



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

## **TERMS OF REFERENCE**

**Independent terminal evaluation of project**

**Utilizing Solar Energy for Industrial Process Heat in Egyptian Industry**

**UNIDO ID: 120073**

**GEF Project ID: 4790**

**January 2023**

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## I. PROJECT BACKGROUND AND CONTEXT

### 1. Project factsheet<sup>12</sup>

<b>Project title</b>	Utilizing Solar Energy for Industrial Process Heat in Egyptian Industry
<b>UNIDO ID</b>	120073
<b>GEF Project ID</b>	4790
<b>Country(ies)</b>	Egypt
<b>Project donor(s)</b>	GEF
<b>Project approval date/GEF CEO endorsement date</b>	February 2013
<b>Planned project start date (as indicated in project document/or GEF CEO endorsement document)</b>	October 2014
<b>Planned project completion date (as indicated in project document/or GEF CEO endorsement document)</b>	October 2020
<b>Actual project completion date (as indicated in UNIDO ERP system)</b>	March 2023
<b>Project duration (year):</b> Planned: Actual:	5ys 8ys
<b>GEF Focal Areas and Operational Programme</b>	CCM-2, CCM-3: Climate Change
<b>Implementing agency</b>	UNIDO
<b>Government coordinating agency</b>	Ministry of Industry, Trade & SMEs (MITS), National Renewable Energy Authority (NREA)
<b>Donor funding</b>	USD 6,500,000
<b>UNIDO input (in kind, USD)</b>	USD 140,000
<b>Co-financing at CEO Endorsement, as applicable</b>	USD 37,300,000
<b>Total project cost (USD), excluding support costs</b>	USD 42,500,000
<b>Planned terminal evaluation date</b>	January 2023-March 2023

(Source: Project document, UNIDO ERP system)

### 2. Project context

According to the African Development Bank, when the project was designed Egypt ranked among the 11 countries in the world showing fastest growing GHG emissions. Furthermore, Egypt installed capacity was no longer able to meet the increasing demand at the time the project started. To face those issues, the Egyptian Government has set up policies and targets to increase the share of renewables in the energy mix and to promote the involvement of the private sector

Egypt's national power sector strategy includes, among others, the following:

<sup>1</sup> Data to be validated by the Consultant

- to optimize the use of available energy resources and minimize environment pollution
- to provide electricity with minimum price and best quality
- to restructure electricity sector to optimize investments and improve electrical services
- to utilize modern and sophisticated technical systems in electricity sector's operation and activities
- to develop the expertise and skills of engineers and technicians working in the electricity sector

The UNIDO-GEF project is in line with most of the goals of the Ministry of Electricity and Energy, specifically, to optimize the use of available energy sources and minimize environment pollution, expand the utilization of new and renewable energy resources, restructure the electricity sector to optimize investments and improve electrical services.

Egypt is also a significant producer of natural gas and crude oil and relies on imports of coal and oil products and part of its crude oil consumption to meet its energy needs. Around 3% of the energy produced is derived from hydro, geothermal, solar and bio-fuels and waste. Further energy data on Egypt

The industrial sector is also one of the highest sectors consuming energy in the country consuming over 40% of the final energy consumption in Egypt. Out of that, according to surveys carried out by the national cleaner production center and statistics available at the Central Agency for Public Mobilization and statistics, the textile industry consumes 8% of the total industrial energy consumption, the food industries consumer 14% and the chemicals industry around 20% constituting a total of 42% of the entire industrial consumption.

Promotion of energy efficiency and utilization of renewable resources of energy not only contribute to the reduction of greenhouse gases but also are consistent with the long-term development goals of the Egyptian economy. Various policies and measures related to internalizing renewable energies, energy efficiency and reduction of GHG emissions, as advocated in the UNFCCC, have been developed in Egypt

Among the main barriers preventing the industrial sector from achieving full energy conservation and considerable GHG emissions reduction, we find:

- Subsidies that hinder the incentives to activities for GHG emissions reduction;
- Lack of information about GHG emissions reduction opportunities in the sector;
- Long payback period on some GHG emissions reduction investments compared to other investment alternatives;
- Financial barriers such as lack of access to investment capital or requiring very high rates of return on investments;
- Competing corporate priorities such as competitiveness, other environmental and/or regulatory concerns.

The project aims at promoting market transformation for energy efficiency in industry and the building sector and promoting investment in renewable energy technologies. It presents a programme that promotes heat system optimization measures in selected sectors complemented with the installation of solar thermal technologies through a combination of technical assistance and investment activities including: (1) Supporting the policy and institutional framework for the dissemination of solar thermal technologies while promoting the local manufacturing of system components, (2) Implementing demonstration projects in pilot sites coupled with establishing a financial mechanism that supports the financing of future projects, (3) Supporting the local manufacturing of quality systems and components and (4) Building the national capacity on the system design, installation, servicing and maintenance.

### 3. Project objective and expected outcomes

The objective of the project is *'To develop the market environment for the diffusion and local manufacturing of solar energy for industrial process heat.'* The project focuses on improving the energy efficiency of the industrial process heat system and the introduction of solar thermal technologies mainly in industrial companies with a high fraction of low and medium temperature heat demand in three industrial sectors, namely the food, chemical and textiles sectors. Further the project will support the local manufacturing of quality components of the solar systems.

The project will focus on interventions in these three main sectors and it is composed by the following components:

**Component 1:** Develop policy instruments to promote the use of solar energy for industrial process heat in 3 sectors

Outcome 1.1. Policy instruments promoting the use of solar energy for industrial process heat in 3 sectors developed

**Component 2:** Mobilize financing for the deployment of solar energy for industrial heat

Outcome 2.1. Financing for the deployment of solar energy for industrial heat mobilized

**Component 3:** Improve the manufacture, supply and distribution of solar energy components and systems

Outcome 3.1: The market manufacture, supply and distribution of solar energy components and systems is strengthened

**Component 4:** Build the capacity of technical staff designing, developing and servicing solar systems

Outcome 4.1.: Technical capacity of the system designers, developers, facility managers and service providers for solar energy utilization for industrial process heat enhanced.

### 4. Project implementation arrangements

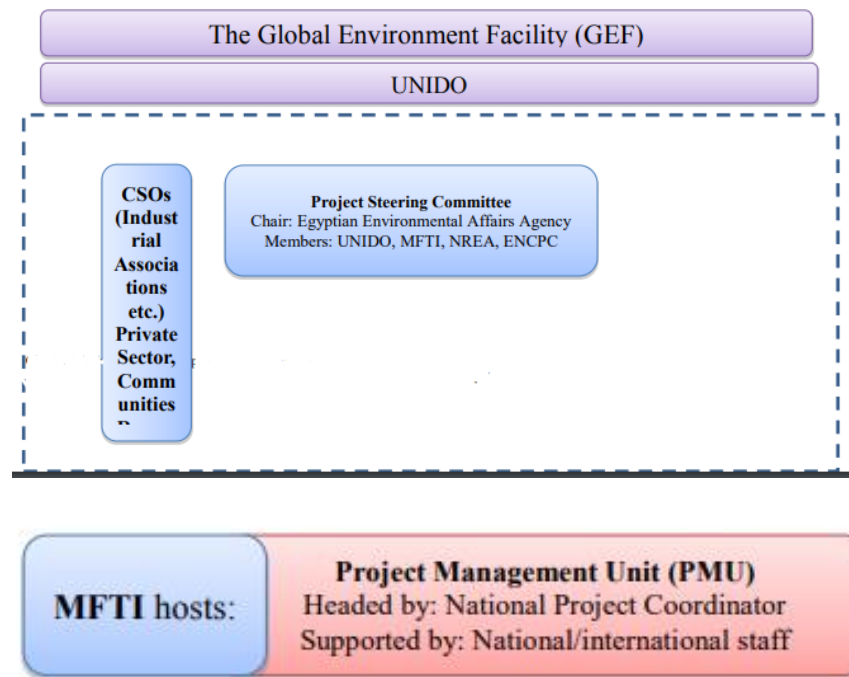
The project was coordinated through a Project Management Unit (PMU) hosted at ENCPC and responsible for the day-to-day execution of project activities as per an agreed annual project work plan. The PMU will work closely with various project stakeholders. The PMU will consist of a national project coordinator supported by a Project Assistant. A Project Steering Committee (PSC) was also established with representatives from the MITS, the New and Renewable Energy Authority, the Federation of Egyptian Industries represented by the Chamber of Engineering Industries, ENCPC UNIDO and the Egyptian Environmental Affairs Agency as the GEF Focal Point in Egypt. The Committee reviews project plans, provides advice on strategic approaches and solutions to ensure that project objectives are achieved.

Among the main institutions participating in the project, with their respective roles, we find:

- Ministry of Trade, Industry and SMEs (MITS) Egyptian National Cleaner Production Center (ENCPC): leading executing partner, hosting location for the PMU and offering its staff and expertise to support the execution of the project activities
- New and Renewable Energy Authority (NREA): leading role in providing RE data, supporting policy development and setting up testing facilities for the quality assurance of locally produced components and systems.
- Egyptian Organization for Standardization (EOS): supporting the elaboration and adoption of quality standards for the local manufacturing of components, products and vendors.
- Egyptian Accreditation Council (EGAC): overlooking and confirming the accreditation of the NREA laboratories.

- Productivity and Vocational Training Department (PVTP) Ministry of Industry: supporting the roll out of various training modules to the industrial sector.
- NGOs: playing a key role in developing and rolling out the training modules and certification schemes for personnel working in the installation and maintenance of solar technologies.
- National Bank of Egypt (NBE): manager of the revolving fund to be created within the project.

The following diagram synthesizes the overall implementation arrangements:



## 5. Budget information

**Table 1. Financing plan summary - Outcome breakdown**

Project outcomes/components	Donor (GEF) (\$)	Co-Financing (\$)	Total (\$)
PC1- Develop policy instruments to promote the use of solar energy for industrial process heat	300,000	1,500,000	1,800,000
PC2- Mobilize financing for the deployment of solar energy for industrial heat	2,400,000	20,600,000	23,000,000
PC3- Improve the manufacture, supply and distribution of solar energy components and systems	2,800,000	13,000,000	15,800,000
PC4- Build the capacity of technical staff designing, developing and servicing solar systems	600,000	1,000,000	1,600,000
M&E	100,000	200,000	300,000
Project management cost	300,000	1,000,000	1,300,000
<b>Total (\$)</b>	<b>6,500,000</b>	<b>37,300,000</b>	<b>43,800,000</b>

Source: Project document

**Table 2. Co-Financing source breakdown**

Name of Co-financier (source)	In-kind	Cash	Total Amount (\$)
Ministry of Industry, Trade & SMEs (MITS) <i>National Government</i>	600,000		600,000
National Renewable Energy Authority (NREA) <i>National Government</i>	2,000,000		2,000,000
National Bank of Egypt (NBE) <i>Bank</i>		2,000,000	2,000,000
Commercial International Bank (CIB) <i>Private sector</i>		20,000,000	20,000,000
Social Development Fund <i>National Government</i>		11,500,000	11,500,000
UNIDO <i>GEF Agency</i>	140,000	60,000	200,000
Various industries <i>Private sector</i>		1,000,000	1,000,000
<b>Total Co-financing (\$)</b>	<b>2.740,000</b>	<b>34,560,000</b>	<b>37,300,000</b>

Source : Project document

**Table 3. UNIDO budget allocation and expenditure by budget line**

Budget line	Items by budget line	2015	2016	2017	2018	2019	2020	2021	2022	Total expenditure	
										(USD)	%
2100	Contractual Services	2,317,678	355,777	574,999	296,648	544,538	428,000	61,132	127,043	4,705,815	74
4500	Equipment	0	0	11,944	9,571	10,304	16,072	166,955	5,305	220,151	3,5
3500	International meetings	0	0	0	0	2,035	0	0	1,657	3,692	<0,1
1500	Local travel	4,417	1,854	10,718	5,462	12,350	3,493	131	42,148	80,573	1,3
1700	Nat. Consult./Staff	61,514	50,854	64,651	94,034	79,945	191,926	211,189	166,026	920,139	14,5
5100	Other Direct Costs	4,359	1,134	181	4,152	8,073	15,038	13,110	9,243	55,290	0,8
1100	Staff & Intern Consultants	0	11,703	43,197	22,677	44,561	70,474	35,269	30,704	258,585	4,1
300	Train/Fellowship/Study	0	0	100,254	0	0	4,886	11,121	0	116,261	1,8
<b>Total</b>		<b>2,389,983</b>	<b>423,338</b>	<b>807,961</b>	<b>434,562</b>	<b>703,825</b>	<b>729,889</b>	<b>498,907</b>	<b>382,126</b>	<b>6,370,591</b>	<b>100</b>

Source: Project document and UNIDO Project Management ERP database as of 15 October 2022

## II. SCOPE AND PURPOSE OF THE EVALUATION

The purpose of the evaluation is to independently assess the project to help UNIDO improve performance and results of ongoing and future programmes and projects. The terminal evaluation (TE) will cover the whole duration of the project from its starting date in October 2014 to the estimated completion date in March 2023.

The evaluation has two specific objectives:

- (i) Assess the project performance in terms of relevance, effectiveness, efficiency, sustainability, coherence, and progress to impact; and
- (ii) Develop a series of findings, lessons and recommendations for enhancing the design of new and implementation of ongoing projects by UNIDO.

## III. EVALUATION APPROACH AND METHODOLOGY

The TE will be conducted in accordance with the UNIDO Evaluation Policy<sup>3</sup>, the UNIDO Guidelines for the Technical Cooperation Project and Project Cycle<sup>4</sup>, and UNIDO [Evaluation Manual](#). In addition, the GEF Guidelines for GEF Agencies in Conducting Terminal Evaluations, the GEF Monitoring and Evaluation Policy and the GEF Minimum Fiduciary Standards for GEF Implementing and Executing Agencies will be applied.

The evaluation will be carried out as an independent in-depth exercise using a participatory approach whereby all key parties associated with the project will be informed and consulted throughout the process. The evaluation team leader will liaise with the UNIDO Independent Evaluation Division (ODG/EIO/IEU) on the conduct of the evaluation and methodological issues.

The evaluation will use a theory of change approach<sup>5</sup> and mixed methods to collect data and information from a range of sources and informants. It will pay attention to triangulating the data and information collected before forming its assessment. This is essential to ensure an evidence-based and credible evaluation, with robust analytical underpinning.

The theory of change will depict the causal and transformational pathways from project outputs to outcomes and longer-term impacts. It also identifies the drivers and barriers to achieving results. The learning from this analysis will be useful for the design of the future projects so that the management team can effectively use the theory of change to manage the project based on results.

### 1. Data collection methods

Following are the main instruments for data collection:

- (a) **Desk and literature review** of documents related to the project, including but not limited to:
  - The original project document, monitoring reports (such as progress and financial reports, mid-term review report, technical reports, back-to-office mission report(s), end-of-contract report(s) and relevant correspondence.
  - Notes from the meetings of committees involved in the project.

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<sup>3</sup> UNIDO. (2018). Director General's Bulletin: Evaluation Policy (UNIDO/DGB/2018/08)

<sup>4</sup> UNIDO. (2006). Director-General's Administrative Instruction No. 17/Rev.1: Guidelines for the Technical Cooperation Programme and Project Cycle (DGAI.17/Rev.1, 24 August 2006)

<sup>5</sup> For more information on Theory of Change, please see chapter 3.4 of UNIDO [Evaluation Manual](#)



- (b) **Stakeholder consultations** will be conducted through structured and semi-structured interviews and focus group discussion. Key stakeholders to be interviewed include:
- UNIDO Management and staff involved in the project; and
  - Representatives of donors, counterparts and stakeholders.
- (c) **Field visit** to project sites in Egypt.
- On-site observation of results achieved by the project, including interviews of actual and potential project beneficiaries.
  - Interviews with the relevant UNIDO Country Office(s) representative to the extent that he/she was involved in the project, and the project's management members and the various national [and sub-regional] authorities dealing with project activities as necessary.
- (d) **Online data collection** methods: will be used to the extent possible.

## 2. Evaluation key questions and criteria

The key evaluation questions are the following:

- 1) How well has the project performed? Has the project done the right things? Has the project done things right, with good value for money? How well has the project fit?
- 2) What are the project's key results (outputs, outcome and impact)? To what extent have the expected results been achieved or are likely to be achieved? To what extent are the achieved results to be sustained after the completion of the project?
- 3) What are the key drivers and barriers to achieve the long term objectives? To what extent has the project helped put in place the conditions likely to address the drivers, overcome barriers and contribute to the long term objectives?
- 4) What are the key risks (e.g. in terms of financial, socio-political, institutional and environmental risks) and how these risks may affect the continuation of results after the project ends?
- 5) What lessons can be drawn from the successful and unsuccessful practices in designing, implementing and managing the project?

The table below provides the key evaluation criteria to be assessed by the evaluation. The details questions to assess each evaluation criterion are in annex 2 of UNIDO [Evaluation Manual](#).

**Table 5. Project evaluation criteria**

#	Evaluation criteria	Mandatory rating
<b>A</b>	<b>Progress to impact</b>	<b>Yes</b>
<b>B</b>	<b>Project design</b>	<b>Yes</b>
1	• Overall design	Yes
2	• Logframe	Yes
<b>C</b>	<b>Project performance</b>	
1	• Relevance	Yes
2	• Effectiveness	Yes
3	• Coherence	Yes
4	• Efficiency	Yes
5	• Sustainability of benefits	Yes
<b>D</b>	<b>Cross-cutting performance criteria</b>	
1	• Gender mainstreaming	Yes
2	• M&E: ✓ M&E design	Yes

#	Evaluation criteria	Mandatory rating
	✓ M&E implementation	Yes
3	• Results-based Management (RBM)	Yes
<b>E</b>	<b>Performance of partners</b>	
1	• UNIDO	Yes
2	• National counterparts	Yes
3	• Donor	Yes
<b>F</b>	<b>Overall assessment</b>	Yes

### **Performance of partners**

The assessment of performance of partners will *include* the quality of implementation and execution of the GEF Agencies and project executing entities in discharging their expected roles and responsibilities. The assessment will take into account the following:

- Quality of Implementation, e.g. the extent to which the agency delivered effectively, with focus on elements that were controllable from the given implementing agency's perspective and how well risks were identified and managed.
- Quality of Execution, e.g. the appropriate use of funds, procurement and contracting of goods and services.

### **Other assessments required by the GEF for GEF-funded projects, for non GEF projects these topics should be covered as applicable:**

The terminal evaluation will assess the following topics, for which *ratings are not required*:

- Need for follow-up:** e.g. in instances financial mismanagement, unintended negative impacts or risks.
- Materialization of co-financing:** e.g. the extent to which the expected co-financing materialized, whether co-financing was administered by the project management or by some other organization; whether and how shortfall or excess in co-financing affected project results.
- Environmental and Social Safeguards<sup>6</sup>:** appropriate environmental and social safeguards were addressed in the project's design and implementation, e.g. preventive or mitigation measures for any foreseeable adverse effects and/or harm to environment or to any stakeholder.

### **3. Rating system**

In line with the practice adopted by many development agencies, the UNIDO Independent Evaluation Division uses a six-point rating system, where 6 is the highest score (highly satisfactory) and 1 is the lowest (highly unsatisfactory) as per table below.

**Table 6. Project rating criteria**

Score	Definition	Category	
6	Highly satisfactory	Level of achievement presents no shortcomings (90% - 100% achievement rate of planned expectations and targets).	SATISFACTORY

<sup>6</sup> Refer to GEF/C.41/10/Rev.1 available at: [http://www.thegef.org/sites/default/files/council-meetingdocuments/C.41.10.Rev\\_1.Policy\\_on\\_Environmental\\_and\\_Social\\_Safeguards.Final%20of%20Nov%2018.pdf](http://www.thegef.org/sites/default/files/council-meetingdocuments/C.41.10.Rev_1.Policy_on_Environmental_and_Social_Safeguards.Final%20of%20Nov%2018.pdf)

5	Satisfactory	Level of achievement presents minor shortcomings (70% - 89% achievement rate of planned expectations and targets).	
4	Moderately satisfactory	Level of achievement presents moderate shortcomings (50% - 69% achievement rate of planned expectations and targets).	
3	Moderately unsatisfactory	Level of achievement presents some significant shortcomings (30% - 49% achievement rate of planned expectations and targets).	UNSATISFACTORY
2	Unsatisfactory	Level of achievement presents major shortcomings (10% - 29% achievement rate of planned expectations and targets).	
1	Highly unsatisfactory	Level of achievement presents severe shortcomings (0% - 9% achievement rate of planned expectations and targets).	

#### IV. EVALUATION PROCESS

The evaluation will be conducted from December 2022 to March 2023. The evaluation will be implemented in five phases which are not strictly sequential, but in many cases iterative, conducted in parallel and partly overlapping:

- 1) Inception phase: The evaluation team will prepare the inception report providing details on the evaluation methodology and include an evaluation matrix with specific issues for the evaluation to address; the specific site visits will be determined during the inception phase, taking into consideration the findings and recommendations of the mid-term review.
- 2) Desk review and data analysis;
- 3) Interviews, survey and literature review;
- 4) Country visits (whenever possible) and debriefing to key relevant stakeholders in the field;
- 5) Data analysis, report writing and debriefing to UNIDO staff at the Headquarters; and
- 6) Final report issuance and distribution with management response sheet, and publication of the final evaluation report in UNIDO website.

#### V. TIME SCHEDULE AND DELIVERABLES

The evaluation is scheduled to take place from January 2023 to March 2023. The evaluation field mission is tentatively planned for February 2023. At the end of the field mission, the evaluation team will present the preliminary findings for key relevant stakeholders involved in this project in the country. The tentative timelines are provided in the table below.

After the evaluation field mission, the evaluation team leader will visit UNIDO Headquarters for debriefing and presentation of the preliminary findings of the terminal evaluation. Online presentation is to be arranged in case the visit cannot take place. The draft TE report will be submitted 4 to 6 weeks after the end of the mission. The draft TE report is to be shared with the UNIDO Project Manager (PM), UNIDO Independent Evaluation Division, the UNIDO GEF Coordinator and GEF OFP and other stakeholders for comments. The ET leader is expected to revise the draft TE report based on the comments received, edit the language and submit the final version of the TE report in accordance with UNIDO ODG/EIO/EID standards.

**Table 7. Tentative timelines**

<b>Timelines</b>	<b>Tasks</b>
January 2023	Desk review and writing of inception report
End of January 2023	Online briefing with UNIDO project manager and the project team based in Vienna.
February 2023	Field visit to Egypt
End of February 2023	Debriefing in Vienna Preparation of first draft evaluation report
March 2023	Internal peer review of the report by UNIDO's Independent Evaluation Division and other stakeholder comments to draft evaluation report
End of march 2023	Final evaluation report

## VI. EVALUATION TEAM COMPOSITION

The evaluation team will be composed of one international evaluation consultant acting as the team leader and one national evaluation consultant. The evaluation team members will possess a mixed skill set and experience including evaluation, relevant technical expertise, social and environmental safeguards and gender. Both consultants will be contracted by UNIDO.

The tasks of each team member are specified in the job descriptions annexed to these terms of reference. The evaluation team is required to provide information relevant for follow-up studies, including terminal evaluation verification on request to the GEF partnership up to three years after completion of the terminal evaluation.

According to UNIDO Evaluation Policy, members of the evaluation team must not have been directly involved in the design and/or implementation of the project under evaluation.

The UNIDO Project Manager and the project management team in Egypt will support the evaluation team. The UNIDO GEF Coordinator and GEF Operational Focal Point (OFP) will be briefed on the evaluation and provide support to its conduct. GEF OFP(s) will, where applicable and feasible, also be briefed and debriefed at the start and end of the evaluation mission.

An evaluation manager from UNIDO Independent Evaluation Division will provide technical backstopping to the evaluation team and ensure the quality of the evaluation. The UNIDO Project Manager and national project teams will act as resourced persons and provide support to the evaluation team and the evaluation manager.

## VII. REPORTING

### **Inception report**

This Terms of Reference (ToR) provides some information on the evaluation methodology, but this should not be regarded as exhaustive. After reviewing the project documentation and initial interviews with the project manager, the Team Leader will prepare, in collaboration with the team member, a short inception report that will operationalize the ToR relating to the evaluation questions and provide information on what type and how the evidence will be collected (methodology). It will be discussed with and approved by the responsible UNIDO Evaluation Manager.

The Inception Report will focus on the following elements: preliminary project theory model(s); elaboration of evaluation methodology including quantitative and qualitative approaches through an

evaluation framework (“evaluation matrix”); division of work between the evaluation team members; field mission plan, including places to be visited, people to be interviewed and possible surveys to be conducted and a debriefing and reporting timetable<sup>7</sup>.

### **Evaluation report format and review procedures**

The draft report will be delivered to UNIDO Independent Evaluation Division (with a suggested report outline) and circulated to UNIDO staff and key stakeholders associated with the project for factual validation and comments. Any comments or responses, or feedback on any errors of fact to the draft report will be sent to UNIDO’s Independent Evaluation Division for collation and onward transmission to the evaluation team who will be advised of any necessary revisions. On the basis of this feedback, and taking into consideration the comments received, the evaluation team will prepare the final version of the terminal evaluation report.

The evaluation team will present its preliminary findings to the local stakeholders at the end of the field visit and take into account their feed-back in preparing the evaluation report. A presentation of preliminary findings will take place at UNIDO HQ afterwards.

The evaluation report should be brief, to the point and easy to understand. It must explain the purpose of the evaluation, what was evaluated, and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should provide information on when the evaluation took place, the places visited, who was involved and be presented in a way that makes the information accessible and comprehensible. The report should include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.

Findings, conclusions and recommendations should be presented in a complete, logical and balanced manner. The evaluation report shall be written in English and follow the outline given by UNIDO Independent Evaluation Division.

## **VIII. QUALITY ASSURANCE**

All UNIDO evaluations are subject to quality assessments by UNIDO Independent Evaluation Division. Quality assurance and control is exercised in different ways throughout the evaluation process (briefing of consultants on methodology and process of UNIDO Independent Evaluation Division, providing inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, review of inception report and evaluation report by UNIDO’s Independent Evaluation Division).

The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality. The applied evaluation quality assessment criteria are used as a tool to provide structured feedback. UNIDO Independent Evaluation Division should ensure that the evaluation report is useful for UNIDO in terms of organizational learning (recommendations and lessons learned) and is compliant with UNIDO’s evaluation policy and these terms of reference. The draft and final evaluation report are reviewed by UNIDO Independent Evaluation Division, which will submit the final report to the GEF Evaluation Office and circulate it within UNIDO together with a management response sheet.

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<sup>7</sup> The evaluator will be provided with a Guide on how to prepare an evaluation inception report prepared by UNIDO Independent Evaluation Division.

## Annex 1: Project Logical Framework

Result	Baseline	Target / Indicator	Source of verification	Risk & Assumptions
<b>Component 1: Develop policy instruments to promote the use of solar energy for industrial process heat in 3 sectors</b>				
<b>Project Objective:</b> To develop the market environment for the diffusion and local manufacturing of solar energy for industrial process heat.	The energy productivity of Egyptian industry is way below international average - Energy consumption per output is 10 to 50% higher than international average	2,166,085 t CO <sub>2</sub> eq reduced as a results of the spillover of project activities(indirect bottom-up)	Validated energy savings& energy generated from project reports	Willingness of state and industry to embrace program and invest time and money in improvement
<b>Component 1: Develop policy instruments to promote the use of solar energy for industrial process heat</b>				
<b>Outcome 1.1:</b> Policy instruments promoting the use of solar energy for industrial process heat.	No roadmap for solar thermal energy in industry endorsed by the stakeholders  No quality standards for solar energy systems enforced  No certification programme for personnel installing solar energy systems enforced	Roadmap for solar thermal energy in 3 industrial sectors adopted by stakeholders  Minimum quality standards for solar energy systems enforced  Certification scheme for personnel in place	Government institutions,  Official gazette	Willingness of the Egyptian Government to promote solar energy in industry
<b>Output 1.1.1</b> A roadmap and implementation plan for dissemination of solar energy for industrial heat formulated	No roadmap for solar thermal energy in 3 industrial sectors developed	Roadmaps for solar thermal energy in 3 industrial sectors developed	Project Reports	
<b>Output 1.1.2</b> Instruments to control the quality of solar components, companies and personnel performing installation and maintenance of solar energy systems	No quality standards for solar energy systems developed  No certification framework for certification of personnel developed	2 standards for solar energy systems developed  1 Framework for the certification of personnel developed	Official documents  Websites of organizations	
<b>Component 2: Mobilize financing for the deployment of solar energy for industrial heat</b>				
<b>Outcome 2.1.:</b> Financing for the deployment of solar energy for industrial heat Mobilized	Limited investments made in solar thermal technologies in the industrial sector  Limited emission reductions as a	\$ 19 million invested in solar energy in the industrial sector	Reports of financial institutions, reports and statistics of development financial institutions and Government agencies	Banks interested and willing to invest in RE

	result of fuel switching to solar energy for industrial heat (project replication effect)	8,907,180 GJ direct savings over 10 years. Direct emission reductions of 722,028 t CO2 eq. over 10 years.		
<b>Output 2.1.1.</b> Revolving Fund to facilitate financing of solar thermal technologies is set up	No dedicated fund for financing solar energy for industrial applications	Revolving fund is set-up and disburses US\$ 4 million over the project duration in loans	Bank report and statements of the fund account	
<b>Output 2.1.2.</b> Solar thermal technologies installed in selected facilities	Limited projects improving the energy efficiency of the industrial heat system implemented	System optimization measures for industrial process heat implemented in 100 enterprises	Workshop report Progress & monitoring reports	
	Limited installations of solar energy in industrial applications	100 installations of solar energy made in industrial applications	Monitoring reports, site visits	
<b>Output 2.1.3.</b> Technical capacity of staff of local banks on the assessment of projects enhanced	Staff of local banks have a limited knowledge of the assessment of business plans for financing solar thermal installations in industry	150 bank staff trained on evaluation of projects  (30% females)	Workshop reports	
<b>Output 2.1.4.</b> Awareness campaign on solar thermal technologies for industrial process heat implemented	Limited activities targeting the awareness of industries, experts and stakeholders on solar thermal applications in the industrial sector	20 workshops organized targeting 500 participants(30% females)  2 Leaflets distributed  5 press releases published  100 best practice case studies compiled  10 visits to successful projects organized	Workshop reports, publicity in media, progress reports	
<b>Component 3. Improve the manufacture, supply and distribution of solar energy components and systems</b>				
<b>Outcome 3.1.:</b> The local manufacture, supply and distribution of solar energy components and systems is strengthened	10% of the products manufactured fulfill quality requirements	50% of products manufactured locally fulfill quality requirements	Statistics and reports of the Government	
<b>Output 3.1.1.</b> Laboratory facility for testing quality of the local manufactured and imported products is accredited	No facility for testing the quality of locally manufactured products is accredited	1 Facility for testing is accredited	Official reports	
<b>Output 3.1.2</b> Basic tools and training required for improving the quality of locally manufactured components provided	None of the local manufacturers possess tools required to produce	40 companies own tools required to improve the quality of their	Site visits	

	good quality components	manufactured products Manual on best practices in the manufacturing developed	Reports Progress reports	
<b>Output 3.1.3.</b> Training programme on best practices in the manufacture of solar energy components and systems conducted	Staff of local manufacturers do not have the skills to manufacture good quality products	200 technicians from selected companies trained(10% females) Manual on best practices developed	Training reports Manual available	
<b>Output 3.1.4</b> Capacity of the testing laboratory staff on testing protocols and procedures developed	Staff of the testing laboratory do not have the skills required for the testing	20 experts of the testing laboratory trained(20% females) Manual on testing procedures developed	Training reports Manual available	
<b>Output 3.1.5</b> A platform to enhance information exchange, cooperation and partnerships between local industries, international centers of excellence and technology suppliers created	No platform is available	1 platform is established and functioning	Progress report, website of the platform, monitoring of statistics and figures	
<b>Component4: Build the capacity of technical staff designing, developing and servicing solar systems</b>				
<b>Outcome 4.1.</b> Technical capacity of the system designers, developers, facility managers and service providers for solar energy utilization for industrial process heat enhanced.	No institutionalized training courses available	4 Training courses developed are run at the vocational training schools	Curricula of the Vocational training schools	Availability of experts to receive the training Vocational training schools have sufficient capacity to hold the trainings
<b>Output 4.1.1.</b> Training programme on energy savings based on process heat optimization for experts, facility managers and service providers is conducted	Staff of companies not aware of the opportunities for EE improvements	100 experts trained on SO (10% females)	Training reports, progress reports	
<b>Output 4.1.2.</b> Training programme on system design for experts, facility managers and service providers is conducted.	No experts aware of the best practice in the design of solar thermal systems	20 experts and 50 vendors trained on system design (10% females)	Training reports, progress reports	
<b>Output 4.1.3.</b> Training programme on solar thermal equipment installation and servicing for technicians, installers and service providers established.	A limited number of technicians is trained on proper installation and servicing procedures	200 technicians trained on proper installation and servicing practices (10% females)	Training reports, progress reports	
<b>Output 4.1.4.</b> Training programme on business development for solar energy businesses developed	Enterprises and entrepreneurs working in the energy sector do not possess sufficient management skills to support the market	100 entrepreneurs trained on business development (20 % females)	Training reports, progress reports	





## Annex 2: Job descriptions



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

<b>Title:</b>	Senior evaluation consultant, team leader
<b>Main Duty Station and Location:</b>	Home-based
<b>Missions:</b>	Missions to Vienna, Austria and Egypt
<b>Start of Contract (EOD):</b>	1 <sup>st</sup> January 2023
<b>End of Contract (COB):</b>	31 <sup>st</sup> March 2023
<b>Number of Working Days:</b>	35 working days spread over the above mentioned period

### 1. ORGANIZATIONAL CONTEXT

The UNIDO Independent Evaluation Division (ODG/EIO/IEU) is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides evidence-based analysis and assessment on result and practices that feed into the programmatic and strategic decision-making processes. Independent evaluations provide credible, reliable and useful assessment that enables the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. ODG/EIO/IEU is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

### 2. PROJECT CONTEXT

Detailed background information of the project can be found the terms of reference (TOR) for the terminal evaluation.

The international evaluation consultant/team leader will evaluate the project in accordance with the evaluation-related terms of reference (TOR). S/he will perform, inter alia, the following main tasks:

MAIN DUTIES	Concrete/ Measurable Outputs to be achieved	Working Days	Location
<p>1. Review project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data). Define technical issues and questions to be addressed by the national technical evaluator prior to the field visit. Determine key data to collect in the field and adjust the key data collection instrument if needed. In coordination with the project manager, the project management team and the national technical evaluator, determine the suitable sites to be visited and stakeholders to be interviewed.</p>	<ul style="list-style-type: none"> <li>Adjusted table of evaluation questions, depending on country specific context;</li> <li>Draft list of stakeholders to interview during the field missions.</li> <li>Identify issues and questions to be addressed by the local technical expert</li> </ul>	4 days	Home-based
<p>2. Prepare an inception report which streamlines the specific questions to address the key issues in the TOR, specific methods that will be used and data to collect in the field visits, confirm the evaluation methodology, draft theory of change, and tentative agenda for field work.  Provide guidance to the national evaluator to prepare initial draft of output analysis and review technical inputs prepared by national evaluator, prior to field mission.</p>	<ul style="list-style-type: none"> <li>Draft theory of change and Evaluation framework to submit to the Evaluation Manager for clearance.</li> <li>Guidance to the national evaluator to prepare output analysis and technical reports</li> </ul>	2 days	Home based
<p>3. Briefing with the UNIDO Independent Evaluation Division, project managers and other key stakeholders at UNIDO HQ (included is preparation of presentation).</p>	<ul style="list-style-type: none"> <li>Detailed evaluation schedule with tentative mission agenda (incl. list of stakeholders to interview and site visits); mission planning;</li> <li>Division of evaluation tasks with the National Consultant.</li> </ul>	1 day	Via Skype/Zoom
<p>4. Conduct field mission to Egypt<sup>8</sup>.</p>	<ul style="list-style-type: none"> <li>Conduct meetings with relevant project</li> </ul>	12 days	Egypt (specific

<sup>8</sup> The exact mission dates will be decided in agreement with the Consultant, UNIDO HQ, and the country counterparts.

MAIN DUTIES	Concrete/ Measurable Outputs to be achieved	Working Days	Location
	stakeholders, beneficiaries, the GEF Operational Focal Point (OFP), etc. for the collection of data and clarifications; <ul style="list-style-type: none"> <li>• Agreement with the National Consultant on the structure and content of the evaluation report and the distribution of writing tasks;</li> <li>• Evaluation presentation of the evaluation’s preliminary findings, conclusions and recommendations to stakeholders in the country, including the GEF OFP, at the end of the mission.</li> </ul>		project site to be identified at inception phase)
5. Present overall findings and recommendations to the stakeholders at UNIDO HQ	<ul style="list-style-type: none"> <li>• After field mission(s): Presentation slides, feedback from stakeholders obtained and discussed.</li> </ul>	1 day	Via Skype/zoom
6. Prepare the evaluation report, with inputs from the National Consultant, according to the TOR;  Coordinate the inputs from the National Consultant and combine with her/his own inputs into the draft evaluation report.  Share the evaluation report with UNIDO HQ and national stakeholders for feedback and comments.	<ul style="list-style-type: none"> <li>• Draft evaluation report.</li> </ul>	12 days	Home-based
7. Revise the draft project evaluation report based on comments from UNIDO Independent Evaluation Division and stakeholders and edit the language and form of the final version according to UNIDO standards.	<ul style="list-style-type: none"> <li>• Final evaluation report.</li> </ul>	3 days	Home-based

## **MINIMUM ORGANIZATIONAL REQUIREMENTS**

### **Education:**

Advanced degree in environment, energy, engineering, development studies or related areas.

### **Technical and functional experience:**

- Minimum of 15-20 years' experience in evaluation of development projects and programmes
- Good working knowledge [in Egypt]
- Knowledge about GEF operational programs and strategies and about relevant GEF policies such as those on project life cycle, M&E, incremental costs, and fiduciary standards
- Experience in the evaluation of GEF projects and knowledge of UNIDO activities an asset
- Knowledge about multilateral technical cooperation and the UN, international development priorities and frameworks
- Familiarity with gender analysis tools and methodologies an asset
- Working experience in developing countries

### **Languages:**

Fluency in written and spoken English is required. All reports and related documents must be in English and presented in electronic format.

### **Absence of conflict of interest:**

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the UNIDO Independent Evaluation Division.

## **REQUIRED COMPETENCIES**

### **Core values:**

**WE LIVE AND ACT WITH INTEGRITY:** work honestly, openly and impartially.

**WE SHOW PROFESSIONALISM:** work hard and competently in a committed and responsible manner.

**WE RESPECT DIVERSITY:** work together effectively, respectfully and inclusively, regardless of our differences in culture and perspective.

### **Core competencies:**

**WE FOCUS ON PEOPLE:** cooperate to fully reach our potential –and this is true for our colleagues as well as our clients. Emotional intelligence and receptiveness are vital parts of our UNIDO identity.

**WE FOCUS ON RESULTS AND RESPONSIBILITIES:** focus on planning, organizing and managing our work effectively and efficiently. We are responsible and accountable for achieving our results and meeting our performance standards. This accountability does not end with our colleagues and supervisors, but we also owe it to those we serve and who have trusted us to contribute to a better, safer and healthier world.

**WE COMMUNICATE AND EARN TRUST:** communicate effectively with one another and build an environment of trust where we can all excel in our work.

**WE THINK OUTSIDE THE BOX AND INNOVATE:** To stay relevant, we continuously improve, support innovation, share our knowledge and skills, and learn from one another.



## UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

### TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

<b>Title:</b>	National evaluation consultant
<b>Main Duty Station and Location:</b>	Home-based
<b>Mission/s to:</b>	Travel to potential sites within Egypt
<b>Start of Contract:</b>	1 <sup>st</sup> January 2023
<b>End of Contract:</b>	31 <sup>st</sup> March 2023
<b>Number of Working Days:</b>	30 days spread over the above mentioned period

#### ORGANIZATIONAL CONTEXT

The UNIDO Independent Evaluation Division (ODG/EIO/IEU) is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides evidence-based analysis and assessment on result and practices that feed into the programmatic and strategic decision-making processes. Independent evaluations provide credible, reliable and useful assessment that enables the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. ODG/EIO/IEU is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

#### PROJECT CONTEXT

Detailed background information of the project can be found the terms of reference (TOR) for the terminal evaluation.

The national evaluation consultant will evaluate the projects according to the terms of reference (TOR) under the leadership of the team leader (international evaluation consultant). S/he will perform the following tasks:

<b><u>MAIN DUTIES</u></b>	<b>Concrete/measurable outputs to be achieved</b>	<b>Expected duration</b>	<b>Location</b>
Desk review Review and analyze project documentation and relevant country background information; in cooperation with the team	Evaluation questions, questionnaires/interview guide, logic models adjusted to ensure understanding in the national context;	4 days	Home-based

<b><u>MAIN DUTIES</u></b>	<b>Concrete/measurable outputs to be achieved</b>	<b>Expected duration</b>	<b>Location</b>
<p>leader, determine key data to collect in the field and prepare key instruments in English (questionnaires, logic models);</p> <p>If need be, recommend adjustments to the evaluation framework and Theory of Change in order to ensure their understanding in the local context.</p>	<p>A stakeholder mapping, in coordination with the project team.</p>		
<p>Carry out preliminary analysis of pertaining technical issues determined with the Team Leader.</p> <p>In close coordination with the project staff team verify the extent of achievement of project outputs prior to field visits.</p> <p>Develop a brief analysis of key contextual conditions relevant to the project</p>	<ul style="list-style-type: none"> <li>• Report addressing technical issues and question previously identified with the Team leader</li> <li>• Tables that present extent of achievement of project outputs</li> <li>• Brief analysis of conditions relevant to the project</li> </ul>	6 days	Home-based
<p>Coordinate the evaluation mission agenda, ensuring and setting up the required meetings with project partners and government counterparts, and organize and lead site visits, in close cooperation with project staff in the field.</p>	<ul style="list-style-type: none"> <li>• Detailed evaluation schedule.</li> <li>• List of stakeholders to interview during the field missions.</li> </ul>	2 days	Home-based
<p>Coordinate and conduct the field mission with the team leader in cooperation with the Project Management Unit, where required;</p> <p>Consult with the Team Leader on the structure and content of the evaluation report and the distribution of writing tasks.</p> <p>Conduct the translation for the Team Leader, when needed.</p>	<ul style="list-style-type: none"> <li>• Presentations of the evaluation's initial findings, draft conclusions and recommendations to stakeholders in the country at the end of the mission (either in person or via zoom/skype)</li> <li>• Agreement with the Team Leader on the structure and content of the evaluation report and the distribution of writing tasks.</li> </ul>	12 days (including travel days)	In Egypt
<p>Follow up with stakeholders regarding additional information promised during interviews</p> <p>Prepare inputs to help fill in information and analysis gaps (mostly related to technical issues) and to prepare of tables to</p>	<ul style="list-style-type: none"> <li>• Part of draft evaluation report prepared.</li> </ul>	6 days	Home-based

<b><u>MAIN DUTIES</u></b>	<b>Concrete/measurable outputs to be achieved</b>	<b>Expected duration</b>	<b>Location</b>
<p>be included in the evaluation report as agreed with the Team Leader.</p> <p>Revise the draft project evaluation report based on comments from UNIDO Independent Evaluation Division and stakeholders and proof read the final version.</p>			

### **MINIMUM ORGANIZATIONAL REQUIREMENTS**

**Education:** Advanced university degree in environmental science, engineering or other relevant discipline like developmental studies with a specialization in industrial energy efficiency and/or climate change.

**Technical and functional experience:**

- Excellent knowledge and competency in the field of renewable energies and solar
- Evaluation experience, including evaluation of development cooperation in developing countries is an asset
- Exposure to the development needs, conditions and challenges in their country and region.
- Familiarity with gender analysis tools and methodologies and asset
- Familiarity with the institutional context of the project is desirable.

**Languages:** Fluency in written and spoken English and in Modern Arabic is required.

**Absence of conflict of interest:**

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the UNIDO Independent Evaluation Division.

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share our knowledge and skills, and learn from one another.