TERMS OF REFERENCE

Independent terminal evaluation of UNIDO project:

Industrial Energy Efficiency in Thailand

UNIDO project No. GF/THA/11/001
UNIDO project ID: 103071
GEF ID: 3786
January 2017

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I. PROJECT BACKGROUND AND CONTEXT

1. Project factsheet

<table>
<thead>
<tr>
<th>Project title</th>
<th>Industrial Energy Efficiency in Thailand</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIDO project No./ID</td>
<td>GF/THA/11/001 - 103071</td>
</tr>
<tr>
<td>GEF ID</td>
<td>3786</td>
</tr>
<tr>
<td>Region</td>
<td>EAP</td>
</tr>
<tr>
<td>Country</td>
<td>Thailand</td>
</tr>
<tr>
<td>Project donor(s)</td>
<td>GEF</td>
</tr>
<tr>
<td>Project approval date</td>
<td>21-12-2010</td>
</tr>
<tr>
<td>Project implementation start date</td>
<td>03/01/2011</td>
</tr>
<tr>
<td>Expected duration at project approval</td>
<td>65 months</td>
</tr>
<tr>
<td>Expected implementation end date</td>
<td>31/06/2018</td>
</tr>
<tr>
<td>Executing partners</td>
<td>Department of Industrial Promotion (DIP); Department of Industrial Works (DIW); Thai Industrial Standards Institute (TISI); and Department of Alternative Energy Development and Efficiency (DEDE)</td>
</tr>
<tr>
<td>Donor funding</td>
<td>USD 3,620,000</td>
</tr>
<tr>
<td>Co-financing</td>
<td>USD 15,645,000</td>
</tr>
<tr>
<td>Total project cost (USD)</td>
<td>USD 19,265,000</td>
</tr>
<tr>
<td>Mid-term review date</td>
<td>April 2016</td>
</tr>
<tr>
<td>Planned terminal evaluation date</td>
<td>April 2018</td>
</tr>
</tbody>
</table>

(Source: Project document)

2. Project context

This independent terminal evaluation assesses the performance of the GEF-funded project *Industrial Energy Efficiency in Thailand*. Approved in December 2010, the project’s implementation phase started in January 2011, to be originally completed in December 2017. After an extension, though, the project is now expected to be completed by June 2018.

Rationale and origin of the projects:

Since the beginning of 1990s, Thailand has always been at the forefront in terms of promoting industrial energy efficiency and energy savings. Over time, the Thai industry has made significant investments in energy efficiency supported by several major initiatives supported through energy conservation fund, energy efficiency revolving fund, utility-based DSM, total energy management program and active ESCO industry. Despite encouraging efforts in terms of regulatory policy framework, establishment of energy conservation funds, tax benefits and other incentives from the government, limited achievements have been observed in the field. In particular, energy management is still ad-hoc practice in the Thai industry as it is not integrated with the management system. Though most industries seem to consider energy management important mainly for

\footnote{Data in this chapter is to be validated by the Consultant against the project document and any changes should be reflected in the evaluation report.}
production cost reduction, the number of enterprises which have actually implemented energy management good practices within their facility is really low. To address such issues and barriers, multilateral technical assistance was sought from UNIDO and the GEF with the purpose of promoting energy efficiency in the industries through introduction of ISO Energy Management Standard incorporating industrial energy systems optimization.

3. Project objectives:

The objective of the project is to promote industrial EE through adoption of ISO based energy management standards and system optimization approach for improvement of energy performance of industries to make its operations more reliable and competitive. The proposed project is designed to: i) increase the awareness and reinforce Thailand’s efforts on the implementation of energy management system based on ISO 50001 to urge industrial enterprises to integrate EE as part of the management cycle for the realization of continuous energy savings, and ii) incorporate industrial energy systems optimization as a mean to maximize energy savings and reduce production costs.

The main project outcomes and outputs are:

1. ISO compliant energy management systems

The outcome from this component is to strengthen a policy instrument that encourages industrial enterprises to adopt ISO compatible energy management standards to deliver sustainable improvements in industrial energy efficiency, productivity and competitiveness. The Thai Industrial Standards Institute (TISI) will lead this component in close cooperation with the other main executing partners to ensure the sustainability of the project activities.

Outputs:

- Training material and tools on energy management developed
- National awareness campaign launched on ISO 50001
- National experts/factory personnel trained on ISO compliant energy management systems
- Peer-to-peer network between industrial enterprises established and operated

2. Industrial energy systems optimization

The main outcome from this component is the establishment of a cadre of energy efficiency professionals within industrial facilities as well as international experts and equipment suppliers to initiate a process to transform local markets effectively as to provide industrial systems optimization services.

Outputs:

- Training material and tools on systems optimization developed
- National experts/factory personnel trained on optimization of steam, compressed air, pumping and fans systems
- Equipment vendors/suppliers trained on systems optimization

3. Enhancement of IEE financing capacity

The outcome from this component is the increased availability of financial and institutional support for industrial energy efficiency initiatives. As the Department of Alternative Energy Development and
Efficiency (DEDE) is supporting financing of energy efficiency projects in the country through its energy efficiency revolving fund since 2002, the proposed project will make use of existing market mechanisms to promote industrial energy efficiency projects. The project will target primarily on bridging the gaps in financial capacity of financial institutions/banks and build the capacity of industry to prepare more bankable energy efficiency proposals. The DEDE will lead this component of enhancement of industrial EE financing capacity through the following activities and outputs.

Outputs:
· Harmonized EE project evaluation criteria
· Capacity of banks/FIs enhanced on EE projects financing
· Training material developed and industry managers trained on the development of financial proposals

4. Implementation of energy management and systems optimization projects

The expected outcome from this component is the increased adoption of energy management standards and systems optimization energy efficiency projects by industries for higher energy savings on continuous basis.

Outputs:
· Energy management projects implemented
· Documented systems optimization demonstration projects
· Recognition program developed

4. Project implementation arrangements

The implementation of all the activities implemented by the project will be supervised by the Department of Industrial Promotion (DIP) through the project steering committees (PSC). The DIP will coordinate overall direct project inputs from the other participating agencies and organizations according to the objectives and activities of the project. The DIP will designate one of high level officer to the project Management Unit to act as National Project Director (NPD) to guide the PMU in the implementation of the project. The PMU will be fully responsible for day to day activities of the project and will report to the UNIDO Project Manager. UNIDO will recruit the international teams responsible for delivering the tools, materials and trainings.

UNIDO and DIP in close collaboration with the other executing partners will assume the following responsibilities:
· Identification/approval of host factories to participate in the project and facilitate training sites
· Recognition program
· Delivery of case studies, documenting the energy savings and reductions in GHG emissions directly attributable to the project

5. Budget information:

Table 1. Financing plan summary - Outcome breakdown

<table>
<thead>
<tr>
<th>Project outcomes/components</th>
<th>Donor ($)</th>
<th>Co-Financing ($)</th>
<th>Total ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – ISO compliant energy management systems</td>
<td>965,000</td>
<td>985,000</td>
<td>1,950,000</td>
</tr>
</tbody>
</table>
Table 2. Co-Financing source breakdown

<table>
<thead>
<tr>
<th>Name of Co-financer (source)</th>
<th>Classification</th>
<th>Type</th>
<th>Total Amount ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Industry</td>
<td>National Government</td>
<td>Cash &amp; in-kind</td>
<td>2,445,000</td>
</tr>
<tr>
<td>Ministry of Energy</td>
<td>National Government</td>
<td>Loan &amp; in-kind</td>
<td>5,200,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loan</td>
<td>5,000,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In-kind</td>
<td>200,000</td>
</tr>
<tr>
<td>SME Bank</td>
<td>Government-owned bank</td>
<td>Loan</td>
<td>3,000,000</td>
</tr>
<tr>
<td>CIMB Bank</td>
<td>Private bank</td>
<td>Loan</td>
<td>5,000,000</td>
</tr>
<tr>
<td><strong>Total co-financing</strong></td>
<td></td>
<td></td>
<td><strong>15,645,000</strong></td>
</tr>
</tbody>
</table>

Source: Project document

Table 3. UNIDO budget execution (starting from 2012)

<table>
<thead>
<tr>
<th>Item</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Total Expenditure ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractual Services</td>
<td>3,374.88</td>
<td>37,203.49</td>
<td>185,690.5</td>
<td>249,966.44</td>
<td>41,347.99</td>
<td>22,600</td>
<td>540,183.3</td>
</tr>
<tr>
<td>Equipment</td>
<td>273,099.9</td>
<td>15,923.79</td>
<td>20,153.98</td>
<td>35,508</td>
<td>831.76</td>
<td>6,326</td>
<td>351,918.67</td>
</tr>
</tbody>
</table>
II. Evaluation purpose and scope

The purpose of the evaluation is to independently assess the two projects to help UNIDO improve performance and results of future programmes and projects.

The evaluation has two specific objectives:

(i) Assess the project performance in terms of relevance, effectiveness, efficiency, sustainability and progress to impact;

(ii) Develop a series of findings, lessons and recommendations for enhancing the design of new and implementation of ongoing projects by UNIDO.

The independent terminal evaluation (TE) will cover the whole duration of the project from their starting date in 3/1/2011 to the estimated completion date in 31/06/2018.

III. Evaluation approach and methodology

The TE will be conducted in accordance with the UNIDO Evaluation Policy\(^2\) and the UNIDO Guidelines for the Technical Cooperation Project and Project Cycle\(^3\).

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

The evaluation will use a theory of change approach 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 identify causal and transformational pathways from the project outputs to outcomes and longer-term impacts, and drivers as well as barriers to achieve them. The learning


from this analysis will be useful to feed into the design of the future projects so that the management team can effectively manage them 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, output 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.

(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 and counterparts.

(c) **Field visit** to project sites in ?, Thailand and project management in Vienna, UNIDO HQ.

(d) **Company-level survey.**

2. Evaluation key questions and criteria

The key evaluation questions are the following:

(a) 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?

(b) How well has the project performed? Has the project done the right things? Has the project done things right, with good value for money?

(c) What have been the project’s key results (outputs, outcome and impact, if possible)? To what extent have the expected results been achieved or are likely to be achieved against the project design? To what extent the achieved results will sustain after the completion of the project?

(d) What lessons can be drawn from the successful and unsuccessful practices in designing, implementing and managing the project?

The evaluation will assess the likelihood of sustainability of the project results after the project completion. The assessment will identify key risks (e.g. in terms of financial, socio-political, institutional and environmental risks) and explain how these risks may affect the continuation of results after the project ends. Table 1 below provides the key evaluation criteria to be assessed by the evaluation. The details questions to assess each evaluation criterion are in annex 2.

<table>
<thead>
<tr>
<th>#</th>
<th>Evaluation criteria</th>
<th>Mandatory rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Impact (or progress toward impact)</td>
<td>Yes</td>
</tr>
<tr>
<td>B</td>
<td>Project design</td>
<td>Yes</td>
</tr>
<tr>
<td>1</td>
<td>• Overall design</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>• Logframe</td>
<td>Yes</td>
</tr>
<tr>
<td>C</td>
<td>Project performance</td>
<td>Yes</td>
</tr>
</tbody>
</table>
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 2.

Table 2. Project rating criteria

<table>
<thead>
<tr>
<th>Score</th>
<th>Definition</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Highly satisfactory Level of achievement clearly exceeds expectations and there is no shortcoming.</td>
<td>SATISFACTORY</td>
</tr>
<tr>
<td>5</td>
<td>Satisfactory Level of achievement meets expectations (indicatively, over 80-95 per cent) and there is no or minor shortcomings.</td>
<td>SATISFACTORY</td>
</tr>
<tr>
<td>4</td>
<td>Moderately satisfactory Level of achievement more or less meets expectations (indicatively, 60 to 80 per cent) and there are some shortcomings.</td>
<td>SATISFACTORY</td>
</tr>
<tr>
<td>3</td>
<td>Moderately unsatisfactory Level of achievement is somewhat lower than expected (indicatively, less than 60 per cent) and there are significant shortcomings.</td>
<td>UNSATISFACTORY</td>
</tr>
<tr>
<td>2</td>
<td>Unsatisfactory Level of achievement is substantially lower than expected and there are major shortcomings.</td>
<td>UNSATISFACTORY</td>
</tr>
<tr>
<td>1</td>
<td>Highly unsatisfactory Level of achievement is negligible and there are severe shortcomings.</td>
<td>UNSATISFACTORY</td>
</tr>
</tbody>
</table>
IV. Evaluation process
The evaluation will be implemented in five phases which are not strictly sequential, but in many cases iterative, conducted in parallel and partly overlapping:

i. Inception phase: The evaluation team leader will prepare the inception report providing details on the methodology for the evaluation and include an evaluation matrix with specific issues for the evaluation; the specific site visits will be determined during the inception phase.

ii. Desk review and data analysis;

iii. Interviews, survey and literature review;

iv. Field visits;

v. Data analysis and report writing.

V. Time schedule and deliverables
The evaluation is scheduled to take place from April to July 2018. The evaluation field mission to Thailand is tentatively planned for May 2018. At the end of the field mission, there will be a presentation of the preliminary findings for all stakeholders involved in this project.

After the evaluation field mission, the evaluation team leader will visit UNIDO HQ for debriefing and presentation of the preliminary findings of the terminal evaluation. The draft TE report will be submitted to UNIDO 3 weeks after the end of the mission. The draft TE report is to be shared with the UNIDO IEV, UNIDO Project Manager, the GEF and other stakeholders for comments and verification of factual and interpretation errors. The TE leader is expected to revise the draft TE report based on the comments received, edit the language and form and submit the final version in accordance with UNIDO ODG/EVQ/IEV standards.

Table 3. Tentative schedule

<table>
<thead>
<tr>
<th>Timelines</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 2018</td>
<td>Desk review and preparation of inception report</td>
</tr>
<tr>
<td>April 2018</td>
<td>Briefing with UNIDO Project Manager and experts based in Vienna – through Skype</td>
</tr>
<tr>
<td>May 2018</td>
<td>Field visits</td>
</tr>
<tr>
<td>End of May 2018</td>
<td>Debriefing in Vienna</td>
</tr>
<tr>
<td></td>
<td>Preparation of first draft evaluation report</td>
</tr>
<tr>
<td>June 2018</td>
<td>Preparation of first draft evaluation report</td>
</tr>
<tr>
<td></td>
<td>Internal peer review of the report by the UNIDO ODG/EVQ/IEV and other stakeholders comments to draft evaluation report</td>
</tr>
<tr>
<td>July 2018</td>
<td>Final evaluation report</td>
</tr>
</tbody>
</table>
VI. Evaluation team composition

Each evaluation team will be composed of one international evaluation consultant acting as the team leader and one international consultant with expertise on industrial energy efficiency and speaking the local language. The evaluation team will possess relevant strong experience and expertise on evaluation and on industrial energy efficiency. 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.

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.

An evaluation manager from UNIDO ODG/EVQ/IEV 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. The UNIDO Project Manager and the project team will provide logistical and administrative support the evaluation team to prepare for the field visits. The project team will provide a proposed list of stakeholders (e.g. government officials, private sector representatives and other relevant individuals) to the evaluation team who will make the final decision on who to consult. The project team will arrange the meetings and prepare field visit schedule for the evaluation team, following their request, prior to the field visit.

The evaluation team will maintain close liaison with the representatives of UNIDO, other UN agencies as well as with the concerned national agencies, and with national and international project staff. The evaluation team is free to discuss with the authorities concerned anything relevant to its assignment. However, it is not authorized to make any commitments on behalf of the Government, the donor or UNIDO.

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 of 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 team leader and team members; mission plan, including places to be visited, people to be interviewed and possible surveys to be conducted and a debriefing and reporting timetable.4

Evaluation report format and review procedures

The draft report will be delivered to ODG/EVQ/IEV (the suggested report outline is in Annex 4) and circulated to UNIDO staff and national 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 provided by the stakeholders will be sent to UNIDO ODG/EVA for collation and onward transmission to the project evaluation team who will be advised of any necessary revisions. On the basis of this

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4 The evaluator will be provided with a Guide on how to prepare an evaluation inception report prepared by the UNIDO ODG/EVQ/IEV.
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 feedback in preparing the evaluation report. A presentation of preliminary findings will take place at UNIDO HQ after the field mission.

The TE report should be brief, to the point and easy to understand. It must explain the purpose of the evaluation, exactly 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, with an executive summary in English, and follow the outline given in annex 1.

VIII. Quality assurance

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

The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality, attached as Annex 4. The applied evaluation quality assessment criteria are used as a tool to provide structured feedback. UNIDO ODG/EVQ/IEV 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 ODG/EVQ/IEV, which will submit the report to the donor and circulate it within UNIDO together with a management response sheet.
Annex 1: Project Results Framework
The detailed Monitoring and Evaluation Plan, and Risk Assessment Plan, which were both developed and implemented for this project will be shared with the evaluation expert once recruited.

<table>
<thead>
<tr>
<th>Project Narrative</th>
<th>Indicator</th>
<th>Baseline</th>
<th>Target</th>
<th>Sources of Verification</th>
<th>Assumptions/Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Objective</strong>&lt;br&gt; Promote energy efficiency in the industries through introduction of ISO energy management standards incorporating industrial systems optimization</td>
<td>• Measurable reductions in electricity and fuel consumption by industry&lt;br&gt;• Calculated GHG emissions reductions</td>
<td>No direct and indirect electricity and fuel consumption reductions Baseline values to be determined through data collection and discussions with industry</td>
<td>Electricity savings: 83,712 MWh, Fuel savings of 1,914,142 GJ Emissions reduction of 196,757 tCO₂ during the project duration (to be determined after technical assessments during the project implementation)</td>
<td>Terminal reports, Peer-to-peer network, End-of-project survey</td>
<td>Continuous support of concerned government authorities Active support driven by industry</td>
</tr>
</tbody>
</table>

Component 1: ISO compliant energy management systems

Outcome 1: Compliance to a policy instrument that encourages industrial enterprises to adopt ISO compatible energy management standards to deliver sustainable improvements in industrial energy efficiency and competitiveness

| Output 1.1: Training material and tools on energy management developed | Training material on energy management systems provided to industrial enterprises. | Continued use of generic training material on energy management in industrial facilities. | Availability of translated, comprehensive training material and tools specifically supporting the development and implementation of energy management compatible with ISO 50001. | • UNIDO experts’ reports<br>• Project progress reports | Continuous government and industry sector support and participation |
| National awareness campaign launched on ISO 50001 | National campaign provided information to industry to adopt ISO 50001. | Limited awareness campaign launched on energy management standard in the past. | Promotional literature distributed to industries to promote the adoption of ISO 50001. | • Awareness campaign report<br>• Progress and annual reports | Sustained government support and participation |

<table>
<thead>
<tr>
<th>Project Narrative</th>
<th>Indicator</th>
<th>Baseline</th>
<th>Target</th>
<th>Sources of Verification</th>
<th>Assumptions/Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome 1.2: National awareness campaign launched on ISO 50001</strong></td>
<td></td>
<td></td>
<td>Training on energy management in line with ISO 50001 of:&lt;br&gt;• 50 national experts&lt;br&gt;• 500 factory managers (out of which 300 will be trained in energy management system implementation)</td>
<td>Reports of UNIDO’s international experts and list of attendees</td>
<td>Sufficient commitment to energy management on the part of national experts and factory personnel</td>
</tr>
</tbody>
</table>

| Output 1.4: Peer-to-Peer network between industrial enterprises created and operational | Network established and used to support program recognition and present savings result from energy management | All participating enterprises share their implementation plan on energy management on the network and learn from others’ experience and results | Annual report on web-based participating facility results | Willingness to upload their experience with energy management (IEE measures and projects undertaken) |

Component 2: Industrial energy systems optimization

Outcome 2: A cadre of energy efficiency professionals created within industrial facilities as well as consultants and suppliers to initiate a process to transform local markets effectively and to provide industrial systems optimization services

<p>| Output 2.1: Training material and tools on systems optimization developed | Training material on systems optimization provided to industrial enterprises. | Continued use of generic IEE training material focusing on energy audits and specific sectors, but generic technology replacement opportunities. | Availability of translated, comprehensive training material and tools on systems optimization | • UNIDO experts’ reports&lt;br&gt;• Project progress and annual reports | Continuous government support and participation |
| National experts/factory personnel trained on optimization of steam, compressed air, fan and pumping systems | Number of trained national experts&lt;br&gt;Number of trained factory personnel | Current/preposed training programs (both national and donor-supported) do not address systems optimization. | Training in systems optimization of:&lt;br&gt;• 50 national experts&lt;br&gt;• 400 factory managers | Reports of UNIDO’s international experts&lt;br&gt;List of training sessions attendees | Sufficient commitment to systems optimization on the part of national experts and factory personnel |</p>
<table>
<thead>
<tr>
<th>Project Narrative</th>
<th>Indicator</th>
<th>Baseline</th>
<th>Target</th>
<th>Sources of Verification</th>
<th>Assumptions/Risks</th>
</tr>
</thead>
</table>
| Output 2.3: Equipment vendors/suppliers trained on systems optimization | Number of trained equipment vendors/suppliers | Continued exclusive focus by vendors on the sale of individual equipment items. Lean purchase price continues to be the main driver for purchasers of steam boilers, pumps, and air compressors. | Training of 59 equipment suppliers/vendors of energy-efficient products in systems optimization | • Reports of UNIDO’s international experts  
• List of training session attendees | Sufficient commitment to systems optimization on the part of equipment suppliers |

Component 3: Enhancement of industrial EE financing capacity development

Outcome 3: Increased availability of financial and institutional support for industrial energy efficiency initiatives

| Output 3.1: Harmonized EE project evaluation criteria | Evaluation criteria are harmonized within financial institutions to help them select best EE projects. | Financial institutions continue to appraise EE projects without standards and recognized criteria using current bank projects evaluation criteria. | Criteria for evaluating EE projects are developed and harmonized by main financial institutions in Thailand | • Project progress reports  
• UNIDO experts’ reports | Sufficient commitment from financial institutions to change the way they currently evaluate EE projects |
| Output 3.2: Trainings provided to banks/FIs on EE projects financing | Number of financial institutions and local banks personnel trained to understand main features of EE projects and better appraise EE projects proposals. | Weak capacity of financial institutions and local banks to understand and evaluate EE projects. | Strengthened capacity of financial institutions and local banks on EE projects evaluation | • Training sessions report  
• Project progress reports  
• Attendance list | Financial institutions and local banks are committed enough to build their capacity and invest in EE projects |

<table>
<thead>
<tr>
<th>Project Narrative</th>
<th>Indicator</th>
<th>Baseline</th>
<th>Target</th>
<th>Sources of Verification</th>
<th>Assumptions/Risks</th>
</tr>
</thead>
</table>
| Output 3.3: Training material developed and industry managers trained on the development of financial proposals | Training material relating to financing of energy efficiency project development are provided to industries. | No specific material existed to help industrial managers prepare financially sound proposals to mobilize the necessary funds from financiers and banks management. Continued use of generic methods, which do not properly consider the financial impact and opportunities of EE in facilities. | Availability of translated, comprehensive material and guidelines specifically supporting the development of financial proposals for EE projects  
Industrial facility managers/personnel have the capacity to analyze systems optimization and energy management projects and use energy and O&M costs reduction projects | • Project progress reports  
• UNIDO experts’ reports  
• List of attendees | Sufficient commitment from facility managers to take action on project financial development |

Component 4: Implementation of energy management and systems optimization projects

Outcome 4: Demonstrable energy savings in participating factories through systems optimization and energy management standards and increased adoption of energy management standards by industry

| Output 4.1: Energy management systems implemented | • Number of factories with energy management plans implemented  
• Number of case studies  
• Number of factories registered for peer-to-peer network | Limited implementation of energy management systems in Thailand, leaving its (export) industry unprepared for potential market demand for energy-efficient production of goods for export. | • 200 factories adopted energy management plans and completed operational improvement projects  
• 50 factories adopted and implemented ISO 50001  
• Participating factories registered with the peer-to-peer network report energy savings | • Case studies from national experts that have received training  
• Reports of UNIDO’s international experts | Continuous support from the National Standardization Agency and the government  
• Sufficient interest from industry  
• Successful introduction of peer-to-peer network |
<table>
<thead>
<tr>
<th>Project Narrative</th>
<th>Indicator</th>
<th>Baseline</th>
<th>Target</th>
<th>Sources of Verification</th>
<th>Assumptions/Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output 4.2: Documented systems optimization demonstration projects</td>
<td>• Number of completed steam, pumping, fan and compressed air systems assessments • Number of completed systems optimization projects</td>
<td>Absence of local examples of successful optimization of industrial steam, pumping, and compressed air systems hindering nationwide uptake of good EE practices.</td>
<td>• 75 systems assessments conducted of which 50 led to completed systems optimization projects • 25 case studies showing GHG emission reductions</td>
<td>• Case studies from national experts • Reports of UNIDO’s international experts</td>
<td>Sufficient commitment from industrial enterprises to take action on systems optimization following systems assessment</td>
</tr>
<tr>
<td>Output 4.3: Recognition program developed and implemented</td>
<td>Recognition program for participating companies established based on successful achievements</td>
<td>Ad-hoc publicity for EE success stories from the industry.</td>
<td>Formal recognition of factories achieving power/fuel consumption reductions reflected in government reports</td>
<td>• Award ceremony highlighting successful projects • Project manual reports</td>
<td>Continuous government support for a recognition program</td>
</tr>
</tbody>
</table>
Annex 2: Detailed questions to assess evaluation criteria

The evaluation team will assess the project performance guided by the questions below. It should be noted that these are the guiding questions. In the inception report, the evaluator will specify key issues and key questions for the evaluation to focus on.

<table>
<thead>
<tr>
<th>#</th>
<th>Evaluation criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td><strong>Progress to impact</strong></td>
</tr>
<tr>
<td>✓</td>
<td><strong>Mainstreaming:</strong> To what extent information, lessons or specific results of the project are incorporated into broader stakeholder mandates and initiatives such as laws, policies, regulations and project?</td>
</tr>
<tr>
<td>✓</td>
<td><strong>Replication:</strong> To what extent the project’s specific results (e.g. methodology, technology, lessons and etc) are reproduced or adopted</td>
</tr>
<tr>
<td>✓</td>
<td><strong>Scaling-up:</strong> To what extent the project’s initiatives and results are implemented at larger geographical scale?</td>
</tr>
<tr>
<td>✓</td>
<td>What difference has the project made to the beneficiaries?</td>
</tr>
<tr>
<td>✓</td>
<td>What is the change attributable to the project? To what extent?</td>
</tr>
<tr>
<td>✓</td>
<td>What are the social, economic, environmental and other effects, either short-, medium- or long-term, on a micro- or macro-level?</td>
</tr>
<tr>
<td>✓</td>
<td>What effects are intended or unintended, positive or negative?</td>
</tr>
<tr>
<td>The three UNIDO impact dimensions are:</td>
<td></td>
</tr>
<tr>
<td>✓</td>
<td><strong>Safeguarding environment:</strong> To what extent the project contributes to changes in the status of environment?</td>
</tr>
<tr>
<td>✓</td>
<td><strong>Economic performance:</strong> To what extent the project contributes to changes in the economic performance (finances, income, costs saving, expenditure and etc) of individuals, groups and entities?</td>
</tr>
<tr>
<td>✓</td>
<td><strong>Social inclusiveness:</strong> To what extent the project contributes to changes in capacity and capability of individuals, groups and entities in society, including vulnerable groups, and hence generating employment and access to education and training?</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td><strong>Project design</strong></td>
</tr>
<tr>
<td>1</td>
<td>✔ Overall design</td>
</tr>
<tr>
<td>✓</td>
<td>The problem, need or gap to be addressed by the project is clearly identified, with clear target beneficiaries?</td>
</tr>
<tr>
<td>✓</td>
<td>The project design was adequate to address the problems at hand?</td>
</tr>
<tr>
<td>✓</td>
<td>Is the project consistent with the Country's priorities, in the work plan of the lead national counterpart? Does it meet the needs of the target group? Is it consistent with UNIDO's Inclusive and Sustainable Industrial Development? Does it adequately reflect lessons learnt from past projects? Is it in line with the donor's priorities and policies?</td>
</tr>
<tr>
<td>✓</td>
<td>Is the applied project approach sound and appropriate? Is the design technically feasible and based on best practices? Does UNIDO have in-house technical expertise and experience for this type of intervention?</td>
</tr>
<tr>
<td>✓</td>
<td>To what extent the project design (in terms of funding, institutional arrangement, implementation arrangements...) as foreseen in the project document still valid and relevant?</td>
</tr>
<tr>
<td>✓</td>
<td>Does it include M&amp;E plan and adequate budget for M&amp;E activities?</td>
</tr>
<tr>
<td>✓</td>
<td>Risk management: Are critical risks related to financial, social-political, institutional, environmental and implementation aspects identified with specific risk ratings? Are their mitigation measures identified? Where possible, are the mitigation measures included in project activities/outputs and monitored under the M&amp;E plan?</td>
</tr>
<tr>
<td>2</td>
<td>✔ Logframe</td>
</tr>
</tbody>
</table>
| ✓ | Expected results: Is the expected result-chain (impact, outcomes and outputs) clear and logical? Does impact describe a desired long-term change or benefit to a society or community (not as a mean or process), do outcomes describe change in target group's behaviour/performance or system/institutional
performance, do outputs describe deliverables that project will produce to achieve outcomes? Are the expected results realistic, measurable and not a reformulation or summary of lower level results? Do outputs plus assumptions lead to outcomes, do outputs plus assumptions lead to impact? Can all outputs be delivered by the project, are outcomes outside UNIDO’s control but within its influence?

- Indicators: Do indicators describe and specify expected results (impact, outcomes and outputs) in terms of quantity, quality and time? Do indicators change at each level of results and independent from indicators at higher and lower levels? Do indicators not restate expected results and not cause them? Are indicators necessary and sufficient and do they provide enough triangulation (cross-checking)? Are they indicators sex-diaggereated, if applicable? Are the indicator SMART?
- Sources of verification: Are the sources of verification/data able to verify status of indicators, are they cost-effective and reliable? Are the sources of verification/data able to verify status of output and outcome indicators before project completion?
- Are key assumptions properly summarized and reflecting the proper level in the results chain in the logframe?

C Project performance

1. **Relevance**
   - How does the project fulfill the urgent target group needs?
   - To what extent is the project aligned with the development priorities of the country (national poverty reduction strategy, sector development strategy)?
   - How does project reflect donor policies and priorities?
   - Is the project a technically adequate solution to the development problem? Does it eliminate the cause of the problem?
   - To what extent does the project correspond to UNIDO’s comparative advantages?
   - Are the original project objectives (expected results) still valid and pertinent to the target groups? If not, have they been revised? Are the revised objectives still valid in today’s context?

2. **Effectiveness**
   - What are the main results (mainly outputs and outcomes) of the project? What have been the quantifiable results of the project?
   - To what extent did the project achieve their objectives (outputs and outcomes), against the original/revised target(s)?
   - What are the reasons for the achievement/non-achievement of the project objectives?
   - What is the quality of the results? How do the stakeholders perceive them? What is the feedback of the beneficiaries and the stakeholders on the project effectiveness?
   - To what extent is the identified progress result of the project attributable to the intervention rather than to external factors?
   - What can be done to make the project more effective?
   - Were the right target groups reached?

3. **Efficiency**
   - How economically are the project resources/inputs (concerning funding, expertise, time...) being used to produce results?
   - To what extent were expected results achieved within the original budget and timeframe? If no, please explain why.
   - Are the results being achieved at an acceptable cost? Would alternative approaches accomplish the same results at less cost?
   - What measures have been taken during planning and implementation to ensure that resources are efficiently used? Were the project expenditures in line with budgets?
   - Could more have been achieved with the same input?
   - Could the same have been achieved with less input?
   - How timely was the project in producing outputs and outcomes? Comment on the delay or acceleration of the project’s implementation period.
   - To what extent were the project’s activities in line with the schedule of activities as defined by the
Project Team and annual Work Plans?
✓ Have the inputs from the donor, UNIDO and Government/counterpart been provided as planned, and were they adequate to meet the requirements?

4. **Sustainability of benefits**
✓ Will the project results and benefits be sustained after the end of donor funding?
✓ Does the project have an exit strategy?
✓ To what extent the outputs and results have been institutionalized?

**Financial risks:**
✓ What is the likelihood of financial and economic resources not being available once the project ends?

**Socio-political risks:**
✓ Are there any social or political risks that may jeopardize the sustainability of project outcomes?
✓ What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained?
✓ Do the various key stakeholders see that it is in their interest that project benefits continue to flow?
✓ Is there sufficient public/stakeholder awareness in support of the project’s long-term objectives?

**Institutional framework and governance risks:**
✓ Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize the sustainability of project benefits?
✓ Are requisite systems for accountability and transparency and required technical know-how in place?

**Environmental risks:**
✓ Are there any environmental risks that may jeopardize the sustainability of project outcomes?
✓ Are there any project outputs or higher level results that are likely to have adverse environmental impacts, which, in turn, might affect the sustainability of project benefits?

### Cross-cutting performance criteria

1. **Gender mainstreaming**
✓ Did the project design adequately consider the gender dimensions in its interventions? Was the gender marker assigned correctly at entry?
✓ Was a gender analysis included in a baseline study or needs assessment (if any)? Were there gender-related project indicators?
✓ Are women/gender-focused groups, associations or gender units in partner organizations consulted/included in the project?
✓ How gender-balanced was the composition of the project management team, the Steering Committee, experts and consultants and the beneficiaries?
✓ Do the results affect women and men differently? If so, why and how? How are the results likely to affect gender relations (e.g., division of labour, decision-making authority)?
✓ To what extent were socioeconomic benefits delivered by the project at the national and local levels, including consideration of gender dimensions?

2. **M&E:**
   - **M&E design**
     o Was the M&E plan included in the project document? Was it practical and sufficient at the point of project approval?
     o Did it include baseline data and specify clear targets and appropriate indicators to track environmental, gender, and socio economic results?
     o Did it include a proper M&E methodological approach; specify practical organization and logistics of the M&E activities including schedule and responsibilities for data collection;
     o Does the M&E plan specify what, who and how frequent monitoring, review, evaluations and data collection will take place? Is the M&E plan consistent with the logframe (especially indicators and sources of verification)?
     o Does it allocate adequate budget for M&E activities?
**M&E implementation**
- How was the information from M&E system used during the project implementation? Was an M&E system in place and did it facilitate timely tracking of progress toward project results by collecting information on selected indicators continually throughout the project implementation period? Did project team and manager make decisions and corrective actions based on analysis from M&E system and based on results achieved?
- Are annual/progress project reports complete, accurate and timely?
- Was the information provided by the M&E system used to improve performance and adapt to changing needs? Was information on project performance and results achievement being presented to the Project Steering Committee to make decisions and corrective actions? Do the Project team and managers and PSC regularly ask for performance and results information?
- Are monitoring and self-evaluation carried out effectively, based on indicators for outputs, outcomes and impact in the logframe? Do performance monitoring and reviews take place regularly?
- Were resources for M&E sufficient?
- How has the logframe been used for Monitoring and Evaluation purposes (developing M&E plan, setting M&E system, determining baseline and targets, annual implementation review by the Project Steering Committee...) to monitor progress towards expected outputs and outcomes?
- How well have risks outlined the project document and in the logframe been monitored and managed? How often have risks been reviewed and updated? Has a risk management mechanism been put in place?

**Results-based management (RBM)**

**Results-Based work planning**
- Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
- Are there any annual work plans? Are work-planning processes results-based? Has the logframe been used to determine the annual work plan (including key activities and milestone)?
- Examine the use of the project’s results framework/logframe as a management tool and review any changes made to it since project start.

**Results-based monitoring and evaluation**
- Verify whether an M&E system is in place and facilitated timely tracking of progress toward project objectives by collecting information on selected indicators continually throughout the project implementation period;
- Review the monitoring tool currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?
- Do project team and manager make decisions and corrective actions based on analysis from M&E system and based on results achieved? Is information on project performance and results achievement being presented to the Project Steering Committee to make decisions and corrective actions? Do the Project team and managers and PSC regularly ask for performance and results information?

**Results-based reporting**
- Assess how adaptive management changes have been reported by the project management and shared with the PSC.
- Assess how well the Project Team and partners undertake and fulfil donor and UNIDO reporting requirements (i.e. how have they addressed delays or poor performance, if applicable?)
- Assess how results and lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.

**E Performance of partners**
1. **UNIDO**
   - Mobilization of adequate technical expertise for project design
   - Inclusiveness of project design (with national counterparts)
   - Previous evaluative evidence shaping project design
   - Planning for M&E and ensuring sufficient M&E budget
   - Timely recruitment of project staff
   - Project modifications following changes in context or after the Mid-Term Review
   - Follow-up to address implementation bottlenecks
   - Role of UNIDO country presence (if applicable) supporting the project
   - Engagement in policy dialogue to ensure up-scaling of innovations
   - Coordination function
   - Exit strategy, planned together with the government
   - Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement.
   - To what extent the project has a proper and operational governance system (e.g. PSC with clear roles and responsibilities)?
   - Review whether the national management and overall coordination mechanisms have been efficient and effective? Did each partner have assigned roles and responsibilities from the beginning? Did each partner fulfill its role and responsibilities (e.g. providing strategic support, monitoring and reviewing performance, allocating funds, providing technical support, following up agreed/corrective actions)?
   - The UNIDO HQ-based management, coordination, monitoring, quality control and technical inputs have been efficient, timely and effective (e.g. problems identified timely and accurately; quality support provided timely and effectively; right staffing levels, continuity, skill mix and frequency of field visits)?

2. **National counterparts**
   - **Design**
     - Responsiveness to UNIDO’s invitation for engagement in designing the project
   - **Implementation**
     - Ownership of the project
     - Provide financial contribution as planned (cash or in-kind)
     - Support to the project, based on actions and policies
     - Counterpart funding
     - Internal government coordination
     - Exit strategy, planned together with UNIDO, or arrangements for continued funding of certain activities
     - Facilitation of the participation of Non-Governmental Organizations (NGOs), civil society and the private sector where appropriate
     - Suitable procurement procedures for timely project implementation
     - Engagement with UNIDO in policy dialogue to promote the up-scaling or replication of innovations

3. **Donor**
   - Timely disbursement of project funds
   - Feedback to progress reports, including Mid-Term Evaluation, if applicable
   - Support by the donor’s country presence (if applicable) supporting the project for example through engagement in policy dialogue

F. **Overall assessment**
   - Overarching assessment of the project, drawing upon the analysis made under Project performance and Progress to Impact criteria above but not an average of ratings.
Annex 3: Job descriptions

UNited Nations Industrial Development Organization

Terms of Reference for Personnel Under Individual Service Agreement (ISA)

<table>
<thead>
<tr>
<th>Title:</th>
<th>Senior International Industrial Energy Efficiency expert – Team member</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Duty Station and Location:</td>
<td>Home-based</td>
</tr>
<tr>
<td>Mission/s to:</td>
<td>?, Thailand and to Vienna/Austria</td>
</tr>
<tr>
<td>Start of Contract (EOD):</td>
<td>1 April 2018</td>
</tr>
<tr>
<td>End of Contract (COB):</td>
<td>31 July 2018</td>
</tr>
<tr>
<td>Number of Working Days:</td>
<td>32 working days</td>
</tr>
</tbody>
</table>

Organizational Context

The Office for Independent Evaluation is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides factual information about result and practices that feed into the programmatic and strategic decision-making processes.

Project Context (See evaluation terms of reference attached)

Duties: The senior international evaluation consultant will act as a Team leader in this project evaluation according to the terms of reference. She/he will be responsible for the preparation of the evaluation report, including the coordination of inputs from other team members. The Team Leader will perform the following tasks:

<table>
<thead>
<tr>
<th>MAIN DUTIES</th>
<th>Concrete/Measurable Outputs to be achieved</th>
<th>Working Days</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data); determine key data to collect in the field and adjust the key data collection instrument if needed; 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, detailed evaluation methodology confirmed, draft theory of change, and tentative agenda for field work.</td>
<td>• Adjust table of evaluation questions, depending on country specific context; • Prepare a map of stakeholders to interview during the field missions; • The inception report. Submitted to evaluation manager.</td>
<td>7 days</td>
<td>Home-based</td>
</tr>
<tr>
<td>MAIN DUTIES</td>
<td>Concrete/ Measurable Outputs to be achieved</td>
<td>Working Days</td>
<td>Location</td>
</tr>
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<td>----------------------------------------------------------------------------</td>
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<td>---------------------</td>
</tr>
<tr>
<td>2. Briefing with the UNIDO Independent Evaluation Division, project managers and other key stakeholders at UNIDO HQ.</td>
<td>● Detailed evaluation schedule with tentative mission agenda (incl. list of stakeholders to interview and site visits); mission planning; • Division of evaluation tasks with the team member.</td>
<td>1 day</td>
<td>Through skype</td>
</tr>
<tr>
<td>3. Conduct field mission in 2018[^5].</td>
<td>● Conduct meetings with relevant project stakeholders, beneficiaries, etc. for the collection of data and clarifications; • Agreement with the team member on the structure and content of the evaluation report and the distribution of writing tasks; • Evaluation presentation of the evaluation’s initial findings prepared, draft conclusions and recommendations to stakeholders in the country at the end of the mission.</td>
<td>12 days</td>
<td>?, Thailand (? days) and ?, Thailand (? days)</td>
</tr>
<tr>
<td>4. Present overall findings and recommendations to the stakeholders at UNIDO HQ.</td>
<td>• After field mission(s): Presentation slides, feedback from stakeholders obtained and discussed</td>
<td>2 days</td>
<td>Vienna, Austria</td>
</tr>
<tr>
<td>5. Prepare the evaluation report, with inputs from the team member, according to the TOR; Coordinate the inputs from the team member 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.</td>
<td>• Draft evaluation report.</td>
<td>7 days</td>
<td>Home-based</td>
</tr>
</tbody>
</table>

[^5]: The exact mission dates will be decided in agreement with the Consultant, UNIDO HQ, and the country counterparts.
### MAIN DUTIES

<table>
<thead>
<tr>
<th>Concrete/ Measurable Outputs to be achieved</th>
<th>Working Days</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. 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.</td>
<td>Final evaluation report.</td>
<td>3 days</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>32 days</td>
</tr>
</tbody>
</table>

### REQUIRED COMPETENCIES

**Core values:**
1. Integrity
2. Professionalism
3. Respect for diversity

**Managerial competencies:**
1. Strategy and direction
2. Judgement and decision making
3. Conflict resolution

**Core competencies:**
1. Results orientation and accountability
2. Planning and organizing
3. Communication and trust
4. Client orientation
5. Organizational development and innovation

### MINIMUM ORGANIZATIONAL REQUIREMENTS

**Education:** Advanced university degree preferably in economics, energy, development or related disciplines.

**Technical and Functional Experience:**
- At least 15 years of progressive and proven professional development experience in the field of evaluation, and knowledge of industrial energy efficiency;
- A minimum of ten years practical experience in the field of development projects, including evaluation experience at the international level involving technical cooperation in developing countries;
- Adequate understanding of local social and cultural issues;
- Exposure to the needs, conditions and problems in developing countries; experience in Thailand is a plus

**Languages:** Fluency in written and spoken English 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 Office for Independent Evaluation.
TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

<table>
<thead>
<tr>
<th>Title:</th>
<th>National Industrial Energy Efficiency – Team member</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Duty Station and Location:</td>
<td>Home-based</td>
</tr>
<tr>
<td>Mission/s to:</td>
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<td>End of Contract (COB):</td>
<td>31 July 2018</td>
</tr>
<tr>
<td>Number of Working Days:</td>
<td>27 working days</td>
</tr>
</tbody>
</table>

ORGANIZATIONAL CONTEXT

The Office for Independent Evaluation is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides factual information about result and practices that feed into the programmatic and strategic decision-making processes.

PROJECT CONTEXT (See evaluation terms of reference attached)

Duties: The international expert will act as a Team leader in this project evaluation according to the terms of reference. She/he will be responsible for the preparation of the evaluation report, including the coordination of inputs from other team members. He/she will perform the following tasks:

<table>
<thead>
<tr>
<th>MAIN DUTIES</th>
<th>Concrete/ measurable outputs to be achieved</th>
<th>Expected duration</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desk review</td>
<td>Evaluation questions, questionnaires/interview guide, logic models adjusted to ensure understanding in the national context; A stakeholder mapping.</td>
<td>5 days</td>
<td>Home-based</td>
</tr>
<tr>
<td>Review and analyze project documentation and relevant country background information; in cooperation with the team leader, determine key data to collect in the field and prepare key instruments in English (questionnaires, logic models); If need be, recommend adjustments to the tools in order to ensure their understanding in the local context; Analyze and assess the aspects related to quality infrastructure in the country, specifically in the context of the project’s objectives and targets.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinate the evaluation mission agenda,</td>
<td>● Detailed evaluation schedule</td>
<td>3 days</td>
<td>Home-</td>
</tr>
<tr>
<td>MAIN DUTIES</td>
<td>Concrete/measurable outputs to be achieved</td>
<td>Expected duration</td>
<td>Location</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>ensuring and setting up the required meetings with project partners and</td>
<td>• List of stakeholders to interview during the field missions.</td>
<td></td>
<td>based</td>
</tr>
<tr>
<td>government counterparts, and organize and lead site visits, in close</td>
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<td>cooperation with project staff in the field.</td>
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<td>Coordinate and conduct the field mission with the team leader in</td>
<td>• Presentations of the evaluation’s initial findings, draft conclusions and recommendations to stakeholders in the country at the end of the mission.</td>
<td>12 days (including travel days)</td>
<td>? Thailand (10 days)</td>
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<tr>
<td>cooperation with the Project Management Unit, where required;</td>
<td>• Agreement with the Team Leader on the structure and content of the evaluation report and the distribution of writing tasks.</td>
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<tr>
<td>Consult with the team leader on the structure and content of the evaluation report and the distribution of writing tasks.</td>
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<td>Conduct the Thai-English translation for the team leader while in the field visits.</td>
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<tr>
<td>Prepare inputs and analysis to the evaluation report according to Inception Report and as agreed with the Team Leader.</td>
<td>Draft analysis to the evaluation report prepared.</td>
<td>5 days</td>
<td>Home-based</td>
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<tr>
<td>Contribute to the revision of 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.</td>
<td>Final evaluation report prepared.</td>
<td>2 days</td>
<td>Home-based</td>
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<td>TOTAL</td>
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**REQUIRED COMPETENCIES**

*Core values:*
1. Integrity
2. Professionalism
3. Respect for diversity

*Managerial competencies:*
1. Strategy and direction
2. Judgement and decision making
3. Conflict resolution

*Core competencies:*
1. Results orientation and accountability
2. Planning and organizing
3. Communication and trust
4. Client orientation
5. Organizational development and innovation
MINIMUM ORGANIZATIONAL REQUIREMENTS

Education: Advanced university degree preferably in economics, energy, engineering, development or related disciplines.

Technical and Functional Experience:
- A minimum of 10 years practical experience in the field of industrial energy efficiency;
- Experience with evaluation of development projects will be an asset;
- Exposure to the needs, conditions and problems in developing countries in the region.

Languages: Fluency in written and spoken English and Thai 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.
Annex 4- Outline of an in-depth project evaluation report

Executive summary (maximum 5 pages)

- Evaluation purpose and methodology
- Key findings
- Conclusions and recommendations
- Project ratings
- Tabular overview of key findings – conclusions – recommendations

1. Introduction
   1.1. Evaluation objectives and scope
   1.2. Overview of the Project Context
   1.3. Overview of the Project
   1.4. Theory of Change
   1.5. Evaluation Methodology
   1.6. Limitations of the Evaluation

2. Project’s contribution to Development Results - Effectiveness and Impact
   2.1. Project’s achieved results and overall effectiveness
   2.2. Progress towards impact
      2.2.1. Behavioral change
         2.2.1.1. Economically competitive - Advancing economic competitiveness
         2.2.1.2. Environmentally sound – Safeguarding environment
         2.2.1.3. Socially inclusive – Creating shared prosperity
      2.2.2. Broader adoption
         2.2.2.1. Mainstreaming
         2.2.2.2. Replication
         2.2.2.3. Scaling-up

3. Project’s quality and performance
   3.1. Design
   3.2. Relevance
   3.3. Efficiency
   3.4. Sustainability
   3.5. Gender mainstreaming

4. Performance of Partners
   4.1. UNIDO
   4.2. National counterparts
   4.3. Donor

5. Factors facilitating or limiting the achievement of results
   5.1. Monitoring & evaluation
   5.2. Results-Based Management
   5.3. Other factors
   5.4. Overarching assessment and rating table

6. Conclusions, recommendations and lessons learned
   6.1. Conclusions
   6.2. Recommendations
   6.3. Lessons learned
   6.4. Good practices

Annexes (to be put online separately later)
- Evaluation Terms of Reference
- Evaluation framework
- List of documentation reviewed
- List of stakeholders consulted
- Project logframe/Theory of Change
- Primary data collection instruments: evaluation survey/questionnaire
- Statistical data from evaluation survey/questionnaire analysis
Annex 5: Checklist on evaluation report quality

Project Title: UNIDO SAP ID:

Evaluation team:

Quality review done by: Date:

<table>
<thead>
<tr>
<th>Report quality criteria</th>
<th>UNIDO IEV assessment notes</th>
<th>Rating</th>
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<tbody>
<tr>
<td>a. Was the report well-structured and properly written? (Clear language, correct grammar, clear and logical structure)</td>
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<td>b. Was the evaluation objective clearly stated and the methodology appropriately defined?</td>
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<td>c. Did the report present an assessment of relevant outcomes and achievement of project objectives?</td>
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<td>d. Was the report consistent with the ToR and was the evidence complete and convincing?</td>
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<td>e. Did the report present a sound assessment of sustainability of outcomes or did it explain why this is not (yet) possible? (Including assessment of assumptions, risks and impact drivers)</td>
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<td>f. Did the evidence presented support the lessons and recommendations? Are these directly based on findings?</td>
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<td>g. Did the report include the actual project costs (total, per activity, per source)?</td>
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<td>h. Did the report include an assessment of the quality of both the M&amp;E plan at entry and the system used during the implementation? Was the M&amp;E sufficiently budgeted for during preparation and properly funded during implementation?</td>
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<tr>
<td>i. Quality of the lessons: were lessons readily applicable in other contexts? Did they suggest prescriptive action?</td>
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<td>j. Quality of the recommendations: did recommendations specify the actions necessary to correct existing conditions or improve operations (‘who?’ ‘what?’ ‘where?’ ‘when?’). Can these be immediately implemented with current resources?</td>
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<td>k. Are the main cross-cutting issues, such as gender, human rights and environment, appropriately covered?</td>
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<td>l. Was the report delivered in a timely manner? (Observance of deadlines)</td>
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Rating system for quality of evaluation reports

A rating scale of 1-6 is used for each criterion: Highly satisfactory = 6, Satisfactory = 5, Moderately satisfactory = 4, Moderately unsatisfactory = 3, Unsatisfactory = 2, Highly unsatisfactory = 1, and unable to assess = 0.