the PPG to further define the actions needed to mainstream gender issues into the project's execution. To embolden gender equality in the project, women in the local community where the proposed pilot site are located will be highly encouraged to participate in the trainings, as well as awareness raising events. Recommendations related to industrial regulations and legislation to sustain the low carbon growth of Cambodian enterprises will thus be gender sensitive whenever appropriate.

Additionally, female candidates will be encouraged to apply during recruitment process and given preference when presenting technical qualifications similar to those of men. Furthermore, whenever possible staff will be trained and their awareness increased regarding gender issues.

*4 Risks.* Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

| No | Risk   | Rating     | Mitigation  |
|----|--|------------|---|
| 1  | <b>Technical risk:</b> low absorption capacity of trainees on technical, economic opportunities for adopting sound environmental technologies  | Low        | Encourage a participatory approach and provide the adequate information through awareness program and trainings on planning and implementation of sound environmental technologies. International and local experts will work closely with relevant stakeholders.   |
| 2  | <b>Institutional risk:</b> lack of coordination between the key ministries, industries and other stakeholders. Slow response of some key actors may hinder the project implementation. | Low-medium | The National Steering Group will establish the institutional linkages among the stakeholders, and the main Executing Entity will consult with major stakeholders to ensure their involvement and ownership of the project. A communication plan will be developed to ensure effective and efficient communication to relevant stakeholders. |
| 3  | <b>Social risk:</b> reluctance of the industrial owners to mitigate climate change considering it to be a burden instead of an opportunity   | Low-medium | Awareness raising and capacity building initiatives will reinforce the environmental and socio-economic advantages of the application of sound environmental technologies. Lessons learned and experience gained from the initial UNIDO-led project will be taken into consideration.   |
| 4  | <b>Regulatory risk:</b> the proposed regulatory framework is not adopted   | Low-medium | Engage decision makers early on the project preparation and implementation under output 1.  |

|   |   |            |   |
|---|---|------------|---|
|   | and enforced.   |            |   |
| 5 | <b>Political risk:</b> political instability during elections might negatively affect the implementation of the project and the level of political commitment | Low-Medium | Capacity building within the government will partly compensate the possible temporary lack of high-level political support. In addition, an active consultation, awareness and outreach program will develop a broader base of understating, consensus and support within other ministries and stakeholders, increasing the level of political support. The advance planning of key project activities would smooth the execution process during the said period. |
| 6 | <b>Climate risk:</b> natural disasters in the form of floods may interrupt the project's progress during the rainy season.                                    | Low        | The risk will be fully measured under the ESSP process whereby mitigating measures will be identified and developed during the PPG. Additionally, the risk could be mitigated through proper planning and time management like implementing the approaches during the dry season for industries in zone potentially exposed to flooding or natural hazards.   |

5. *Coordination.* Outline the coordination with other relevant GEF-financed and other initiatives.

The proposed project will closely liaise with other GEF initiated projects under GEF-TF and SCCF as well as other related initiatives through coordination mechanisms that will be established during project preparation to ensure that there is no duplication, and all the related projects can benefit from exchange of experience and best practices.

The proposed project will also build on the prior experience that UNIDO and MIH have gathered, and capacities they have built, in executing the country's cleaner production programme, which has focused on assisting enterprises to increase their materials efficiency as well as their energy efficiency. In particular, synergies will be built with three Cambodian projects that are being implemented by UNIDO as well as the EU funded SwitchMed Programme. The projects' titles are as follows:

- "Reducing Greenhouse Gas Emissions through Improved Energy Efficiency in the Industrial Sector";
- "TT-Pilot (GEF-4): Climate Change Related Technology Transfer for Cambodia: Using Agricultural Residue Biomass for Sustainable Energy Solutions";

As both projects listed above will be completed by the time the proposed initiative starts, lessons learned in the country and knowledge gained in the energy sector will be used as a reference. The experts who participated to these projects and showed competence to undertake tasks will be preferably recruited for energy related assignments.

- "Reduction of GHG Emission through Promotion of Commercial Biogas Plants"
- "SwitchMed Programme" with the objective is to facilitate the shift toward sustainable consumption and production in the Southern Mediterranean Region.

Additionally, the proposed project will also cooperate with the Global Cleantech Innovation Programme and previous participants from Thailand and/or Malaysia. The project is complementary to the proposed initiative as it aims to reduce GHG emissions through the promotion of green energy, in this case, commercial biogas plants. Meetings and workshops will be organized to coordinate activities among them in order to avoid overlap and also create synergies to strengthen the results of these projects. The meetings will also serve as a platform to share lessons learned and experience. When recruiting experts for the Cambodian project, preference will be given to consultants who worked in the green energy initiative and showed competence.



6. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes  /no  ). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project is fully consistent with Cambodia's national priorities and plans. Cambodia clearly recognizes climate change issues and is fully committed to the global efforts to address it, both at the national and international levels as it is reflected in almost every policy and action plan including Rectangular Strategy, Industrial Development Policy (IDP), National Strategic Development Plan (NSDP), Cambodia Climate Change Strategic Plan (NSDP), National Adaptation Programme of Action (NAPA), Nationally Appropriate Mitigation Actions (NAMA), National Communications (NCs) to UNFCCC, Intended Nationally Determined Contribution (INDC) to UNFCCC, Cambodia Energy Policy, Cambodia Sustainable Energy for All (SE4all) and National Policy on Green Growth as well as National Strategic Plan on Green Growth. This is further illustrated through Cambodia's ratification of the United Nations Framework Convention on Climate Change (UNFCCC) in 1995 and acceded to Kyoto Protocol in 2002. The INDDC was submitted in December 2015 and Cambodia is among the signatories of the Paris Agreement. The first step for Cambodia to implement the Paris Agreement was the kick-off of the NDC implementation workshop in March 2016 by the Ministry of Environment and all relevant line ministries. Thus, the project specifically aligns with the INDC commitment of mitigation actions in key sectors and to reduce GHG emissions in manufacturing industries.

The Rectangular Strategy for Growth, Employment, Equity and Efficiency – Phase II and III, Cambodia's main socio-economic policy agenda, recognizes climate change as a threat to the country's economy and growth prospects and commits to mobilize resources, support and financing to tackle climate change. Through the Ministry of Environment, the country has envisaged a number of actions including mainstreaming climate change in concerned sectors, preparation of the National Communication (NC) to the UNFCCC, educating and informing the public on climate change and others.

The primary policy framework in Cambodia is the National Adaptation Programme of Action to Climate Change (NAPA) produced in 2006. The NAPA presents priority projects to address the urgent and immediate needs and concerns of people at the grassroots level for adaptation to the adverse effects of climate change in key sectors such as agriculture, water resources, coastal zone and human health. Capacity building/training, awareness raising/education, and infrastructure development are the main categories of the projects.

The National Strategic Development Plan (2014-2018) has referred to strategies and policies for green development, climate change, and energy efficiency in several sections of the documents stressing that all effort should be made to reduce the impact of climate change by strengthening the adaptation capacity and resiliency to climate change particularly by implementing the Climate Change Strategic Plan 2014-2023, and National Policy on Green Development and the National Strategic Plan on Green Development. The NSDP also points out the important of development of approaches that help minimize GHG emissions.

The Cambodia Climate Change Strategic Plan (CCCSP 2014-2023) which aims at integrating climate change into national and sub national level planning is a significant step toward embedding climate change into national strategic development plan has two of its strategic objective focusing on promoting energy efficiency and low carbon development. Under the overall leadership and coordination of NSDP, several relevant line ministries have developed the sectoral climate change action plan (CCAP) under their respective mandates, all including low carbon development and climate change mitigation measures. Furthermore, as part of its commitment for the sustainable development and climate change mitigation, the Royal Government of Cambodia has committed to cut the GHG emissions by 3.1 Million t-CO<sub>2</sub>eq (727 thousand tons from manufacturing industry) compared to baseline emissions of 11.6 Million t-CO<sub>2</sub>eq by 2030 as indicated in the Intended Nationally Determined Contribution (INDC) submitted to UNFCCC. The proposed project will directly contribute to the implementation of these actions and achieve the above objectives. The proposed project also supports the Global commons through reducing the industrial impact on the environment as well as contributing to the safeguard of ozone.

*7. Knowledge Management.* Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

There will be a strong emphasis on communication from project start to ensure involvement of all project stakeholders. A dedicated Knowledge Management Plan will be designed during the PPG phase and implemented under the proposed project, which will function as the basis for gathering and distributing all data, information and lessons learnt. The plan will also include the development of a knowledge management system. The final format shall be decided taking into consideration the nature of the information gathered, but could constitute a website and associated platform with information accessible by the public as well as direct stakeholders. A further key element of the aforementioned plan will be the incorporation of the training courses and materials to be developed.

The project will benefit from the "SWITCH-Med" project where UNIDO's TEST integrated approach is currently being introduced. This large scale, 4-year project covering eight (8) countries in North Africa and the Middle East is funded by the European Union at EUR 19 Million. Experiences will be shared between the two projects. Similarly to other projects where the TEST approach is implemented, results will be summarized in a variety of documents to fit the various needs of the relevant stakeholders. In particular, 2-page factsheets on beneficiary companies have proven to be very good documents not only to inform, but also to generate interest from non-beneficiary enterprises.


**PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

**A. RECORD OF ENDORSEMENT<sup>9</sup> OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):**  
 (Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

| NAME          | POSITION                      | MINISTRY                   | DATE (MM/dd/yyyy) |
|---------------|-------------------------------|----------------------------|-------------------|
| Mr. Lonh HEAL | Technical Director<br>General | MINISTRY OF<br>ENVIRONMENT | 12/25/2015        |

**B. GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF policies<sup>10</sup> and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

| Agency Coordinator,<br>Agency name  | Signature   | Date<br>(MM/dd/yyyy) | Project<br>Contact Person                      | Telephone             | Email              |
|---|---|----------------------|--|-----------------------|--------------------|
| Mr. Philippe R.<br>Scholtès,<br>Managing Director<br>Programme<br>Development and<br>Technical Cooperation<br>(PTC), UNIDO GEF<br>Focal Point |  | 10/05/2016           | Jérôme Stucki,<br>Department of<br>Environment | +431<br>26026<br>3559 | J.Stucki@unido.org |

**C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)**

For newly accredited GEF Project Agencies, please download and fill up the required GEF Project Agency Certification of Ceiling Information Template to be attached as an annex to the PIF.

<sup>9</sup> For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

<sup>10</sup> GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT