

**Terminal Evaluation of the Global Environment Facility -  
UN Environment Project  
“Phasing out incandescent lamps through lighting market  
transformation in Vietnam”**

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**Evaluation Office of UN Environment**

September 2018



## Evaluation Office of UN Environment

### Photos Credits:

Front cover: Artificial lighting of dragon fruit plants to enhance productivity in Binh Thuan province

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## ABOUT THE EVALUATION<sup>1</sup>

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**Joint Evaluation:** No

**Report Language(s):** English

**Evaluation Type:** Terminal Project Evaluations

**Brief Description:** This report is a terminal evaluation of a UN Environment-GEF project implemented between 2012 and 2016. The project's overall development goal was to phase out incandescent lamps production and sale through the transformation of the lighting products market as well as the promotion of high quality energy saving lamps in Vietnam. The evaluation sought to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UN Environment, the GEF and their executing partner ISPONRE and the relevant agencies of Vietnam.

**Key words:** Incandescent lamps; Energy saving lamps; Lighting market transformation; Consumer education and awareness; Lighting industry capacity enhancement; National policy and institutional support; Global lighting initiative; CFL waste; Climate Change; Terminal Evaluation; GEF Project; CFL; LED

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<sup>1</sup> This data is used to aid the internet search of this report on the Evaluation Office of UN Environment Website

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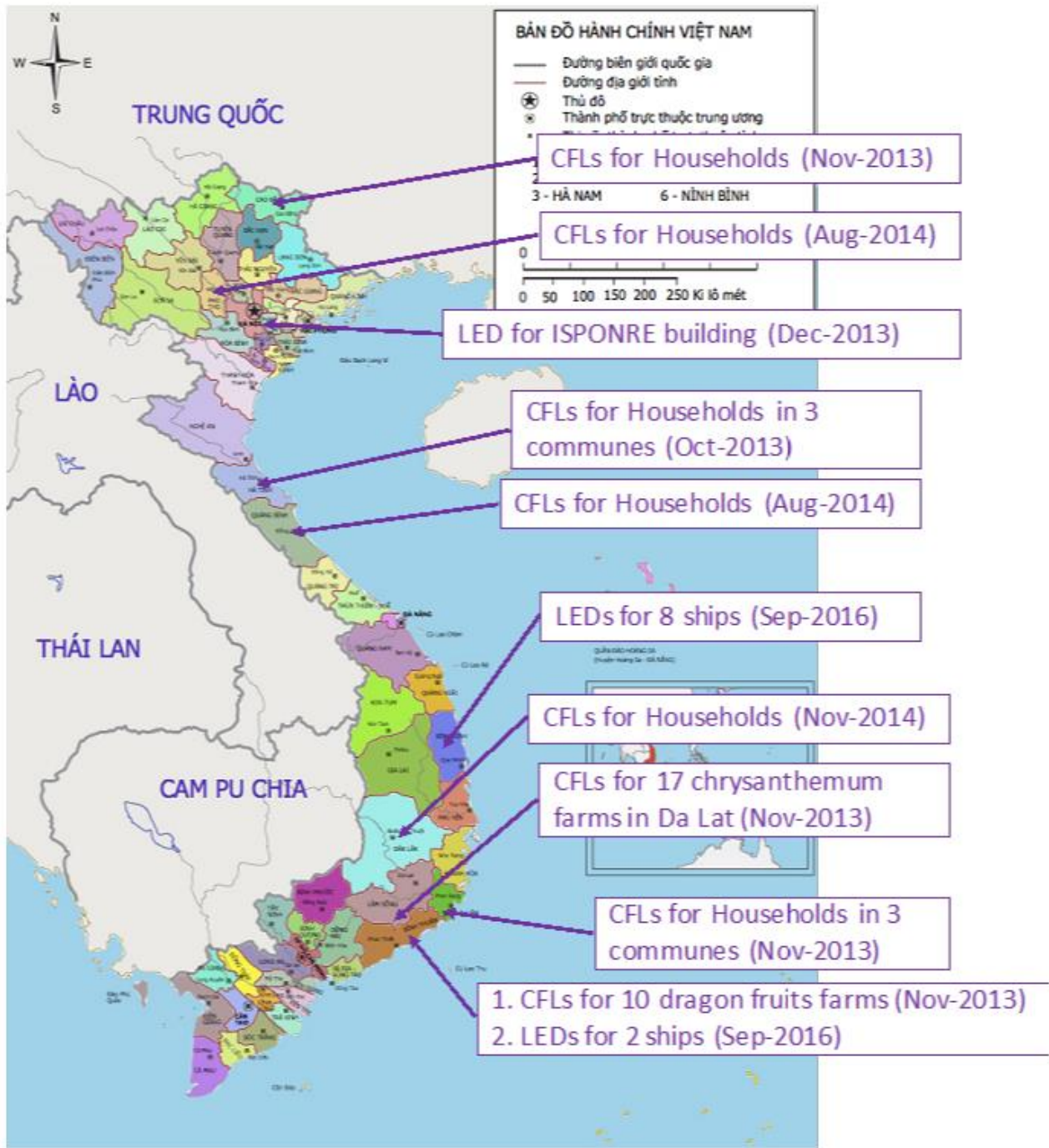
## List of acronyms and abbreviations

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APR	Annual Project Report
ASEAN	Association of South-East Asian Nations
AWP	Annual Work Plan
BSP	Bali Strategic Plan
CDM	Clean Development Mechanism
CFL	Compact Fluorescent Lamp
CLASP	Collaborative Labelling Appliance Standards Programme
CO <sub>2</sub>	Carbon Dioxide
CoE	Center of Excellence
COP21	21st Conference of Parties
CRI	Customs Research Institute
DSM	Demand Side Management
DST	Department of Science and Technology
DTIE	Division of Technology, Industry and Economics (UN Environment)
EE&C	Energy Efficiency and Conservation
en.ligthen	Global Market Transformation for Efficient Lighting Initiative
ESL	Energy Saving Lamp
EUSE	Energy Use and Saving Energy
EVN	Electricity of Vietnam (or Vietnam Electricity)
FMO	Fund Management Officer, UN Environment
GEF	Global Environment Facility
GELC	Global Efficient Lighting Center
GHG	Greenhouse Gas
GMP	Global Mercury Partnership
GoV	Government of Vietnam
HUT	Hanoi University of Technology
ICA	International Cooperation Agreement
IE	Institute of Energy
IEA	International Energy Agency
IL	Incandescent Lamp
IPCC	Intergovernmental Panel for Climate Change
IPEEC	International Partnership for Energy Efficiency
ISPONRE	Institute of Strategy and Policy on Natural Resources and Environment
LED	Light Emitting Diode
LEP	Law on Environment Protection
M&E	Monitoring and Evaluation

MEP	Minimum Energy Performance
MOET	Ministry of Education and Training
MOF	Ministry of Finance
MOIT	Ministry of Industry and Trade
MONRE	Ministry of Natural Resources and Environment
MOST	Ministry of Science and Technology
MTE	Mid-Term Evaluation
MTS	Medium-Term Strategy
NEU	National Economics University
NEX	National Execution Modality
NSEP	National Strategy for Environmental Protection
PCA	Project Cooperation Agreement
PIR	Project Implementation Review
PM	Project Manager
PMO	Project Management Office
PoW	Programme of Work
ProDoc	Project Document
PSC	Project Steering Committee
QA	Quality Assurance
QC	Quality Control
QUATEST	Quality Assurance and Testing Center
R&D	Research and Development
REEEP	Renewable Energy and Energy Efficiency Partnership
STA	Senior Technical Adviser
STAMEQ	Directorate for Standards, Metrology and Quality
T&D	Transmission and Distribution
TE	Terminal Evaluation
ToC	Theory of Change
ToR	Terms of Reference
TPR	Tripartite Project Review
TWG	Technical Working Group
UN	United Nations
UN Environment	United Nations Environment Programme (Formerly UNEP)
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VAST	Vietnam Academy of Science and Technology
VEA	Vietnam Environment Administration
VIASEE	Vietnam Association for Environmental Economics
VLA	Vietnam Lighting Association
VSQI	Vietnam Standards and Quality Institute
WB	World Bank





**Figure: General map of Vietnam showing the location of project demonstration sites**

**Table: Project Identification Table**

<b>IMIS number:</b>	GFL/2328-2720-4B65 PMS: 4020-10-12		
<b>Sub-programme:</b>	Climate Change	<b>Expected Accomplishment(s):</b>	EA (b) MITIGATION: Energy efficiency is improved and the use of renewable energy is increased in partner countries to help reduce greenhouse gas emissions and other pollutants as part of their low emission development pathways
<b>UN Environment approval date:</b>	October 10, 2011 (date of PCA between UN Environment & ISPONRE)	<b>PoW Output(s):</b>	1b3 and 1b6 under CC mitigation: reduce GHG emissions
<b>GEF project ID:</b>	3755	<b>Project Type:</b>	Full-size Project, Umbrella project 'Global Market Transformation for Efficient Lighting'
<b>GEF OP #:</b>	GEF4-SP1	<b>Focal Area(s):</b>	Climate Change
<b>GEF approval date:</b>	September 8, 2010	<b>GEF Strategic Priority/Objective:</b>	CC-SP1 Building EE
<b>Expected Start Date:</b>	October 2010	<b>Actual start date:</b>	March 27, 2012
<b>Planned completion date:</b>	December 2015	<b>Actual completion date:</b>	31 December 2016
<b>Planned project budget at approval:</b>	USD 25,152,000	<b>Total expenditures reported as of June 2017*:</b>	22,112,007
<b>GEF Allocation:</b>	USD 2,940,000	<b>GEF grant expenditures reported as of Jun 30, 2017:</b>	USD 2,643,492
<b>PDF GEF cost:</b>	USD 50,000	<b>PDF co-financing:</b>	USD 50,000
<b>Expected MSP/FSP co-financing:</b>	USD 22,212,000	<b>Secured MSP/FSP co-financing:</b>	Co-financing not reported correctly
<b>First Disbursement:</b>	December 15, 2010	<b>Date of financial closure:</b>	June 30, 2017
<b>No. of revisions:</b>	4	<b>Date of last revision:</b>	May 11, 2015
<b>Date of last Steering Committee meeting:</b>	Feb 2, 2015	<b>Number of PSC</b>	4
<b>Mid-term review/ evaluation (planned date):</b>	June 2014	<b>Mid-term review/ evaluation (actual date):</b>	June 2014 – February 2015

<b>Terminal Evaluation (actual date):</b>	September 2018		
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### Evaluation background and methodology

The UN Environment-Global Environment Fund (GEF) project “Phasing out incandescent lamps through lighting market transformation in Vietnam” had an overall goal to reduce greenhouse gas emissions by accelerating the phase out of incandescent bulbs and removing market barriers to energy-efficient lighting in Vietnam. Its objectives were to enhance the capacity of the lighting industry, harmonize quality standards of energy saving lamps to comply with international standards, educate and raise awareness of consumers, and strengthen policy and institutional framework for supporting, encouraging and monitoring energy saving lamps production, sales and use in the domestic market. The project was implemented by the UN Environment and executed jointly with the Vietnamese Institute of Strategy, Policy on Natural Resources and Environment (ISPONRE).

The project’s Terminal Evaluation was carried out in accordance with the provisions of the UN Environment’s Evaluation Policy, mainly to assess the project performance and determine outcomes and impacts stemming from the project. The two primary purposes of the evaluation were to provide evidence of results to meet accountability requirement, learning and knowledge sharing through results and lessons learned among UN Environment, Government of Vietnam and all project partners. Learning from this project are likely to be relevant for future project formulation and implementation.

The methodology adopted for the evaluation included a careful study of the intervention logic in the project document and the results framework to establish the project’s Theory of Change. A reconstructed Theory of Change was prepared to ensure that there was a consistent and clear conceptual understanding of the project impact pathways. Based on the Theory of Change and the terms of reference, a set of evaluation questions was elaborated to guide the evaluation which included a desk review of available project and background documentation. The project’s relevance was assessed by going through Global Environment Facility, UN Environment and Vietnam government policy and strategy documents. Project related documents were consulted to assess the activities undertaken, the outputs delivered, and the outcomes achieved. These documents, together with stakeholder interviews, also allowed to evaluate the project management as well as the likelihood of attaining the intended outcomes and impacts.

A mission was undertaken to Vietnam for interviewing the project’s key stakeholders in Ho Chi Minh City and Hanoi; visits were organized for inspecting a sample of pilot projects implemented in two Southern provinces of Vietnam, and meeting project beneficiaries and implementing partners from the local government as well as representative associations. Skype interview was held with the former project coordinator. The combination of the desk review of documents produced by the project combined with the discussion held with a large group of stakeholders enabled verification and triangulation of information, helping to reduce information gap.

## Summary of the main evaluation findings

### A. Strategic relevance:

The evaluation considers that the project objectives were highly consistent with the global and regional priorities and operational programs of UN Environment and GEF, related to climate change. The project was also found to be consistent with the national environmental issues and needs, based on the various initiatives taken by the Government of Vietnam in response to climate change. The project was in line with some of the mandates of UN Environment, and it contributed to several UN Environment objectives. The project's goals matched some of the objectives of Bali Strategic Plan and the project document favoured South-South cooperation.

The ideas to build on experiences and lessons learned from various international initiatives, particularly the en.lighten network, was appropriate. The principle of using the project as "umbrella" to undertake further national projects in various Southeast Asian countries was very sensible. However, not all these aspects formed part of the actual implementation approach.

### B. Achievement of outputs:

The project deliverables included a large number of different outputs aimed at addressing barriers to promotion of energy saving lamps and the proper disposal at the end of their lives. The project conducted several training and capacity building activities aimed at various stakeholders. The evaluation observed that while the project had achieved reasonable success in enhancing the ability of the manufacturers to produce improved quality energy saving lamps locally, and in creating consumer awareness about the benefits of energy saving lamps, it was less effective in engaging institutional stakeholders in matters related to developing policy and promotional mechanisms. Consultations held with the key stakeholders pointed at the lack of mandate of the implementing agency vis-à-vis the entities who had mandate and wider recognition for the activities that were planned for implementation by the project. Moreover, the project did not follow the national social marketing strategy proposed by the expert team composed of national and international experts. The evaluation estimates that 60% of the expected outputs were fully delivered.

### C. Effectiveness (attainment of objectives and planned results):

The five direct outcomes as identified in the reconstructed theory of change were partially achieved. The project contributed largely to the local lighting industry capacity enhancement program. The capacity of two testing laboratories to inspect the quality of energy saving lamps was strengthened, but due to lack of funds mobilization, the existing laboratories were not upgraded with measuring and monitoring instruments needed to test the lamp performance and quality. The energy, environmental and quality standards of energy saving lamps were drafted, as well as the guiding circulars for the collection and disposal of discarded products. However, no regulation regarding the disposal and recycling of mercury containing energy saving lamps was implemented due to the absence of separate channel to segregate and treat disposed lamps. The project disseminated guidelines developed on Green Customs initiatives for environmentally sensitive products, including lamps, to customs officials. But there was no interaction with the Ministry of Finance (MoF) to address the issue of fiscal tools needed for promoting energy saving

lamps. The project did not contribute much to the national policy and institutional support program towards phasing out of incandescent light bulbs and promotion of energy saving lamps.

Some of the outcomes were not achieved effectively in the project, particularly those related to suitable market mechanisms and policies to promote energy saving lamps. While the project was relatively successful in strengthening the technical capacity of local manufacturers and testing laboratories, it was less effective in supporting the development of policies and incentives as well as market mechanism to promote energy saving lamps. Also, it achieved lower performance in terms of capturing the methods, good practices and lessons learned for dissemination in neighbouring countries.

#### **D. Sustainability and replication:**

Despite the lack of success of the project to secure the future financial sustainability of the prioritized actions, there is high probability of UNDP-GEF LED<sup>2</sup> project working closely with the key institutional stakeholders to ensure the project's ultimate impacts. Also, despite the project's limited contribution to ensure socio-political sustainability, it is highly likely that the Government of Vietnam will continue to support energy efficiency initiatives in consideration of the international commitments to reduce greenhouse gas emissions, and the terrain is fertile for implementing energy efficiency through UNDP-GEF supported LED project, involving several key institutional stakeholders.

The project was not very successful in proposing desired changes in the institutional framework; however, the Government of Vietnam has adopted suitable institutional structure to boost energy efficiency in Vietnam, including energy saving lamps.

The project has supported the concerned institutional authorities to take note of the environmental sustainability issue by eliminating cheap but poor-quality lighting products in the market. However, more needs to be done to ensure an effective enforcement regime.

While the project has played a catalytic role in strengthening the technical capacities of local lighting manufacturers, the overall impact in real terms is not appreciable. Moreover, sustained follow-on financing has not been considered or discussed among the key institutional partners.

#### **E. Efficiency:**

The project has not scored well in terms of both cost-effectiveness and timeliness. The project was initially planned for a duration of 4 years, but its duration was extended by one and half years. While the Project Management Office strived to complete all the tasks, some of the outputs were found to be inadequate or inappropriate for achieving the expected outcomes. Such qualitative and quantitative inadequacies cannot be attributed to the lack of funds as 19% of the grant remained unspent at the end of the official closure of the project. Also, funds were allocated for certain activities, but there was no documentation of what was delivered.

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<sup>2</sup> LED, Light Emitting Diode

## F. Factors and processes affecting project performance:

The analysis of the project preparation and readiness leads the evaluators to conclude that the project could have been better designed, the selection of partners could be more judicious, and better consultation could have been made among stakeholders.

As far as project implementation and management are concerned, in spite of the efforts made by the Project Management Office to implement the activities to deliver a large number of outputs, several deficiencies were observed. Notable among them are the limited quality of reporting in the last couple of years and the absence of the project terminal report, non-availability of mission reports and minutes of meetings.

Engagement of key stakeholders was a critical element for the effective implementation of the project. The project was unable to actively engage some of the key stakeholders and build on experiences and lessons learned from various international initiatives.

The project took initiative to ensure good communication and enhanced public awareness, but the choice of the partners to carry out the tasks was not always found to be the most efficient. Moreover, project did not give adequate attention to public awareness on issues related to safe disposal of mercury and recycling of waste lighting products.

The engagement and commitment of the country partners was assessed to be low. This is reflected by the absence of details of co-financing which accounted for as much as 88.3% of the project cost, and the absence of any commitment from the project partners to sustain project initiatives.

The expenditures incurred by UN Environment were not objectively monitored by the team. This is reflected by the low level of annual expenditures in comparison with the approved budget year after year, and the inability of the project to fully engage the funds for achieving the expected outcomes.

With the overall responsibility for project execution, UN Environment should have been more diligent in guiding the project implementation team, and in mobilizing the required resources for the smooth execution of the project and delivery of the required outputs and outcomes.

Monitoring the project's progress was built into the project's design with clear milestones and evaluation mechanisms. However, the evaluation found that the stakeholders were not closely involved in the project design. Some of the end-of-project targets set were not realistic, and a number of inconsistencies were observed between the overall project target and the targets set for different outcomes. Several lapses were noted in the Monitoring and Evaluation plan implementation, notable among them is the absence of support for timely tracking of project's objectives, especially during the period of extension of the project.

Though the project performance has been assessed as moderately unsatisfactory, the evaluation is positive about the likelihood of project's impact which is more strongly steered by the Government of Vietnam drivers and the rapid evolution of the lighting market.



## G. Overall evaluation rating:

The evaluation concludes that while the project had a highly strategic relevance, the outputs and outcomes fell short of the project's targets. Some deficiencies and inconsistencies were observed in the project design. The national partner identified for project implementation lacked mandate and experience in the main subject matter. The project was not very successful in getting commitments of some of the key stakeholders. The overall effectiveness of the project in attaining project objectives and results was moderately satisfactory mainly because the project did not succeed in engaging key stakeholders in developing policies and incentives to phase out the ILs. Also, the project did not score so well in terms of cost-effectiveness and timeliness.

The following summary rating table, including the overall project rating, is based on the above assessments.

<b>Criterion</b>	<b>Rating<sup>3</sup></b>
<b>Strategic relevance</b>	S
<b>Achievement of outputs</b>	MU
<b>Effectiveness: Attainment of project objectives and results</b>	
1. Achievement of direct outcomes	MU
2. Likelihood of impacts	ML
3. Achievement of project goal and planned objectives	MS
<b>Sustainability and replication</b>	ML
1. Financial	ML
2. Socio-political	L
3. Institutional framework	L
4. Environmental	L
5. Catalytic role and replication	MU
<b>Efficiency</b>	U
<b>Factors affecting project performance</b>	
1. Preparation and readiness	MU
2. Project implementation and management	MS
3. Stakeholders participation, cooperation and partnerships	MU
4. Communication and public awareness	MS
5. Country ownership and driven-ness	MU
6. Financial planning and management	MS
7. UN Environment supervision and backstopping	U

<sup>3</sup> Highly Satisfactory = HS, Satisfactory = S, Moderately Satisfactory = MS, Moderately Unsatisfactory = MU, Unsatisfactory = U, Highly Unsatisfactory = HU



Criterion	Rating <sup>3</sup>
8. Monitoring and evaluation	MU
a. M&E design	MS
b. Budgeting and funding for M&E activities	S
c. M&E plan implementation	MU
<b>Overall project rating</b>	<b>MU</b>

## Summary of recommendations and lessons learned

### Recommendations:

Following are the key recommendations of the project are mainly addressed to UN Environment:

**Recommendation 1:** UN Environment should initiate dialogue with the GoV and UNDP-GEF project to share the learning from this project and discuss how the UNDP-GEF project can build on the outcomes of this project to move towards the ultimate impact.

**Recommendation 2:** As the GEF project implementing agency, UN Environment should assume the overall responsibility of meeting all the GEF requirements and obligations instead of leaving them to the national project implementing partner.

**Recommendation 3:** UN Environment must adhere to the complete transparency of project management, including reporting, budgeting, resources and their use, co-financing, etc., following GEF's project management guidelines.

**Recommendation 4:** Learning from this project, UN Environment must examine similar projects in the pipeline for other emerging countries in the region, particularly ensuring that international expertise is available to enhance the quality of project delivery

**Recommendation 5:** UN Environment should make sure that all outputs and deliverables are readily available for internal and external review. This will ensure that knowledge gained from the project execution can be easily shared with others.

**Recommendation 6:** UN Environment should systematically ensure that the co-financing committed is actually materializing, because it helps to mobilize additional resources for achieving GEF objectives and demonstrates country ownership.

### Lessons learned:

The following are some of the key lessons learned from the project:

**Lesson 1:** The project document should ensure consistency between the text and the project results framework.

**Lesson 2:** The quality of a project's outputs and outcomes depend a lot on the choice of project's partner in terms of competence, experience and mandate.

**Lesson 3:** Stakeholders' consultation is an important process to ensure that stakeholders comprehend the project objective and commit to contribute for its achievement.

**Lesson 4:** The project implementation agency has the onus of designing and implementing a robust M&E plan and ensure its implementation.

**Lesson 5:** If the baseline conditions change considerably between the time of project formulation and its actual implementation, end-of-project targets and indicators should be revised accordingly to reflect the changing circumstances.

**Lesson 6:** It is crucial for GEF projects to mobilize highly qualified experts and facilitate exchanges and communication at the global level to strengthen national capacities and create greater awareness.

**Lesson 7:** When the project team is geared towards delivering outputs and outcomes, it should not lose focus on sustainability beyond the project life.

**Lesson 8:** Financial performance monitoring is crucial for the management of the project within time and budget without compromising on the quality of outputs and outcomes.

**Lesson 9:** Demonstration projects to raise awareness in rural areas regarding the benefits of ESLs need to look for out-of-the-box solutions that are affordable to the local population.

### Cơ sở đánh giá và phương pháp luận

Dự án “Loại bỏ bóng đèn sợi đốt thông qua chuyển đổi thị trường chiếu sáng tại Việt Nam” – giữa Chương trình Môi trường Liên hiệp Quốc (UN Environment) – Quỹ Môi trường Toàn cầu (GEF) - hướng đến mục tiêu chung giảm phát thải khí nhà kính khi kích thích quá trình loại bỏ hoàn toàn sử dụng đèn sợi đốt và gỡ bỏ các rào cản thị trường cho ngành công nghiệp chiếu sáng hiệu quả năng lượng tại Việt Nam. Mục tiêu được đặt ra từ Dự án nhằm tăng cường năng lực của ngành công nghiệp chiếu sáng, hài hòa các tiêu chuẩn chất lượng cho đèn tiết kiệm năng lượng hướng đến phù hợp với các tiêu chuẩn quốc tế, giáo dục và gây nhận thức của người tiêu dùng, và tăng cường khung chính sách và thể chế nhằm hỗ trợ, khuyến khích và giám sát sản xuất, bán hàng và tiêu thụ đèn tiết kiệm năng lượng ở thị trường trong nước. Dự án được xây dựng bởi Chương trình Môi trường Liên hiệp Quốc với sự phối hợp triển khai từ Viện Chiến lược, Chính sách và Tài nguyên Môi trường Việt Nam (ISPONRE).

Quy trình đánh giá cuối dự án được thực hiện theo các chính sách đánh giá được quy định bởi Chương trình Môi trường Liên hiệp quốc, tập trung phân tích hiệu quả dự án và xác định các kết quả thực hiện và các tác động từ dự án. Hai mục đích chính của quá trình đánh giá là cung cấp các bằng chứng của kết quả đầu ra của dự án đáp ứng yêu cầu, cũng như chia sẻ kiến thức và các bài học kinh nghiệm giữa Chương trình Môi trường Liên hiệp quốc, Chính phủ Việt Nam và tất cả các đối tác dự án. Bài học từ dự án này có mối liên hệ đến việc xây dựng và thực hiện các dự án khác trong tương lai.

Phương pháp luận áp dụng trong quá trình đánh giá bao gồm nghiên cứu cẩn thận về logic trong tài liệu dự án và khung kết quả để thiết lập mô hình Lý thuyết của sự Thay đổi từ quá trình thực hiện dự án. Mô hình tái cấu trúc của Lý thuyết của sự Thay đổi đã được chuẩn bị để đảm bảo sự hiểu biết nhất quán và rõ ràng về các tác động từ dự án. Dựa trên Lý thuyết của sự Thay đổi và các điều khoản tham chiếu, tập hợp các câu hỏi đánh giá được xây dựng nhằm định hướng cho quá trình đánh giá, bao gồm nghiên cứu tại bàn về các tài liệu dự án và tài liệu cơ sở hiện có. Sự liên quan của dự án được đánh giá qua các văn kiện chính sách và chiến lược của Quỹ Môi trường Toàn cầu, Chương trình Môi trường Liên hiệp Quốc và Chính phủ Việt Nam. Các tài liệu liên quan đến dự án cũng đã được tham khảo để đánh giá các hoạt động đã triển khai, các công việc được bàn giao, và các kết quả đạt được. Từ các văn kiện này, cùng phỏng vấn trực tiếp các bên đối tác, cho phép đánh giá về cách thức quản lý dự án cũng như khả năng đạt được các kết quả và tác động dự kiến.

Quá trình đánh giá đã triển khai một nhiệm vụ tại Việt Nam để phỏng vấn các bên đối tác chính của dự án tại Thành phố Hồ Chí Minh và Hà Nội; các chuyến thăm đã được thực hiện để kiểm tra thực tế một số các dự án thí điểm điển hình đã được thực hiện ở hai tỉnh phía Nam của Việt Nam, và gặp gỡ những bên thụ hưởng từ dự án và các đối tác dự án từ chính quyền địa phương cũng như các Hiệp hội. Cuộc phỏng vấn qua Skype được thực hiện với nguyên điều phối viên dự án. Tổng hợp kết quả nghiên cứu tại bàn trên các tài liệu do dự án và kết hợp với các cuộc thảo luận với nhóm các đối tác dự án đã giúp xác minh và đối chiếu thông tin, và giúp giảm khoảng cách về mặt thông tin.

### Tóm tắt các kết quả đánh giá

#### Liên quan về mặt chiến lược:

Quá trình đánh giá cho rằng các mục tiêu của Dự án là rất phù hợp với các ưu tiên toàn cầu và trong khu vực và các chương trình đang được triển khai bởi Chương trình Môi trường Liên hiệp

Quốc và Quỹ Môi trường Toàn Cầu, liên quan đến biến đổi khí hậu. Dự án cũng thể hiện sự phù hợp với các vấn đề môi trường và các / nhu cầu trong nước, dựa trên các nhiều sáng kiến khác nhau của Chính phủ Việt Nam nhằm ứng phó với biến đổi khí hậu. Dự án này phù hợp với một số nhiệm vụ của Chương trình Môi trường Liên hiệp Quốc, và nó đã đóng góp cho nhiều mục tiêu của Chương trình Môi trường Liên hiệp Quốc. Các mục tiêu của dự án phù hợp với một số mục tiêu của Kế hoạch chiến lược Bali và tài liệu dự án ủng hộ sự hợp tác Nam-Nam.

Ý tưởng xây dựng dự án dựa trên những kinh nghiệm và bài học từ các sáng kiến quốc tế khác nhau, đặc biệt là mạng lưới en.lighten cho thấy tính phù hợp. Nguyên tắc sử dụng dự án này như là một "Dự án ô" để tiếp tục triển khai thêm các dự án cấp quốc gia ở nhiều nước Đông Nam Á là rất hợp lý. Tuy nhiên, không phải tất cả các khía cạnh này đều là một phần của phương pháp triển khai thực tế.

### **B. Các kết quả đầu ra của Dự án:**

Dự án bàn giao một số lượng lớn các sản phẩm đầu ra khác nhau, hướng đến gỡ bỏ các rào cản của việc thúc đẩy sử dụng đèn tiết kiệm năng lượng và phương pháp xử lý phù hợp khi các đèn này hết tuổi thọ sử dụng. Dự án đã thực hiện nhiều khóa tập huấn và các hoạt động đào tạo nâng cao năng lực dành cho các bên liên quan. Quá trình đánh giá nhận thấy, dự án đã đạt được một số thành công đáng kể trong việc nâng cao năng lực của các đơn vị sản xuất đèn nhằm cải thiện chất lượng sản phẩm đèn tiết kiệm năng lượng sản xuất trong nước, và cũng như gây được nhận thức của người tiêu dùng về lợi ích của đèn tiết kiệm năng lượng, tuy nhiên dự án lại kém hiệu quả hơn trong việc thúc đẩy cả đối tác là các tổ chức trong việc phát triển chính sách và cơ chế thúc đẩy. Tham vấn với các đối tác chính cho thấy sự thiếu thẩm quyền của cơ quan thực hiện dự án, so với các cơ quan khác vốn có thẩm quyền và sự công nhận rộng khắp hơn trong việc triển khai các hoạt động, đã được lên kế hoạch lựa chọn bởi dự án. Ngoài ra, Dự án đã không thực hiện theo chiến lược tiếp thị xã hội được đề xuất bởi nhóm chuyên gia trong nước và quốc tế. Đánh giá ước lượng tỉ lệ các kết quả đầu ra dự kiến đã được thực hiện đầy đủ là thấp hơn 60%.

### **C. Mức độ hiệu quả (đạt được mục tiêu và kết quả dự kiến):**

Dự án đã phần nào đạt được năm kết quả trực tiếp, được đề cập trong phần mô hình tái cấu trúc của Lý thuyết của sự Thay đổi. Dự án đã đóng góp phần lớn vào chương trình nâng cao năng lực cho ngành công nghiệp chiếu sáng địa phương. Năng lực của hai phòng thí nghiệm kiểm tra chất lượng của đèn tiết kiệm năng lượng đã được tăng cường, nhưng do thiếu vốn, hai phòng thí nghiệm trên chưa thể nâng cấp các thiết bị đo lường và giám sát cần thiết để kiểm tra hiệu suất và chất lượng đèn. Tiêu chuẩn chất lượng, môi trường và năng lượng dành cho đèn tiết kiệm năng lượng đã được dự thảo, cũng như thông tư hướng dẫn việc thu gom và xử lý các sản phẩm đèn loại bỏ. Tuy nhiên, Quy định liên quan đến việc thải bỏ và tái chế thủy ngân có trong sản phẩm đèn tiết kiệm năng lượng chưa được áp dụng do thiếu kênh riêng biệt nhằm phân loại và xử lý các bóng đèn thải ra. Dự án cũng đã xây dựng hướng dẫn để phát triển sáng kiến Hải quan Xanh, đối với các sản phẩm nhạy cảm về mặt môi trường, bao gồm sản phẩm đèn, đến các cơ quan hải quan. Tuy nhiên, dự án chưa có tác động nào đến Bộ Tài chính, về các công cụ tài chính cần thiết để quảng bá sản phẩm đèn tiết kiệm năng lượng. Dự án đã không đóng góp nhiều cho chính sách quốc gia và chương trình hỗ trợ thể chế hướng đến loại bỏ các bóng đèn sợi đốt và quảng bá đèn tiết kiệm năng lượng.

Một số kết quả của dự án đã không đạt được một cách hiệu quả, đặc biệt là những kết quả có liên quan đến các cơ chế và chính sách thị trường phù hợp để thúc đẩy đèn tiết kiệm năng lượng. Dự án tương đối thành công trong việc tăng cường năng lực kỹ thuật của các nhà sản xuất trong nước và các phòng thí nghiệm, nhưng lại kém hiệu quả trong việc hỗ trợ phát triển các chính sách và ưu đãi cũng như cơ chế thị trường để thúc đẩy các bóng đèn tiết kiệm năng lượng. Ngoài ra, Dự án có hiệu

quả thấp hơn kỳ vọng trong việc nắm bắt các phương pháp, thực tiễn tốt và bài học kinh nghiệm trong triển khai hoạt động từ các nước láng giềng.

#### **D. Tính bền vững và khả năng nhân rộng**

Mặc dù dự án không thực sự thành công, nhằm đảm bảo tính bền vững tài chính trong tương lai của các hành động được ưu tiên, nhiều khả năng là dự án LED của UNDP-GEF, hiện đang làm việc chặt chẽ với các đối tác chính sẽ đảm bảo khả năng đạt được các tác động cuối cùng của dự án. Ngoài ra, mặc dù đóng góp có phần hạn chế của dự án để đảm bảo tính bền vững về chính trị - xã hội, nhiều khả năng Chính phủ Việt Nam sẽ tiếp tục hỗ trợ các sáng kiến hiệu quả năng lượng thông qua việc xem xét các cam kết quốc tế nhằm giảm phát thải khí nhà kính, và tạo điều kiện triển khai hiệu quả năng lượng thông qua dự án LED được hỗ trợ bởi UNDP-GEF, với sự tham gia của một số đối tác chính.

Dự án không thật sự thành công trong việc đề xuất những thay đổi mong muốn trong khuôn khổ thể chế; tuy nhiên, Chính phủ Việt Nam đã áp dụng cơ cấu tổ chức phù hợp để thúc đẩy hiệu quả năng lượng ở Việt Nam, bao gồm cả đèn tiết kiệm năng lượng.

Dự án đã hỗ trợ các cơ quan chức năng có liên quan lưu ý vấn đề bền vững về môi trường bằng cách loại bỏ các sản phẩm chiếu sáng giá rẻ nhưng kém chất lượng trên thị trường. Tuy nhiên, cần phải thực hiện nhiều hơn để đảm bảo sự thực thi đạt hiệu quả.

Trong khi dự án đã đóng vai trò xúc tác trong việc tăng cường năng lực kỹ thuật của các nhà sản xuất chiếu sáng địa phương, trên thực tế các tác động tổng thể không đáng kể. Hơn nữa, việc duy trì nguồn tài chính sau dự án chưa được xem xét hoặc thảo luận giữa các đối tác chính.

#### **E. Mức độ hiệu quả:**

Dự án chưa đạt được kết quả tốt cả mặt hiệu quả chi phí và tiến độ. Dự án được lên kế hoạch thực hiện trong thời gian 4 năm, nhưng thời gian triển khai thực tế được kéo dài thêm một năm rưỡi. Trong khi Văn phòng Quản lý Dự án cố gắng hoàn thành tất cả các nhiệm vụ, một số kết quả đầu ra không đầy đủ hoặc không phù hợp để đạt được kết quả mong đợi. Những bất cập về định tính và định lượng nêu trên không thể được quy cho việc thiếu ngân sách vì vẫn còn 19% ngân sách chưa được sử dụng tại thời điểm dự án chính thức kết thúc. Ngoài ra, một số hoạt động của dự án đã được phân bổ ngân sách thực hiện nhưng không có thông tin về sản phẩm được bàn giao.

#### **F. Các nhân tố và quy trình ảnh hưởng đến hiệu quả dự án:**

Từ kết quả phân tích quy trình chuẩn bị và sẵn sàng của dự án, bên đánh giá cuối dự án đưa ra kết luận rằng dự án đã có thể được thiết kế tốt hơn, việc lựa chọn đối tác có thể thận trọng hơn và có thể tham vấn tốt hơn giữa các đối tác.

Theo như thực hiện dự án và quản lý có liên quan, mặc dù Văn phòng Quản lý Dự án đã rất nỗ lực trong việc triển khai các hoạt động để cung cấp một số lượng lớn các kết quả đầu ra, dự án vẫn tồn tại một số hạn chế. Đáng chú ý trong số đó là chất lượng của các báo cáo trong vài năm gần đây và sự vắng mặt của báo cáo đánh giá cuối dự án, các tài liệu như báo cáo triển khai nhiệm vụ và biên bản họp không sẵn sàng.

Sự tham gia của các đối tác là một yếu tố quan trọng để triển khai dự án hiệu quả. Dự án đã không thể có được sự tích cực tham gia từ một số đối tác và cũng như không được xây dựng dựa trên kinh nghiệm và bài học từ các sáng kiến quốc tế khác nhau.

Dự án đã khởi xướng các hoạt động đảm bảo sự truyền thông và nâng cao nhận thức của công chúng, nhưng việc lựa chọn các đối tác triển khai các hoạt động không phải lúc nào thể hiện sự hiệu quả cao nhất. Hơn nữa, dự án đã không chú ý đầy đủ đến nhận thức của công chúng về các vấn đề liên quan đến xử lý thủy ngân an toàn và tái chế các sản phẩm chiếu sáng.

Sự tham gia và cam kết của các đối tác trong nước được đánh giá là thấp. Điều này được phản ánh không có thông tin chi tiết liên quan việc đồng tài trợ cho dự án, chiếm tới 88,3% tổng chi phí và không có bất kỳ cam kết nào từ các đối tác dự án sẽ duy trì các sáng kiến từ dự án.

Các chi phí phát sinh từ Chương trình Môi trường Liên Hợp Quốc không được giám sát bởi Giám đốc Nhiệm vụ và Quản lý dự án của Chương trình Môi trường Liên Hợp Quốc. Điều này được phản ánh qua mức chi tiêu hàng năm thấp hơn so với ngân sách được phê duyệt sau mỗi năm và dự án cũng đã không thể tận dụng hết nguồn ngân sách để đạt được các mục tiêu được mong đợi.

Với trách nhiệm chung về thực hiện dự án, Chương trình Môi trường Liên hiệp Quốc cần phải thường trực đưa ra các hướng dẫn đến nhóm thực hiện dự án, và huy động các nguồn lực cần thiết để thực hiện dự án trọn tru và đạt được các kết quả yêu cầu.

Quy trình Giám sát tiến độ của dự án được tích hợp trong thiết kế của dự án với cột mốc rõ ràng và cơ chế đánh giá rõ ràng. Tuy nhiên, quá trình đánh giá nhận thấy các đối tác không tham gia chặt chẽ trong quá trình thiết kế dự án. Một số mục tiêu ở gia đoạn kết thúc dự án không thực tế, và quá trình đánh giá cũng nhận ra một số mâu thuẫn đã giữa mục tiêu tổng thể của dự án và các mục tiêu đặt ra cho các kết quả đầu ra. Một số sai sót đã được ghi nhận trong việc thực hiện kế hoạch giám sát và đánh giá, đáng chú ý trong số đó là thiếu sự hỗ trợ để theo dõi mục tiêu của dự án, đặc biệt là trong thời gian dự án được gia hạn.

Mặc dù hiệu quả của dự án đã được đánh giá là chưa đạt yêu cầu, quá trình đánh giá nhận thấy tích cực về khả năng các tác động của dự án, sẽ được thúc đẩy mạnh mẽ hơn bởi Chính phủ Việt Nam và sự phát triển nhanh chóng của thị trường chiếu sáng.

## G. Tổng kết đánh giá dự án

Quá trình đánh giá kết luận Dự án có mức độ liên quan về mặt chiến lược cao, tuy nhiên sản phẩm đầu ra và kết quả chưa đạt được mục tiêu của dự án. Một số thiếu sót và mâu thuẫn đã được quan sát thấy trong thiết kế của dự án. Đối tác quốc gia được xác định để thực hiện dự án thiếu thẩm quyền và kinh nghiệm trong các Chủ đề chính của dự án. Dự án chưa thực sự thành công trong việc có được sự cam kết của một số đối tác. Hiệu quả tổng thể của dự án trong việc đạt được các mục tiêu và kết quả dự án đã phần nào thỏa mãn yêu cầu, nguyên nhân chủ yếu là do dự án chưa thành công trong việc thu hút các đối tác trong việc xây dựng các chính sách và ưu đãi để loại bỏ đèn sợi đốt. Ngoài ra, dự án cũng chưa đạt được kết quả tốt về hiệu quả chi phí và tiến độ.

Tóm tắt tổng thể Dự án dựa trên các tiêu chí đánh giá đã nêu trên được thể hiện trong bảng sau:

Tiêu chí	Điểm
<b>Liên quan về mặt chiến lược</b>	S
<b>Các kết quả đầu ra của Dự án</b>	MU
<b>Mức độ hiệu quả: đạt được mục tiêu và kết quả mong đợi</b>	MU
1. Đạt được các kết quả trực tiếp	MU
2. Khả năng đạt được các tác động mong đợi	MS
3. Đạt được các mục tiêu của dự án theo kế hoạch	MS
<b>Tính bền vững và khả năng nhân rộng</b>	MU
1. Tài chính	ML

Tiêu chí	Điểm
2. Chính trị - Xã hội	L
3. Khung thể chế	L
4. Môi trường	L
5. Vai trò xúc tác và nhân rộng	MU
<b>Hiệu quả</b>	U
<b>Các nhân tố và quy trình ảnh hưởng đến hiệu quả dự án</b>	
1. Sự chuẩn bị và sự sẵn sàng	MU
2. Triển khai và quản lý dự án	MS
3. Sự tham gia của các đối tác dự án, hợp tác và quan hệ đối tác	MU
4. Truyền thông và nhận thức cộng đồng	MS
5. Quyền sở hữu của và thúc đẩy tại quốc gia	MU
6. Hoạch định và quản lý tài chính	U
7. Giám sát từ Chương trình Môi trường Liên hiệp Quốc và ngược lại	U
8. Giám sát và đánh giá	MU
a. Thiết kế quy trình giám sát và đánh giá	MS
b. Hoạch định và sử dụng ngân sách cho hoạt động giám sát và đánh giá	S
c. Thực hiện kế hoạch giám sát và đánh giá	MU
<b>Tổng thể dự án</b>	MU

## Tóm tắt các khuyến nghị và bài học kinh nghiệm

### Khuyến nghị:

Sau các khuyến nghị chính của dự án, chủ yếu hướng đến Chương trình Môi trường Liên hiệp Quốc:

**Khuyến nghị 1:** Chương trình Môi trường Liên hiệp Quốc nên đối thoại với Chính quyền và dự án UNDP-GEF để chia sẻ các bài học hỏi dự án này và thảo luận cách mà dự án UNDP-GEF có thể được xây dựng trên kết quả của dự án này để đạt được tác động cao nhất.

**Khuyến nghị 2:** Là cơ quan thực hiện dự án của GEF, Chương trình Môi trường Liên hiệp Quốc nên đảm nhận trách nhiệm chung, đáp ứng tất cả các yêu cầu và nghĩa vụ đối với GEF thay vì giao cho cho đối tác thực hiện dự án tại quốc gia.

**Khuyến nghị 3:** Chương trình Môi trường Liên hiệp Quốc phải tuân thủ sự minh bạch hoàn toàn trong quản lý dự án, bao gồm báo cáo, lập ngân sách, các nguồn lực và sử dụng chúng, đồng tài trợ, v.v., tuân theo các hướng dẫn quản lý dự án từ GEF.



**Khuyến nghị 4:** Rút kinh nghiệm từ dự án này, Chương trình Môi trường Liên hiệp Quốc phải kiểm tra các dự án tương tự đang được triển khai tại các nước khác trong khu vực, đặc biệt liên quan đến sự đảm bảo sử dụng kinh nghiệm chuyên gia quốc tế để nâng cao chất lượng triển khai dự án.

**Khuyến nghị 5:** Chương trình Môi trường Liên hiệp Quốc nên đảm bảo rằng tất cả các sản phẩm từ dự án luôn sẵn sàng được chia sẻ để xem xét nội bộ và cả từ bên ngoài. Điều này sẽ đảm bảo rằng kiến thức có được từ dự án có thể được dễ dàng chia sẻ.

**Khuyến nghị 6:** Chương trình Môi trường Liên hiệp Quốc nên, một cách hệ thống, đảm bảo rằng các cam kết đồng tài trợ được hiện thực hóa, bởi vì nó giúp huy động thêm nguồn lực để đạt được các mục tiêu từ GEF và thể hiện sở hữu của quốc gia.

#### **Các bài học:**

Sau đây là một số bài học chính từ dự án:

**Bài học 1:** Tài liệu dự án phải đảm bảo tính thống nhất giữa văn bản và khung kết quả dự án.

**Bài học 2:** Chất lượng sản phẩm và kết quả của dự án phụ thuộc rất nhiều vào việc lựa chọn đối tác thực hiện, như năng lực, kinh nghiệm và nhiệm vụ.

**Bài học 3:** Sự tư vấn của các đối tác là một quá trình quan trọng để đảm bảo rằng các đối tác hiểu mục tiêu của dự án và cam kết đóng góp cho mục tiêu dự án.

**Bài học 4:** Cơ quan thực hiện dự án đã có thiết kế và thực hiện một kế hoạch Giám sát và Đánh giá mạnh mẽ và đảm bảo việc kế hoạch đó được thực hiện.

**Bài học 5:** Nếu điều kiện ban đầu thay đổi đáng kể trong giữa thời gian xây dựng dự án và thực hiện dự án thực tế, các mục tiêu và chỉ số cuối dự án phải được điều chỉnh để phản ánh sự thay đổi hoàn cảnh.

**Bài học 6:** Điều quan trọng đối với các dự án GEF là huy động các chuyên gia có trình độ cao và tạo điều kiện trao đổi và giao tiếp ở cấp độ toàn cầu để tăng cường năng lực quốc gia và tạo ra nhận thức tốt hơn.

**Bài học 7:** Khi mà mục tiêu của nhóm dự án là hướng tới việc cung cấp sản phẩm và kết quả, nhóm không nên làm mất tập trung vào tính bền vững, cả bên ngoài khuôn khổ dự án .

**Bài học 8:** Giám sát hiệu quả sử dụng tài chính là rất quan trọng trong việc quản lý dự án, đảm bảo tiến độ và ngân sách không ảnh hưởng đến chất lượng và kết quả.

**Bài học 9:** Các dự án trình diễn ở các vùng nông thôn nhằm nâng cao nhận thức về lợi ích của đèn tiết kiệm năng lượng cần phải tìm kiếm các giải pháp sáng tạo, phù hợp với điều kiện của người dân địa phương.



## 1 INTRODUCTION

### 1.1 Subject and scope of the evaluation

1. This Terminal Evaluation is undertaken to assess the performance of the project on phasing out incandescent lamps through lighting market transformation in Vietnam conducted during the period March 2012 – December 2016. The project received a US\$2.94 million grant from the Global Environment Facility (GEF) Trust Fund. It was implemented by UN Environment and executed by the Vietnamese Institute of Strategy, Policy on Natural Resources and Environment (ISPONRE) through a National Execution Modality (NEX) applied by United Nations (UN) agencies. The project received execution support from UN Environment’s Division of Technology, Industry and Economics (DTIE).
2. The Terminal Evaluation was carried out in accordance with the provisions of the UN Environment’s Evaluation Policy<sup>4</sup> and the UN Environment Programme Manual. It assesses project performance and determines outcomes and impacts stemming from the project, including their sustainability.
3. The evaluation mission was carried out in February 2017 and the evaluation team interviewed national level stakeholders in Hanoi and Ho Chi Minh City, and visited the provinces of Bin Thuan and Lam Dong.

### 1.2 Evaluation objectives

4. The two primary purposes of the Terminal Evaluation are to provide evidence of results to meet accountability requirements, and to promote operational improvement, learning and knowledge sharing through results and lessons learned among UN Environment, Government of Vietnam and all project partners. As UN Environment is implementing several other market transformation projects, lessons of operational relevance are relevant for future project formulation and implementation.
5. The Terminal Evaluation was guided by a few evaluation questions that are specified under six evaluation criteria in the evaluation Terms of Reference (ToR) given as Annex 1:
  - Strategic relevance
  - Achievement of outputs
  - Effectiveness: Attainment of objectives and planned results
  - Sustainability and replication
  - Efficiency
  - Factors and processes affecting project performance
6. The Terminal Evaluation aimed at answering a set of key questions in the ToR:
  - To what extent phasing out the incandescent lamps (ILs) production and sales has been successful in Vietnam? Can the progress in the markets be attributed to the project outcomes, outputs and activities? To what extent the project design, planned activities and target setting supported overall project aim.
  - To what extent did the project cooperate with other efficient lighting initiatives at the global, regional and national level? To what extent the cooperation with the global

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<sup>4</sup> <https://wedocs.unep.org/rest/bitstreams/9801/retrieve>

en.lighten initiative and other similar GEF projects helped the project to progress towards its targets in Vietnam?

- What are the key lessons regarding the implementation modality and arrangements of the project? Did the implementation structure, partner selection, and other arrangements support/hinder the project in achieving its goals and objectives?
- What are the key questions regarding the sustainability of achieved outputs and outcomes? To what extent environmental sustainability as well as social, environmental and economic safeguards were considered in the project design and implementation?
- In terms of key activities: How effective and relevant were the capacity building and training efforts coordinated by the project? To what extent the demonstration projects are expected to contribute to market transformation?

### 1.3 Evaluation approach and methodology

7. The intervention logic in the project document (ProDoc) and the Project Results Framework (PRF) was carefully studied to establish the project's theory of change (ToC). The ToC was assessed for consistency and a "reconstructed" ToC was prepared to ensure that there was a consistent and clear conceptual understanding of the project impact pathways (the reconstructed ToC is presented in section 2.8). Based on the reconstructed ToC and the ToR, a set of evaluation questions was elaborated to guide the Terminal Evaluation (details can be found in section 1.4).
8. The Evaluation was initiated with a desk review of available project and background documentation. The project's relevance was assessed by going through GEF, UN Environment and Vietnam government policy and strategy document. Project related documents consulted to assess the activities undertaken, the outputs delivered and the outcomes achieved included inception report, progress reports, annual work plans, annual Project Implementation Reviews, mid-term evaluation report, budgets and expenditures reports, etc. Annex 3 provides a full list of the documentation reviewed. These also allowed assessing the project management as well as the likelihood of attaining the intended outcomes and impacts.
9. A mission involved travelling to Vietnam where stakeholders were interviewed both in Ho Chi Minh City and Hanoi. In consultation with the Project Management Office (PMO), project sites were visited in two provinces of Bin Thuan and Lam Dong. Visual inspections of the pilot projects implemented by the project were made and meetings were held with project beneficiaries (farmers and fishermen) and implementing partners from the local government as well as representative associations. Activities undertaken, and the results achieved in other pilot project sites were assessed based on reports and interviews with UN Environment, PMO and experts engaged by the project. Skype interviews were held with the UN Environment Task Manager and the former Project Manager. Correspondences were held electronically with the Fund Management Officer (FMO).
10. Stakeholders interviewed during the mission included UN Environment staff and the project Senior Technical Adviser (STA) based in Bangkok, representative of key Vietnamese government agencies participating in the project at the national and provincial level, other partner institutions under ministries such as the Standards and Quality Institute and Quality Assurance and Testing Centres, lighting equipment manufacturers, community and civil society representatives. Annex 2 provides the evaluation program that contains the names of the locations visited and detailed list of the people interviewed during the mission. The combination of the desk review of documents produced by the project and those available in public domain combined with the discussion with a large group of stakeholders enabled

verification and triangulation of information, helping to reduce information gaps. Some of the project documentation was made available to the evaluation team only during the evaluation report review rounds. These additional materials were reviewed prior finalization of the report, however causing some delays in finalization of the report.

#### **1.4 Limitations of the evaluation**

11. While all efforts were made to gather a broad range of information, data, evidences and views to ensure that adequate data was available to get a clear understanding of the project, the terminal evaluation was affected by some limitations. Firstly, some important documents such as the final project report and the project impact reports were not available prior to and at the time of the evaluation mission, which could have helped to understand the real extent of the impacts made by the project and the initiatives taken to ensure its sustainability. Also, due to time constraint and unavailability of some stakeholders, it was not possible to meet all implementing partners or visit all project sites and interview all project beneficiaries during the mission. In some other cases, the PMO advised not to meet the identified key institutional stakeholders as they had not been involved or they had not participated in the project (e.g. Ministry of Finance, Ministry of Education and Training, National Television).

## **2 THE PROJECT**

### **2.1 Context**

12. With a population of over 91 million, Vietnam is one of the fast-growing economies of the Southeast Asian region. Vietnam is well endowed with energy sources such as coal, oil, natural gas, hydro, and renewable energies. The country's energy consumption has been rising rapidly to cope with the increasing growth in the economy. Vietnam's General Statistics Office estimates that electricity demand will continue to grow at an annual growth rate of 10%-12% between 2015 and 2030. To meet the rapidly growing electricity demand, Vietnam's power industry has been struggling to upgrade the power system through the development of new power generation capacity, enhancement of the high voltage transmission lines all over the country and reduction of transmission and distribution (T&D) losses. The Government of Vietnam (GoV) is concerned about the shortage of supply that poses barriers to economic development and the rising greenhouse gas emissions that are mainly associated with the addition of thermal power generation capacity.
13. In response to the above concerns, GoV has been promoting Energy Efficiency and Conservation (EE&C) that will help in slowing down the energy demand without compromising the high economic growth. In April 2006, the Ministry of Industry and Trade (MOIT) established the National Strategic Program on EE&C for the period 2005-2015. Several decrees and circulars have been issued to promote EE&C in all sectors of the economy.

## 2.2 Objectives and components

### 2.2.1 Rationale<sup>5</sup>

14. Climate change is emerging as the current pressing global issue with impacts on the socio-economic development of many countries in the world. Viet Nam is one of the countries that will be seriously affected by climate change. The country has ratified the United Nations framework convention on climate change (UNFCCC) and the Kyoto Protocol. Energy conservation and efficiency is considered as one of the solutions to reduce greenhouse gas (GHG) emissions and prevent the rising global temperature. Energy conservation and environmental protection are fundamental policies of the Government of Viet Nam (GoV) in response to climate change.
15. The International Energy Agency (IEA, 2015) estimates that lighting accounts for about 20% of global building energy consumption. An effective solution to reduce the energy demand for lighting is the replacement of Incandescent Lamps (ILs) with Energy Saving Lamps (ESLs). The United Nations Environment Program (UN Environment) estimates that a global transition to energy efficient lighting, on-grid and off-grid, could result in savings of over USD 140 billion and avoid emissions of 580 million tons of CO<sub>2</sub> annually (Source: Undated "Lites Asia" Efficient Lighting flyer: Monitoring, Verification and Enforcement in Southeast Asia and the Pacific). With the support from Global Environment Facility (GEF), UN Environment has been implementing projects for phasing out ILs in many countries over the world, such as countries in Africa, Middle East, Latin America and Asia. Recognizing the fact that lighting represents around one-fourth of all the electricity use in Vietnam, GoV decided to phase out inefficient incandescent lamps (ILs) through market transformation for energy efficient lighting products in Vietnam.

### 2.2.2 Objectives

16. The Project "*Phasing out Incandescent Lamps through Lighting Market Transformation in Viet Nam*" has an overall goal to reduce greenhouse gas (GHG) emissions by accelerating the phase-out of incandescent bulbs and removing market barriers to energy-efficient lighting in Viet Nam. It has been developed under the umbrella of the *GEF-supported Global Market Transformation for Efficient Lighting Initiative* which aims to accelerate the transformation of the market for energy efficient lighting in the emerging markets of developing countries. The intervention of GEF is justified by the fact that the project will lead to direct reduction of carbon dioxide (CO<sub>2</sub>) emissions.
17. The project's objectives are to enhance the capacity of the lighting industry, harmonize quality standards of ESLs to comply with international standards, educate and raise awareness of consumers, and strengthen policy and institutional framework for supporting, encouraging and monitoring ESL production, sales and use in the domestic market.

### 2.2.3 Components

18. The project comprises four components:
  - **Component 1: Enhance local lighting industry capacity.** This component aims at supporting the national ESL market so that it can better integrate with the maturing global market. For this, it sets a baseline of Vietnam lighting market by undertaking market research on the status of the IL and ESL markets in Vietnam. Further, it includes providing training support to selected local manufacturers on quality ESL production at marketable cost and technical assistance on ESLs as well as conversion of IL production lines to

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<sup>5</sup> source: Prodoc

quality ESLs. Hence, this component mainly seeks to enhance the capacity of the two key lighting industry partners (Rang Dong and Dien Quang) to manufacture quality ESLs at marketable cost.

- **Component 2: Improve quality assurance (QA) / quality control (QC) framework.** This component focuses on developing a comprehensive national QA/QC system based on international best practice, helping consumers to distinguish low-quality from high-quality lamps. It also aims at establishing a national quality inspection system for ESLs, undertaking “Green Custom Initiative” program to reduce import/export of ILs and low-quality ESLs, and strengthening capacity of civic authorities to handle and safely dispose mercury in ESLs. This component is therefore mainly aimed at strengthening the capacity of various government agencies (MONRE, MOST, MOIT) and agencies under the government (STAMEQ, VSQI, QUATEST1 and QUATEST3).
- **Component 3: Develop ESL market and consumer education and awareness.** This component seeks to address the barriers related to marketing and promotion of ESLs and phasing out of IL production and sales. It implements a national social marketing campaign for rural and residential users, develops a roadmap / master plan for ESL promotion based on the evaluation of the marketing campaign on the population, launches demonstration projects in rural areas, and develops public sector ESL procurement plan. This component thus involves local authorities, local population and beneficiaries of demonstration projects as well as civil societies and media groups.
- **Component 4: Support national policy and institutional program towards phasing out of ILs and promotion of ESLs.** This component supports the industrial transformation and market development with a coherent ESL policy in line with GoV policies. It assists in establishing national policy and incentives for phasing out ILs and promoting good quality ESLs, adopting national roadmap and a masterplan.

19. The project’s Results Framework is presented in Table 1 below.

**Table 1. Project Results Framework (PRF)<sup>6</sup>**

Components	Outputs	Outcomes
C1: Local lighting industry capacity enhancement program	1.1: Market research on the current status of the ESL and IL markets in Vietnam 1.2: Technical aids on conversion of IL production lines to ESLs 1.3: Training courses are provided on quality ESL production 1.4: Business transformation plans agreed for two to four ESL products for two main enterprises 1.5: Technical support for selected local manufacturers towards quality ESL production at marketable cost	O1: Successful business transformation of manufacturers of ILs and improved quality of locally produced ESLs at marketable prices
C2: Improved QA/QC framework	2.1: Energy, environmental and quality standards for ESLs are tightened and harmonized in line with regional or international best practices 2.2: National quality inspection system for ESLs is established	O2: Strengthened and harmonized quality and performance-based standards and procedures in

<sup>6</sup> Source: Prodoc

	<p>2.3: Capacity of two testing laboratories is strengthened</p> <p>2.4: Green customs program to reduce import/export of ILs and low-quality ESLs implemented</p> <p>2.5: Capacity of civic authorities to handle and safely dispose mercury in ESLs and to engage in recycling strengthened</p>	Vietnam, including compliance with regard to nationally and internationally traded lighting products
C3: ESL market development and consumer education and awareness	<p>3.1: National social marketing campaign for rural and residential users designed and implemented</p> <p>3.2: Documented results of the market study on ESL promotional campaign and roadmap/master plan for ESL promotion</p> <p>3.3: Demonstration projects in rural areas implemented</p> <p>3.4: ESL procurement plan for public sector developed</p>	O3: Enhanced awareness about benefits of ESLs and significant increase in sales of ESLs and significant reduction in sales of ILs
C4: National policy and institutional support program towards phasing-out of ILs and promotion of ESLs	<p>4.1: Agreed national roadmaps and master plans for the phase-out of ILs and promotion of good quality ESLs</p> <p>4.2: Established national policy for phasing out ILs</p> <p>4.3: Proposed policy measures and incentives for ESL market development and enhancement, through local partners</p>	O4: Policy and institutional systems able to support and monitor phasing out of the manufacture, sales and use of ILs and availability of good quality ESLs in the domestic market

### 2.3 Target areas/groups

20. The project targets to phase out ILs which are mostly used by rural and residential households and the commercial sector. The strategy adopted is to engage a broad spectrum of stakeholders, at the national and local levels as well as from the private sector and civil societies.
21. Component 1 targets the largest manufacturers of lamps in Vietnam to assist them phase out ILs and improve the quality of ESLs. Rang Dong and Dien Quang are the two key lighting manufacturers who were to benefit through training and capacity building activities.
22. Component 2 targets key government ministries and agencies under them that are responsible for setting quality and performance-based standards for lighting products and regulating the import/export of lamps: MONRE (Ministry of Natural Resources and the Environment as the project executing agency and designated Government institution for climate change, and agencies under MONRE such as Institute for Strategic and Policy for Natural Resources and Environment and Vietnam National Administration), MOST (Ministry of Science and Technology, and agencies under MOST such as the Directorate for Standard, Measurement and Quality, Quality Assurance and Testing Centres), and the Ministry of Finance.



23. Component 3 targets the local governments and rural and residential households to create awareness and increase the sales of ESLs through several demonstration projects in selected provinces, particularly where the penetration of ESL is low.
24. Component 4 targets the market development and enhancement through MOIT (the Ministry of Industry and Trade) which plays a key role in formulating policies and providing incentives for the promotion of energy efficiency in Vietnam. A detailed mapping of the stakeholders, their capacities and their roles, interests and influence in relation to the project is presented in Annex 4.

## 2.4 Milestones in project design and implementation

25. Table 2 presents the milestones and key dates in project design and implementation

**Table 2. Milestones and key dates in project design and implementation**

Milestones	Dates
GEF approval date	8 September 2010
UN Environment approval date (signing of PCA between UN Environment and ISPONRE)	10 October 2011
Kick-off meeting and inception workshop	29 November 2011
1 <sup>st</sup> Project Steering Committee (PSC) meeting	10 January 2012
Project start date (2012 Annual Work Plan approved, and Project Management Manual endorsed by UN Environment)	27 March 2012
Budget revised	May 2012
2 <sup>nd</sup> PSC meeting	15 March 2013
2013 Annual Work Plan (AWP) approved	27 May 2013
3 <sup>rd</sup> PSC meeting	23 April 2014
2014 AWP approved	16 June 2014
Mid-term evaluation	9-12 June 2014
Revised 2014 AWP approved	30 July 2014
Budget revised	October 2014
Introduction of the project in the UN Environment Workshop on NAMAs in Ha Long City	2 October 2014
4 <sup>th</sup> PSC meeting and 2015 AWP approved	2 February 2015
First financial audit process carried out	March 2015
Budget revised	April 2015
Participation in the International Exhibition Fair on Environment and Energy Efficiency	May 2015
Revised 2015 AWP approved	10 November 2015

Participation and presentation of project outputs at the Enlighten side event at the COP21 in Paris	29 November – 13 December 2015
Completion date	31 December 2016

## 2.5 Project partners and implementation arrangements

26. UN Environment was the implementing agency of the project. MONRE partnered with UN Environment and GEF for project implementation, and entrusted the implementation and management of the project to ISPONRE which is an organization under MONRE. As project implementing agency, UN Environment was responsible for ensuring that GEF policies and criteria were adhered to and that the project met its objectives and achieved the expected outcomes in an efficient and effective manner. The UN Environment project task manager was responsible for project supervision. UN Environment was also expected to ensure timeline, quality and fiduciary standards in project delivery.
27. The implementation of the Project was organized through an Internal Cooperation Agreement (ICA) between the UN Environment Division of Global Environment Facility Coordination (D-GEF), which was the Implementing Agency, and the UN Environment Division of Technology, Industry and Economics (DTIE).<sup>7</sup> The DTIE signed a Project Cooperation Agreement (PCA) with ISPONRE for in-country co-implementation of the Project. For UN Environment, this was the first time that a joint co-implementation arrangement with a country agency was being done for a GEF project. ISPONRE was responsible for the achievement of the project objectives, ensuring the delivery of project outputs and the judicious use of the project resources.
28. A Project Management Office (PMO) was created by ISPONRE for the smooth execution of the project, with the Director General of ISPONRE serving as the National Project Director (NPD). The PMO was responsible for the overall operational and financial management and reporting of the GEF funds. The team supporting the NPD included a Project Manager (PM) who was supported by a team composed of a technical expert, a communication expert, accountants and secretary/interpreter, all working full-time. A Senior Technical Advisor (STA) hired by the project provided technical advice to the project team. The PMO also held meetings with the UN Environment/DTIE (part-time) manager based at UN Environment's Regional office in Bangkok to discuss the quarterly progress reports, quarterly work plans, quarterly budgets and any other relevant issues.
29. Implementation was overseen by a Project Steering Committee (PSC) consisting of high level representatives from GoV (MONRE, MOIT, MOF, and MPI), Directorate of Standards, Lighting Association, Testing Laboratories, lighting manufacturers and UN Environment. A Technical Working Group (TWG) consisting of senior representatives of GoV, ESL producers, Lighting R&D institutions and Lighting Industry Association was established to provide feedback on key program activities, including fund commitments and co-financing arrangements.
30. In the Prodoc, the following key national institutional partners were expected to take part in the implementation of the project: Ministry of Industry and Trade (MOIT), Ministry of

<sup>7</sup> In 2012, this Division was dismantled, and the UN Environment Task Manager was moved to DTIE and located in the UNEP Regional Office for Asia and Pacific (Bangkok). It was reported in the PIR that the change in UN Environment organisational structure created confusion in the project reporting lines in the course of the project implementation.



Science and Technology (MOST), Directorate for Standard, Measurement and Quality (STAMEQ), Ministry of Finance (MOF) and Ministry of Education and Training (MOET). Private sector participants included 2 largest lighting manufacturers (Rang Dong and Dien Quang). Vietnam Lighting Association (VLA) was also included to assist the project in exchanging information, studying the lighting market in Vietnam and raising awareness about the benefits of ESLs. However, the evaluation did not find any significant role played MOIT, MOF and MOET though some of their staff were engaged by the project as experts in their individual capacities.

## 2.6 Project financing

31. As specified in the ProDoc, the total project cost was US\$ 25,152,000. Of this amount, US\$ 2,924,000 was to be contributed by the GEF Trust Fund as grant, and US\$ 22,212,000 was to be raised as co-funding by several national counterparts, representing 88% of the total project cost (see Table 3).

**Table 3: Overall project budget by component<sup>8</sup>**

Project components	GEF Financing (a)		Co-financing (b)		Total (a + b)
	US\$ million	%	US\$ million	%	US\$ million
1. Local lighting industry capacity enhancement program	0.600	5	12.417	95	13.017
2. Improved QA/QC framework	0.600	10	6.500	90	7.100
3. ESL market transformation and consumer education and awareness	0.915	40	1.745	60	2.660
4. National policy and institutional support program towards phasing out of ILs and promotion of ESLs	0.350	31	1.000	69	1.350
5. Project performance and national impact M&E system	0.175	54	0.150	46	0.325
6. Project management	0.300	12	0.400	88	0.700
<b>Total Project costs</b>	<b>2.940</b>	<b>12</b>	<b>22.212</b>	<b>88</b>	<b>25.152</b>

32. The co-funding was expected in the form of cash contribution of US\$ 1,970,000 from QUATEST 1 (Testing laboratory) and the two lighting manufacturers (Rang Dong and Dien Quang) and in-kind contribution of US\$ 8,127,000 from Ministries and their agencies, Vietnam Lighting Association and the two lighting manufacturers. The co-financing details, as reported in Prodoc, are summarized in Table 4.

**Table 4. Summary of co-financing (source: Prodoc)**

Co-financing source	Classification	Co-financing (US\$)	%
<b>Cash</b>			

<sup>8</sup>Based on table 7 in the project document. However, Table 7 does not match with the Appendix 1 (Reconciliation between GEF activity based budget and UNEP Budget line, and Appendix 2 (Reconciliation between GEF budget and co-finance budget).

QUATEST 1 (testing laboratory)	Government	30,000	0.1
Rang Dong (lighting manufacturer)	Private sector	1,790,000	7.1
Dien Quang (lighting manufacturer)	Private sector	150,000	0.6
<b>Sub-total</b>			<b>7.8</b>
<b>In-kind</b>			
Vietnam EE&C Office (DST/MOIT)	Government	1,000,000	4.0
ISPONRE	Government	585,000	2.3
Institute of Energy	Government	300,000	1.2
Vietnam Environment Administration (VEA)	Government	550,000	2.2
Vietnam Standard Quality Institute (VSQI)	Government	600,000	2.4
QUATEST 1 (testing laboratory)	Government	580,000	2.3
QUATEST 3 (testing laboratory)	Government	5,000,000	19.9
Vietnam Lighting Association (VLA)	NGO	150,000	0.6
Rang Dong (lighting manufacturer)	Private sector	8,127,000	32.3
Dien Quang (lighting manufacturer)	Private sector	3,350,000	13.3
<b>Sub-total</b>			<b>80.5</b>

33. The GEF grant was allocated to both UN Environment and ISPONRE as per the International Cooperation Agreement (ICA) with UN Environment Division of Technology, Industry and Economics (DTIE) and the Project Coordination Agreement (PCA) with ISPONRE. UN Environment had a share of US\$ 1,392,000 to cover the cost of international consultants and international travels whereas the remaining US\$ 1,548,000 was allocated to ISPONRE for the smooth implementation of the project in Vietnam (covering local personnel, national consultants, training, operational costs, etc.). By the end of 2016, UN Environment had incurred expenditure of US\$ 1,055,491, representing 76% of the allocated budget. This expenditure included sub-contracting of US\$ 180,000 to ISPONRE through the Small-Scale Funding Agreement (SSFA) for undertaking additional demonstration and outreach activities, and US\$ 120,000 to VIASEE (Vietnam Association for Environmental Economics) for additional communication and outreach activities during the latter half of 2016. According to the audited financial statement as of 31 December 2017 (Source: KPMG, May 2017), ISPONRE's expenditure had exceeded the budget by an amount of US\$ 8,446, this excess amount has to be absorbed by the Executing Agency (EA).<sup>9</sup>

34. No proper procedure was adopted by the PMO to estimate the co-financing realized by the end of the project. Table 5 provides the project budget and expenditure summary.

**Table 5: Project budget and expenditure summary**

Particulars	Budget amount	Expenditure by 31 December 2016	Percentage spent
UN Environment	US\$ 1,392,000	US\$ 1,055,491	76%
ISPONRE	US\$ 1,548,000	US\$ 1,556,446	100%

<sup>9</sup> It may be noted here that no component (outcome or output) level expenditure data was available.

GEF Trust Fund Grant	US\$ 2,940,000	US\$ 2,611,937	88.8%
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## 2.7 Changes during project implementation

35. Between the approval of the ProDoc by GEF and the actual implementation of the project, there was a gap of more than one year during which there were some changes in the context of Vietnam, impacting some of the baselines of the project. These are listed below:
- Decision No. 2139/QĐ-TTg approved the National Climate Change Strategy on December 5th, 2011, emphasizing the importance of energy savings to reduce GHGs.
  - The National Assembly approved the Law on saving and efficient use of energy on January 1st, 2011. The Law specified regulations on energy saving products, Minimum Energy Performance Standards (MEPS) and energy-saving labels.
  - The Prime Minister issued Decision No. 51/2011/QĐ-TTg on September 12th, 2011, banning the import, production and consumption of ILs over 60 W. The Prime Minister also issued Decision No. 68/2011 / QĐ-TTg that mandated all public entities to purchase energy efficient products.
  - The GoV established a national inspection system through STAMEQ which is the agency that develops national standards on energy efficiency and energy efficient products.
36. The above necessitated some changes in the design of the project which were considered during the start of the project and are reflected in the revised project activities in the project results framework. The changes adopted, and justifications are summarized below:
- Component 1: Market review showed that the two lighting manufacturers participating in the project had the highest potential for conversion from IL to ESL, hence business plan development was to be limited to only those two players. Also, as these two manufacturers had already added production lines to manufacture ESL, they would no longer need technical assistance planned in the ProDoc.<sup>10</sup> Hence the Output 1.2 (Technical aid on conversion of IL production lines to ESL) was no more relevant and was changed to “Plan and TORs of capacity building program to producers developed”.
  - Component 2: Since the GoV had already established the National quality inspection system for ESLs within a larger inspection system through STAMEQ, therefore Output 2.2 (National quality inspection system for ESLs is established) was no longer relevant. Output 2.2 was changed to “Quality inspection system for ESLs is strengthened”. It was decided that capacity building will be done for the two laboratories which will be doing testing activities.
  - Component 3: As the Decision No. 68 issued by the Prime Minister mandated all public investment projects to buy energy efficient products, the output 3.4 (ESL procurement plan for public sector developed) was no longer relevant, hence it was cancelled.
  - Component 4: This component aiming at policy aspects to phase out ILs had to be changed considerably because a national policy to ban the production and use of ILs with capacity higher than 60 W had been promulgated by the Prime Minister before the actual

<sup>10</sup> By the time the project was launched, Dien Quang is reported to have invested over 100 Billion VND to renovate the production with new technologies so as to satisfy the requirement on safety, and environment protection. All the compact lamp products of Dien Quang were labelled as energy saving products (Source: <http://dtinews.vn/en/news/021/20546/programme-on-energy-efficiency-improvement-makes-no-headway.html>) (January 2012)

start of the project. Instead of “Developing and conducting national pathway and overall plan to phase out ILs as well as promote high - quality ESL consumption”, it was decided to drop the aspects related to the development of national pathway and focus only on the implementation part.

## 2.8 Reconstructed theory of change of the project

37. The intervention logic in the ProDoc and the PRF have been carefully studied to establish the project’s Theory of Change (ToC). The ToC has been assessed for consistency and a “reconstructed” ToC has been elaborated to ensure that there is a consistent and clear conceptual understanding of the project’s impact pathways that can guide the terminal evaluation. The reconstructed ToC is presented in Figure 1 at the end of this chapter. Annex 5 includes the “faithful” ToC diagram that presents the intervention logic presented in the original ProDoc and its PRF.
38. The activities level is not considered in the Review from Outcome to Impacts (ROtI) analysis; hence the activities are not included in the ToC diagram. The intervention logic and the causal links from activities to outputs presented in the ProDoc and the PRF are coherent. The PRF identifies many assumptions at the objective/intermediate state and outcome levels. Since GoV had approved the project as a partner, some of the assumptions should be influenced by the project. Hence, following the ROtI methodology, such assumptions can be considered as impact drivers. There are also some assumptions and impact drivers that have not been identified in the PRF; these have been reflected in the reconstructed ToC.
39. Outputs to outcomes: The outputs outlined in the ProDoc are mostly logical and coherent. They are expected to lead to desired outcomes. A significant change proposed in the reconstructed ToC is the inclusion of outputs that would lead to the outcome 5 which will be instrumental for the creation of a global “open space” through exchange and communication among all stakeholders and for providing support to the implementation of similar programs in other neighbouring countries. Though this aspect was elaborated in the text of the Prodoc, this was unfortunately not reflected in the PRF.

**Table 6. Project outcomes**

	<b>Faithful</b>	<b>Reconstructed</b>	<b>Explanation</b>
1	Outcome 1: Business of manufacturers of ILs successfully transformed and ESLs produced locally with improved quality and at marketable price	Outcome 1: Manufacturers are enabled to transform their business and produce improved quality ESLs locally	The planned outputs are likely to enhance the ability of the manufacturers to produce improved quality ESLs locally; however, the production at marketable price would depend on the demand for ESLs and other factors
2	Outcome 2: Quality and performance-based standards and procedures are strengthened in Vietnam, including compliance with nationally and internationally traded lighting products		This outcome is appropriate and is left unchanged
3	Outcome 3: Awareness about benefits of ESLs enhanced and sales of ESLs significantly increased, and sales of	Outcome 3: Better understanding of market mechanism by public policy makers and enhanced awareness of	The planned outputs are likely to improve public decision makers’ understanding of market mechanisms and enhance awareness of consumers about

	ILs significantly decreased.	consumers about the benefits of ESLs	the benefits of ESLs; more ESLs will be sold when good quality ESLs are available at reasonable price
4	Outcome 4: Policy and institutional systems support and monitor phasing out of ILs and availability of good quality ESLs in the domestic market.	Outcome 4: Institutional decision makers have the capacity to formulate the relevant policies and incentive mechanisms for promoting ESLs	The original outcome may not be achieved by the end of the project; hence it can be considered as an intermediate state.
5		Outcome 5: Increased access to knowledge of methods and good practices related ESL market transformation	This outcome is added as a direct outcome of project activities and which will contribute to the “open space” for exchange and communication on ESLs

40. The PRF identifies many assumptions at the output to outcome level. Since the government has approved the project and is taking active part in it, the project outputs should have positive influence on the decision-making process of the key stakeholders. Some of the relevant assumptions are taken forward in the reconstructed ToC as they seem more relevant beyond the project life.
41. Outcomes to intermediate state to impact: There is some incoherence between the intervention logic and the causal links from outcomes to intermediate state to impact as presented in the ProDoc and the PRF. In the project summary, the project goal is presented as “phasing out ILs production and sale through the transformation of the lighting products market as well as the promotion of high quality ESLs in Vietnam”. In section 3.2, the project goal is set “to transform the market for environmentally sustainable efficient lighting technologies (both in terms of handling the use of mercury in the lamp as well as the disposal of the lamp at the end of its life) in the emerging market of developing countries”. It further says that the project will provide a global “open space” for exchange and communication among all stakeholders and provide support to the implementation of country programs, expanding in this way the market transformation mechanism in many developing countries. The project was expected to serve as an “umbrella” under which further national projects in various Southeast Asian countries would be undertaken.
42. Later in paragraph 143 of the ProDoc, it mentions that the project is expected to achieve 5 outcomes whereas in the “project components’ section, only 4 outcomes are mentioned to meet the project objective. The one that is mentioned in the text but not included as one of the outcomes is described as: “facilitating global information exchange and networking to learn about the experiences, results, lessons learned and best practices in other countries or initiatives”. This is an important component which should not have been overlooked as this component would have provided a strong link with UN Environment’s enlighten program (efficient lighting for developing and emerging countries). This aspect was also highlighted in the MTE report.
43. The reconstructed ToC is developed with the assumption that the project goal is as defined in section 3.2 of the ProDoc. It also takes into consideration the fact that the project should provide a global “open space’ for exchange and communication among all stakeholders

and provide support to transform the market for efficient lighting technologies in developing countries.

44. A major challenge in many developing countries is the poor enforcement of policies and strategies because of which the outcomes of the projects that have been successfully implemented are not replicated widely in the longer time frame. Keeping this in mind, three impact drivers have been included to ensure the achievement of tangible impacts: government endorses revised standards and guidelines and adopts policy to phase out ILs, and Customs office bans the import and export of low quality ESLs.
45. An additional intermediate state has been identified specifically for the project to serve as an “umbrella” to replicate the lessons learned and best practices in other developing countries in Southeast Asia to transform their market for environmentally sustainable and energy efficient lighting technologies.

**Table 7. Intermediate state and impact**

Faithful <sup>11</sup>	Reconstructed	Explanation
<i>Intermediate state</i>		
ILs are phased out Systems and procedures for production and testing of quality ESLs developed Quality parameters are harmonized with international requirements Guidelines for recycling and safe disposal of ESLs	<b>First level intermediate states</b>	
	Increase in CFLs sale as both demand and supply side actions address market barriers	This first intermediate state has been introduced as a sequence of the outcomes associated with supply and demand measures (Outcomes 1, 3)
	Systems and procedures for production and testing of quality ESLs developed. Quality parameters are harmonized with international requirements.	This first intermediate state, related to production and testing as well as the harmonization of the quality parameters with international requirements, is a sequence of the Outcome 2
	Guidelines developed for recycling and safe disposal of ESLs	This first intermediate state is also the sequence of the Outcome 2, but dealing specifically with the issue of ESL recycling and its safe disposal
	Policy & institutional systems support and monitor phasing out of ILs and availability of good quality ESLs in the domestic market.	This first intermediate state is the sequence of the Outcome 4 which ensures that public decision makers grasp the policies and incentives to promote ESLs
	Creation of a global “open space” for exchange and communication on ESLs	Though this is not a key focus of the project as it is meant for countries other than Vietnam, it is nonetheless the first intermediate state which can be

<sup>11</sup> The “faithful” is based on objective / goal statements in the Results Framework.

		achieved by following the intention of the project to mobilize international resources
<b>Second level intermediate states</b>		
	ILs are phased out and Lighting market transformed and high-quality ESLs widely used in Vietnam	This second intermediate state would be achieved following the increased in CFL sales, development of production and testing procedures and harmonization of quality parameters, and the policy and institutional support to phase out ILs and promote ESLs
	Mercury-free technology development promoted	This second intermediate state is the logical follow up of the guidelines and safe disposal of ESLs and also in line with the project intention to promote environmentally sustainable efficient lighting technologies
	Replication of lessons learned and best practices in other countries	This second intermediate state is achieved following the creation of the “global open space” when other countries show interest to learn from project’s experience
<i>Impact</i>		
Lighting market transformed in Vietnam; GHG emissions and mercury release reduced	<u>Primary impact:</u> GHG emissions reduced  <u>Secondary positive impacts:</u> household electricity costs saved and mercury releases reduced	The impact has been modified to reflect GHG emissions reduction in Vietnam and other countries in the region as the primary impact; it also highlights social and health benefits as secondary impacts

46. The outcome 1 addresses the supply barrier whereas outcome 3 addresses the demand barriers. A combination of outcomes 1 and 3 would contribute to the achievement of the first intermediate state (Increase in CFLs sale as both demand and supply side actions address market barriers). The outcome 2 which strengthens quality and performance-based standards and procedures, would lead to two intermediate states: development of systems and procedures for production and testing of quality ESLs and harmonization of quality parameters with international requirements, and development guidelines for the safe disposal of ESLs. The outcome 4 which enhances the capacity of institutional decision makers would pave the way for them to support and monitor the phasing out of ILs and the availability of good quality ESLs as the first intermediate state. Finally, the outcome 5 which ensures increased access to the project’s learning will help to achieve the first intermediate

state (creation of a global open space for the exchange and communication on ESLs) with UN Environment mobilizing international resources.

47. The two second intermediate states can be achieved with the government intervention (endorsing revised standards and guidelines, policy to phase out ILs, and bans on export and import of low quality ESLs; and enforcing less mercury use and safe disposal of ESLs).
48. The third second intermediate state (replication of lessons learned and best practices in other countries) is not directly linked with the project results framework which focuses on transforming lighting market in Vietnam. However, this intermediate state has been presented since it is, as per the design, UN Environment's wish that the project serves as an umbrella under which national projects in various Southeast Asian countries will be undertaken. This state can be achieved with the other countries showing interest to learn from the project's experience.
49. The impact has been split into two categories: the primary impact and the secondary impacts. The primary impact is very much in line with the project's overall goal of reducing global GHG emissions; this will be achieved not only through the action of the project in Vietnam but with other countries learning from this project's experience and replicating it in their respective territories. The secondary impacts are social (saving of household electricity costs) and health (reduced mercury releases).



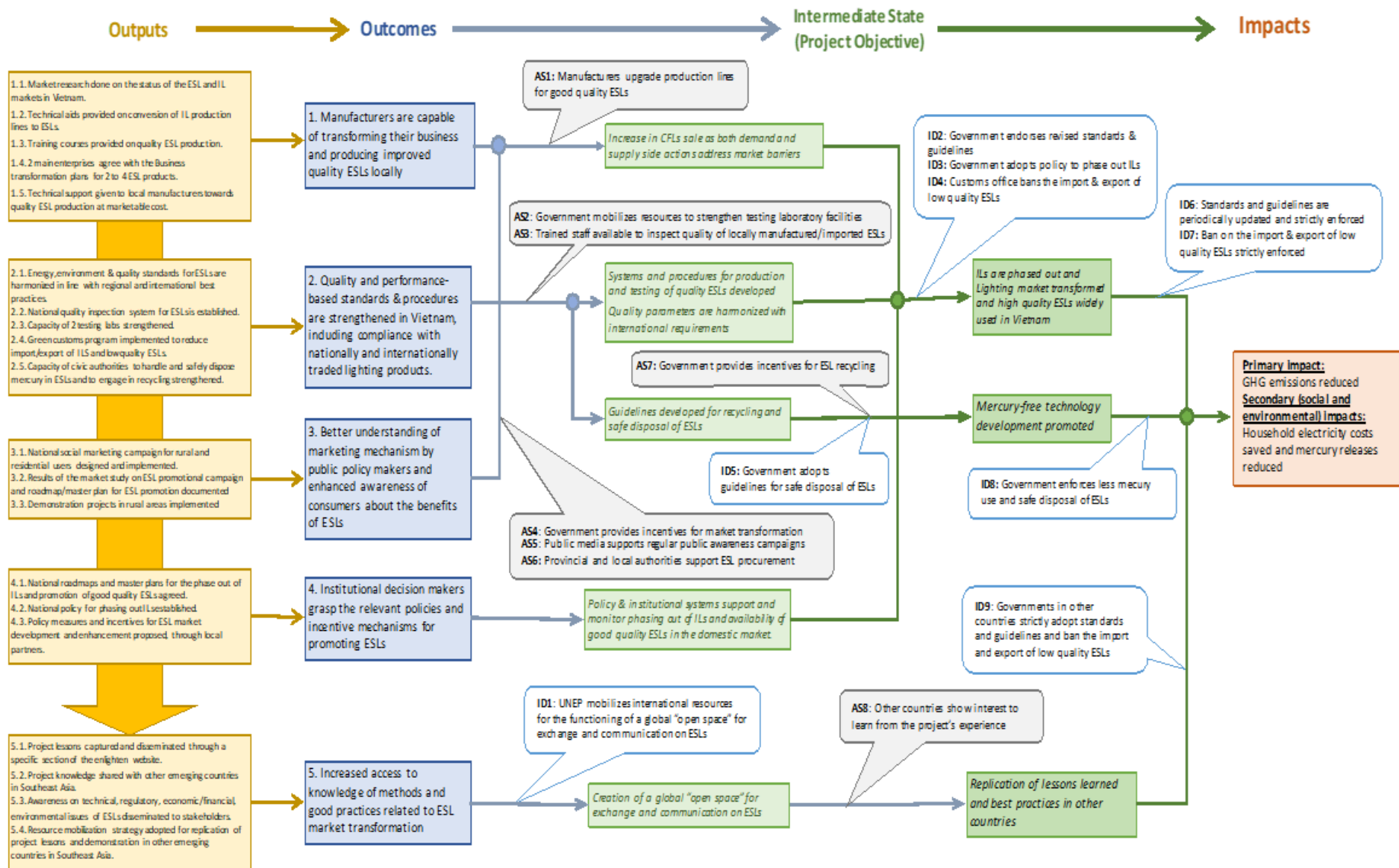


Figure 1: Reconstructed "Theory of Change"

### 3 EVALUATION FINDINGS

#### 3.1 Strategic Relevance

##### 3.1.1 Consistency with global, regional and national environmental issues and needs

50. The project document provides a detailed account of the global significance of the project. The International Energy Agency (IEA) estimates that lighting accounts for about 20% of global building energy consumption. Incandescent lamps (ILs) accounted for 970 TWh of the final electricity consumption in 2005 and resulted in about 560 Mt of CO<sub>2</sub> emissions. In the business-as-usual scenario, ILs could use up to 1,610 TWh of final electricity by 2030. However, a market shift from inefficient incandescent lamps (ILs) to energy efficient alternatives has the potential to cut the world's electricity demand by 18% and to save roughly 800 TWh of electricity and avoid 470 Mt of CO<sub>2</sub> emissions by 2030. The main barriers hampering the natural uptake of energy-efficient lighting technologies, particularly CFLs were identified as: *(i) cost and technological properties; (ii) organization of the lighting market; (iii) behavioural or consumer preferences; and (iv) health risks associated with CFL's mercury content.*
51. Asia is one of the fastest growing regions in the world, accounting for 60% of the world's population. As countries are developing and the living standards are improving, their energy demand is growing rapidly. Many Asian countries are actively promoting efficient lighting through market transformation. In June 2008, the world's largest lighting manufacturers signed agreement to eliminate poor quality ESLs from the Asian market by developing common performance levels and introducing product labelling system. There is already considerable experience with the promotions of CFLs in Asia, and much can be learned through the sharing of experiences and best practices. Also, the project was expected to serve as an "umbrella" under which further national projects in various Southeast Asian regions would be undertaken.
52. The project document provides a comprehensive description of the context and analysis of the many challenges faced by Vietnam, a country that will be seriously affected by climate change. The GoV faces challenges in the power sector, particularly to cope with the very rapid growth in demand for electricity. The shortage in electricity generation poses significant barriers to economic development and growing dependence on traditional commercial energy sources for power generation leads to higher GHG emissions. Vietnam has signed the UNFCCC and the Kyoto Protocol, and energy conservation and environmental protection are fundamental policies of the GoV in response to climate change. Vietnam has taken several initiatives to facilitate the implementation of energy conservation and efficiency programs, such as the enacting of the Law on Environment Protection (LEP) in 2005, adoption of National Strategy for Environmental Protection (NSEP) and Vision towards 2020, setting up of national targets program on Energy Efficiency and Conservation, and promulgation of the Decree 102/2003/ND-CP on Energy Use and Saving Energy (EUSE). The ProDoc has identified the key constraints and capacity gaps to address the challenges of substituting ILs by ESLs. The Project will promote the production and utilization of ESLs in Vietnam through the transformation of the local lighting products market and the phasing-out of ILs, which is consistent with national priorities/plans. The project will intervene throughout the whole country. The GoV has a key role to play in accelerating the adoption of energy-efficient lighting. The Project will be instrumental in developing a legal basis for GoV to phase out the use of ILs and assist GoV in formulating policy to gradually ban the import of poor

quality CFLs over a period. As the national electric utility is facing power supply shortages due to increased demand for electricity, the project will help the electric utility in reducing the pressure to build additional power generation capacity.

### 3.1.2 Alignment with GEF strategic priorities and operational programmes

53. The energy efficient lighting initiative in Vietnam is consistent with the GEF Climate Change Strategy and its Strategic Program of Promoting Energy Efficiency in Buildings and Appliances, as lighting has a high share of energy use in buildings and public infrastructure. The Project aims to achieve increased market penetration of ESL technologies, practices, and products in residential and commercial building markets. The Project matches with the objectives of GEF's Operational Programme #5 (Removal of Barriers to Energy Efficiency and Energy Conservation) and GEF's climate change strategic program on Promoting Energy Efficiency in Residential and Commercial Buildings (SP-1). The ProDoc emphasizes the fact that the activities under the Project would be properly coordinated with the "Global Market Transformation for Efficient Lighting" project, or the en.lighten initiative. The interaction between the Center of Excellence (COE) to be established under the global lighting project and the Project was to constitute an innovative approach to promote the adoption of energy efficient lighting in Vietnam.
54. However, limited efforts were made by the project to coordinate the activities with the en.lighten initiative though experts from COE were mobilized to support training and capacity building activities.

### 3.1.3 Alignment with UN Environment's mandate, policies and strategies

55. The project fits into some of the mandates of UN Environment, such as: (i) providing policy advice and promoting international cooperation and action, based on the best scientific and technical capabilities available; (ii) monitoring and fostering compliance with environmental principles, and stimulating cooperation on emerging environmental challenges; (iii) serving as an effective link between the scientific community and policy-makers at national and international levels, etc.
56. Though not specified explicitly in the ProDoc, the project contributes to several of UN Environment objectives, priorities and sub-programs under the Medium-Term Strategies (MTS) and Programmes of Work (PoW). UN Environment's involvement in the project is justified by the fact that UN Environment is associated with GEF in developing efficient lighting projects at regional and national levels in different continents.
57. MTS and PoW: According to the MTS 2010-13 UN Environment's Climate Change Sub-programme (CCSP) objective is "to strengthen the ability of countries to integrate climate change responses into national development processes". UN Environment is expected to support countries and institutions to meet the challenges of climate change by making sound policy, technology, and investment choices that lead to a reduction in greenhouse gas emissions and potential co-benefits, with a focus on clean and renewable energy sources, energy efficiency and energy conservation. Further, UN Environment is also expected to assist countries in deploying improved technologies and phasing out obsolescent technologies, financed through private and public sources.
58. Bali Strategic Plan: There is no description of the project's link to the Bali Strategic Plan (BSP). However, the project's goal is very much in line with some of the objectives of the BSP, such as (i) technology support and capacity-building based on best practices (learning from en.lighten), including mainstreaming technology support and capacity-building throughout UN Environment activities, and (ii) promote,

facilitate and finance access to and support of environmentally sound technologies and corresponding know-how.

59. Gender balance and human rights-based approach: There is just a cursory remark in the project document regarding its considerable contribution to socio-economic development, including gender and poverty alleviation, without any further elaboration. The gender issue was not taken particularly into consideration during project implementation.
60. South-South Cooperation: There are several mentions in the ProDoc of how Vietnam can learn from the experiences, results, lessons learned and best practices from other countries that are at a similar stage of market transformation for ESL products. Also, it is expected that the project would serve as an “umbrella” under which similar national programs could be undertaken in various Southeast Asian countries.
61. Safeguards: The ProDoc has considered the social and environmental risks and has suggested risk management strategy and safeguards. Of particular concern is the safe disposal and recycling of CFLs. An environmental impact assessment was conducted, which recommended interventions that could promote better environmental practices in the lighting industry in Vietnam. The goal of UN Environment’s Global Mercury Partnership is to reduce mercury use in all uses, including lighting and lamps. A Government Decision was drafted for taking back and treating discarded products, including electrical and electronic products (fluorescent lamps form part of such products); however, there is no specific mention of safe disposal of mercury in CFLs.
62. The overall rating for project relevance is “**satisfactory**”.

### 3.2 Achievement of outputs

63. The project aimed to deliver several outputs, to benefit the various stakeholders:
  - The component 1 focused on strengthening the capacity of the two key lamp manufacturers collaborating with the project;
  - The component 2 targeted strengthening the capacity of the lead ministries concerned with quality and safety aspects of the lamps, notably MOST and MONRE;
  - The component 3 aimed at addressing barriers to market transformation and promotion of ESLs by conducting awareness campaigns at the provincial level, developing a roadmap/master plan for ESL promotion, and undertaking demonstration projects in selected rural areas;
  - The component 4 focused on supporting industrial transformation and market development with an ESL policy that is coherent and in line with GoV policies led by MOIT.
64. The evaluation reviewed the outputs achieved for each of the components through the activities undertaken, to examine the contents for their relevance in the context and what the project was expected to achieve. Following tables provide an overall assessment of each of the components of the project.

**Table 8: Assessment of the component 1: Local lighting industry capacity enhancement program**

<b>Outcome 1</b>	Successful business transformation of manufacturers of ILS and improved quality of locally produced ESLs at marketable prices				
Baseline	60 million ILS are still in use; small number of manufacturers of good quality ESLs; ILS are still produced by a large number of manufacturers and CFLs are being manufactured are generally of low quality				
Target	Good quality CFLs with average life of 6,000 hours manufactured and sold; the total volume of sold CFLs is 45 million				
Indicators	<ul style="list-style-type: none"> <li>- Number of IL manufactured that have changed their production line from ILS to ESLs (a minimum of 35% by mid-term and a minimum of 70% at project completion)</li> <li>- Annual volume of good quality ESLs manufactured and sold in Vietnam (35 million, 40 million, and 45 million, by the end of second, third, and fourth year, respectively of project implementation)</li> <li>- A minimum of two large manufacturers will produce good CFLs for local market that comply with the local standards</li> </ul>				
<b>Outputs</b>	<b>Achievements and evidence</b>	<b>Partners/consultants</b>	<b>PRF Indicators</b>	<b>PRF Target</b>	<b>Comments</b>
<b>01.1:</b> Market research on current status of the ESL and IL market in Vietnam	According to the findings of the market research, the total volume of lamps of all types in 2012 amounted to 384 million, of which 359 million lamps were used by households. The total number of ILS were estimated to be 34.5 million, accounting for only 9.6% of the total number of lamps used by households. Lamps produced by Vietnamese manufacturers: 38.8% of ILS, 26.8% of fluorescent lamps, and 34.4% of compact fluorescent lamps.	Consultants: <ul style="list-style-type: none"> <li>- Vietnam Lighting Association (VLA)</li> <li>- National Economic University (NEU)</li> <li>- Institute of Energy (IE)</li> </ul>	Baseline data (annual volume production, annual volume sales, market share of ILS and quality details of ESLs produced)	60 million ILS are phased out by the end of the project	These results paint a very different picture compared to the baseline and the end-of-the-project targets described in the ProDoc. The survey shows the transformation in the lighting market, due to the rapid changes in lighting technologies and the various GoV energy efficiency initiatives, including the deadline set for phasing out ILS of capacities above 60 W. As a result, the baseline had changed drastically by the time the project started. <i>And yet there was no revision made to the end-of-the-project target.</i> Also, no institution was involved as partner for this output. <u>Output achieved.</u>

<p><b>O1.2:</b>          Technical aids on conversion of IL production lines to ESLs  <i>(Revised: 1.2. Plan and TORs of capacity building program to producers developed)</i></p>	<p>A report on the comprehensive technical support plan for 2 lighting manufacturers prepared by national experts and a draft advisory report prepared by GELC following the review of the report of the national experts.</p>	<p>Consultants:          - Hanoi University of Technology          - Global Efficient Lighting Center</p>	<p>IL manufacturers are trained on all aspects on conversion of IL to ESL by the end of the project</p> <p>Technical guidelines and handbooks developed and disseminated</p>	<p>ESL production lines operational</p>	<p><i>The output was revised but not the indicator and target.</i>          At the project inception meeting, the lamp manufacturers felt that the Output 1.2 was no longer relevant because they had already invested in ESL production lines. <i>The indicators and targets for this output should have been revised.</i>          At the first PSC, it was decided to replace this output by the assessment of the capacities of the two lighting manufacturers so that capacity building activities related to Outputs 1.3 and 1.5 could be better planned. The draft training plan was reviewed by both lighting manufacturers and modifications suggested on the duration of training for specific topics. It is not clear how PMO took these feedbacks into account to design the actual training. The training evaluation done by the national expert only covers the training materials and event for minimizing Mercury content in ESLs and LED lamps and thermal management.  <u>Output achieved.</u></p>
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<p><b>01.3:</b> Training courses are provided on quality ESL production</p>	<p>Training courses conducted for the 2 lighting manufacturers to shift workers from IL to CFL and FL production lines. Training was provided by GELC on quality ESL production. Rang Dong company staff were trained on reduction of mercury in CFL and heat dissipation for LED. Dien Quang company staff were trained on reduction of mercury in the bulb and mass production of LED. A study trip to China was organized to provide exposure to modern manufacturing facilities.</p>	<p>Partners:  - Rang Dong company  - Dien Quang company</p> <p>Consultants:  - Global Efficient Lighting Center (GELC)  - Vietnam Academy of Science and Technology (VAST)  - Vietnam Lighting Association (VLA)  - Hanoi University of Technology (HUT)</p>	<p>ESL manufacturers are trained in upgrading ESL production facilities and methods to production of good quality ESLs</p>	<p>Improved and increased domestic ESL production</p>	<p>Evaluations done after the completion of the training activities and the feedbacks received from the participants show that they have benefitted substantially from the expertise of the trainers. In some cases, the trainees expressed their frustration of not getting adequate responses up to their expectations. This was particularly the case for the training sessions conducted by experts from GELC, possibly partly due to the language barriers and the limited capabilities of the trainers to respond to the numerous practical questions raised by the trainees. <u>Output achieved, but not up to the full satisfaction of the trainees.</u></p>
<p><b>01.4:</b> Business transformation plans agreed for 2 to 4 ESL products for two main manufacturers</p>	<p>Dien Quang company was assisted to develop a marketing plan for waterproof CFLs to be used in dragon fruit plantation during off-season to increase the farm productivity. As Rang Dong company has in-house competence to prepare business plan,</p>	<p>Partner:  - Dien Quang company</p> <p>Consultants:  - ?</p>	<p>Trained IL manufacturers have developed and submitted business plans for conversion of IL production to production of 2 to 4 good quality ESLs</p>	<p>Improved and increased domestic ESL production</p>	<p>The evaluation does not consider the report as a “business plan”. Moreover, the report includes information that was carried out prior to the period when activities were officially conducted to deliver the report. The work reported in this report was carried out earlier by other agencies with support from central and local government agencies, and the lighting manufacturer.</p>



	they did not request for any assistance.		Business plans for conversion of good quality ESLs are accepted		<u>Output not achieved.</u>
<b>01.5:</b> Technical support for selected local manufacturers towards quality ESL production at marketable cost	An international expert along with a national expert provided training support on LED driver development to Rang Dong engineers so that they can use the knowledge in their production chain.	Consultant: - International Semiconductor expert - Hanoi University of Technology - Vietnam Academy on Science and Technology (VAST)	Specific local manufacturers that would benefit the most from the technical support have been identified	Employees of at least two manufacturers are trained and technically capable of converting existing production lines At least two testing facilities of local manufacturers are supported	Rang Dong company had already established working relationship with the international semiconductor expert 4 years earlier and the expert had conducted training for Rang Dong staff 2 years earlier. The training imparted to achieve the outputs were very technical in nature, without involving any cost aspects. Secondly, the trainer of LED driver technology found the R&D staff to be young and inexperienced and had limited command of English to understand component datasheets and application notes. <u>Output partially achieved.</u>

**Table 9: Assessment of the component 2: Improved Quality Assessment/Quality Control (QA/QC) framework**

<b>Outcome 2</b>	Strengthened and harmonized quality- and performance-based standards and procedures in Vietnam, including compliance with regard to nationally and internationally traded lighting products
Baseline	Lighting standards for ESL do not exist or are not harmonized with international standards; Quality information system for ESLs does not exist; Facilities and capacity to test high quality ESLs do not exist; No regulations on disposal and recycling of mercury containing ESLs



Target	Strengthened and harmonized quality- and performance-based standards and procedures in Vietnam, including compliance in nationally and internationally traded products				
Indicators	<ul style="list-style-type: none"> <li>- Lighting standards strengthened, and are in compliance with international standards, with particular reference to minimum operating hours, minimum energy efficiency standards, and maximum mercury content</li> <li>- Number of quality- and performance-based standards, and procedures has been developed and adopted</li> <li>- New Energy Efficiency Law has been adopted, which will allow regulations to be developed for the efficient use of lighting products</li> </ul>				
Outputs	Achievements and evidence	Partners/consultants	PRF Indicators	PRF Target	Comments
<b>02.1:</b> Energy, environmental and quality standards for ESLs are tightened and harmonized in line with regional and international best practices	<p>Two standards were drafted and approved: IEC 62554:2011 (measurement of mercury level) and IEC 62384:2006 (electronic control gear for LED modules)</p> <p>Two standards were developed and promulgated: ISO9892:2013 IEC62384:2011 (control gear for fluorescent lamps) and ISO10172:2013 IEC62554:2011 (mercury in fluorescent bulbs)</p> <p>(3) Dissemination of the established standards in Hanoi and Ho Chi Minh City.</p>	<p>Partners:</p> <ul style="list-style-type: none"> <li>- Vietnam Standards and Quality Institute (VSQI)</li> <li>- STAMEQ</li> </ul>	Adoption of such standards for most commonly used ESLs that are harmonized with regional and international best practices	Lighting standards for ESLs are harmonized with international best practices	<p>An international review of standards for lighting equipment allowed to compare ESL standard in Vietnam with other countries and propose national standards that comply with regional/ international standards. The report also listed a brief listing of laboratories with capacity to test lighting products.</p> <p>Support was provided to STAMEQ to modify and customize two standards.</p> <p><u>Output achieved.</u></p>

<p><b>02.2:</b> National quality inspection system for ESLs is established (revised: 2.2. Quality inspection system for ESLs is strengthened)</p>	<p>The three documents produced as outputs included:</p> <ul style="list-style-type: none"> <li>- Overview of legislation documents and building quality standards for ESLs</li> <li>- Barcode and application of barcode for managing ESLs</li> <li>- Inspection work on quality of ESLs</li> </ul> <p>These topics were included in the training on ESL quality inspection system for local authorities and inspectors in Hanoi and Ho Chi Minh city.</p>	<p>Partner: - STAMEQ / Quality Training Center</p>	<p>A widely known and highly supported quality supervision system is established by Year 2</p>	<p>Quality supervision system is established by year 2</p>	<p><i>The output was revised but not the indicator and target.</i></p> <p>All materials as outputs were produced in Vietnamese. In the absence of any summary document in English. It is not clear how the STA or the UN Environment Project Manager could assess the content or the quality of the output. <u>Output achieved.</u></p>
<p><b>02.3:</b> Capacity of two testing laboratories strengthened</p>	<p>Following a survey and evaluation of the status of testing laboratories, training conducted for QUATEST 1 and 3 on:</p> <ul style="list-style-type: none"> <li>- Lighting performance index</li> <li>- Photometric</li> <li>- Calorimetry</li> <li>- Testing parameters</li> <li>- Methods of testing LEDs and CFLs</li> </ul>	<p>Partners: - Quatest 1 and Quatest 3</p> <p>Consultants: - GELC - Vietnam Lighting Association (VLA)</p>	<p>Identified specific requirements and recommended course of action based on needs assessment by international consultants</p>	<p>Upgrading of existing testing laboratories to test the quality and performance of ESLs</p>	<p>Following visits of the laboratories, a comprehensive program was developed to build staff capacities as the staff had no prior knowledge of lamp testing. Also, the need for upgrading existing equipment to meet the new National Standards was assessed. Participants found the training to be theoretical, lacking practical exposure (this was reported in training surveys and confirmed</p>

	A study trip to China in March 2015 to provide exposure to modern manufacturing facilities was completed.				during interviews with key stakeholders). <sup>12</sup> Further support was extended to strengthen their capacity in testing mercury content in CFL, electromagnetic compatibility and gonio-photometer. <i>Evaluation acknowledges the capacity building efforts of the project. However, laboratories were not upgraded and equipped to test the quality and performance of ESLs.</i> <u>Output partially achieved [EO].</u>
<b>02.4:</b> Green customs program to reduce import/export of ILs and low-quality ESLs implemented	Guidelines were developed on Green Customs initiatives for environmentally sensitive products including lamps. Workshops were held on “Green Customs Initiatives” to disseminate guidelines on import and export management of incandescent lamps and energy saving equipment.	Partner: Customs Research Institute (CRI)	Workshop has been successfully conducted under the Green Customs Initiative to train customs officials in reducing import/export of ILs and low-quality ESLs  Number of seized ILs	Reduce import/export of ILs and low quality ESLs	The half-yearly progress report (July-December) and event documentation indicate that the workshop on “Green Customs Initiatives” to strengthen capacity of customs officers was conducted.  The contents of the handbook on “Import and export management of incandescent lamps and energy-saving equipment” prepared by the CRI were disseminated during a workshop held in Danang but no details are available regarding the workshop.

<sup>12</sup> Documented details of the workshops held in Hanoi and HCMC were not available during the evaluation data collection phase. These additional details were reviewed by the evaluation office during the evaluation report review stage.

			shipments has increased <sup>13</sup>		Output is considered as delivered [EO].
<b>02.5:</b> Capacity of civic authorities to handle and safely dispose mercury in ESLs and to engage on recycling strengthened	Study including the theoretical foundation, international experience on recycling technology and safe disposal of mercury in CFL, proposed regulations on product disposal after use, including CFL bulbs, in amending Environment Protection Law  Support provided for the development and enacting of guiding Circular of Decision No. 50/2013/QD-TTg on collecting and disposal of discarded products	Partner: Vietnam Environment Administration	Technical guidelines are developed  Draft regulations on ESL recycling and disposal have been submitted  Incentive plan for recycling ESLs has been submitted  Plan to raise mercury awareness has been submitted	Documentation on technical guidelines and draft regulations  Documentation on incentive plan for recycling of ESLs  Documentation on mercury awareness-raising plan	<i>In the GoV Decision of 2013 on taking back and treating discarded products, there is no provision for separate collection and treatment of ESLs, particularly for the safe disposal of mercury. The GoV Decision includes responsibilities of the different public agencies, including MONRE, for the enforcement of the Decision. Though the Decision was to be enforced by 1<sup>st</sup> January 2015, DEA of MONRE informed during the TE that no progress had been made to implement the Decision and the safe handling and disposal of hazardous lamps. There is no documentation on incentive plan for recycling of ESLs or on mercury awareness-raising plan.</i> The output is not fully achieved.

**Table 10: Assessment of the component 3: ESL market development and consumer education & awareness**

<b>Outcome 3</b>	Enhanced awareness about benefits of ESLs and significant increase in sales of ESLs and significant reduction in sales of ILs
Baseline	Inadequate consumer awareness about the benefits of CFLs, in particular, in provincial cities and rural areas

<sup>13</sup> Evaluation Office note: “Number of seized ILs shipments has increased” is not an output level indicator

Target	Increase awareness among general public about the benefits of ESLs; Increase the capacity of stakeholders to effectively promote the use of ESLs				
Indicators	- All stakeholders and at least 50% of consumers have become aware of the benefits of ESLs				
<b>Outputs</b>	<b>Achievements and evidence</b>	<b>Partners/consultants</b>	<b>PRF Indicators</b>	<b>PRF Target</b>	<b>Comments</b>
<b>03.1:</b> A national social marketing campaign for rural and residential users designed and implemented	A national social marketing campaign was designed to raise awareness of consumers in rural and residential areas and bring about changes in attitudes and behaviors of 4 distinct groups of consumers. Based on surveys conducted in many provinces, 10 specific activities were proposed. A long list of implementation partners/stakeholders were identified to implement the 10 activities.	Consultants: - International consultant - National consultants (social marketing, energy and environment, and policy and institution)	GoV has carried out at least one ESL raising and promotional campaign for each province, produced and disseminated annual ESL promotional materials starting from 2011, and developed a roadmap/master plan for ESL promotion	Campaign materials  ESL promotional materials  Project progress reports	Newspaper and journal focusing on natural resources and environment were employed for awareness creation (one wonders how many households in Vietnam have access to such specialized newspapers and journals). <u>Output evaluated as delivered (supporting evidence was provided during the evaluation report review phase) However, the quality of the campaigns has not been evaluated.</u>
<b>03.2:</b> Documented results of the market study on the ESL promotional campaign and the	A market research campaign for ESL was conducted. ILs production had seen an annual drop of 45% and LED accounted for 15% of market share. There was trend to move from ILs	Consultants: - International consultant - National Economic University	Study has been carried out to evaluate impact of ESL promotional campaigns	Ensure that promotion for the use of ESLs is done in a systematic manner	Market study showed that the use of ILs in households had reduced by only 3% since the initial survey. It questions the poor results achieved from the communication campaign. In the report prepared to evaluate the impact of the pilot

roadmap/master plan for ESL promotion	and FLs to CFLs and LEDs. Recommendations for the Preparation of a Promotion Campaign for Energy Saving Lamp (ESL) in Viet Nam were made to continue consumer education and support market transformation in favor of ESLs.		A roadmap/master plan for ESL promotion has been developed		project, it was mentioned that while ESL use is more common in the commercial sector, it faces challenges in the agricultural sector which perceives the initial cost of ESL as high in an economic activity characterized by high price volatility. While recognizing the positive impacts of government policy, it suggests the need for stricter quality control and illegal import of poor quality lighting products. <u>Output achieved but its relevance is discussed at the outcome level.</u>
<b>03.3:</b> Demonstration projects in rural areas implemented	Several demonstration projects were done in several provinces of Vietnam: 1. Distribution of ESLs in rural households Cao Bang, Ha Tinh, Ninh Thuan, Phu Tho, Quang Binh, Dak Lak and Tien Giang 2. Distribution of ESLs in agricultural activities in Binh Thuan and Tien Giang (dragon fruit plantation) and Dalat (flower farms)	Partners: - Local authorities of provinces - Research Center for the Development of Dragon Fruit - Southern Fruit Research Institute - Dalat Flower Association - ISPONRE  Consultants: - Hanoi University of Technology (HUT)	Minimum of three demonstration projects, involving the installation of 1,000 ESL products each, have been developed and implemented in selected rural areas	Increase awareness about ESL benefits in rural areas	In most of the demonstration projects, lamps were given free of cost to households as well as schools, health centers and houses of culture. No standard methodology or protocol was used to assess the savings from such replacement. The demonstration projects were accompanied by awareness campaigns and training. Surveys were done just after a month of project implementation and feedbacks from the beneficiaries were reported to be very positive.

	<p>3. Installation of LED lamps in fishing boats in Binh Dinh and Binh Thuan</p> <p>4. Installation of LED lamps in ISPONRE building</p>	- National Economic University (NEU)			<p>However, the survey done for the Output 3.2 concluded that the drop in the use of ILs was only about 3%.</p> <p><u>Outputs achieved</u> (pilots were completed but not necessarily being very useful/relevant to the purpose).</p>
<b>03.4:</b> ESL procurement plan for public sector developed			Regulations on ESL procurement for the public sector have been developed	Ensure that ESLs are also used in public sector	It was decided to drop this output because GoV has already adopted the policy of procuring energy efficient products by public authorities.

**Table 11: Assessment of the component 4: National policy and institutional support program towards phasing out of ILs**

<b>Outcome 4</b>	Policy and institutional systems able to support and monitor phasing out of the manufacture, sales and use of ILs and availability of good quality ESLs in the domestic market				
Baseline	Inadequate GoV and other national support available to transform the lighting market in Vietnam to an EE one				
Target	Establishment of the appropriate policy and institutional framework for an EE lighting market				
Indicators	- Appropriate policy and institutional systems are in place and operational				
<b>Outputs</b>	<b>Achievements and evidence</b>	<b>Partners/consultants</b>	<b>PRF Indicators</b>	<b>PRF Target</b>	<b>Comments</b>
<b>04.1:</b> Agreed national roadmaps and master plans for the	Following review of legislation, recommendations were made, and financial mechanisms suggested to	<p>Partner:</p> <p>- MOIT</p> <p>Consultants:</p>	Actual national roadmaps and master plans for the phase out of ILs and	Time-bound plans that will guide GoV and other stakeholders	The second report is an overview of energy efficiency programs for CFLs and TFLs; it is not a study to design or propose a roadmap. In the scope of this document, it mentions "The

<p>phase-out of ILs and promotion of good quality ESLs</p> <p>(revised: 4.1. Roadmap for phasing out ILs and ESL promotion implemented)<sup>14</sup></p>	<p>implement roadmap for energy labelling of ESL. Guideline was developed for implementing energy efficiency labelling roadmap (<i>in fact, the report states it is an overview of energy efficiency program for CFLs and TFLs; it is not a study to design or propose a roadmap</i>). Study was conducted on roadmap for phasing out the production, import and use of ILs.</p>	<p>- ??</p>	<p>promoting ESLs that are ready for implementation</p>	<p>to phase out ILs and promote good quality ESLs</p>	<p>voluntary scheme commenced in 2006, and revised on 12 September 2011, and the Mandatory Energy Efficiency Labeling Scheme will be implemented from the 1st January 2013.” Contribution of this document is not clear. The third report concludes by proposing something like the Decision 51 by the Prime Minister in 2011 to ban ILs above 60 W. This by no means can be considered as a roadmap or master plan as it does not elaborate on specific activities to be undertaken, the roles and responsibilities, and the timeline indicating the schedule of activities. <u>Output not achieved.</u></p> <p><i>(Evaluation team acknowledges that the activities implemented under this output were part of the Annual Work Plan that was approved by the PSC)</i></p>
<p><b>04.2:</b> Established national policy for phasing out ILs</p>	<p>A study was conducted on developing statistical indicators on energy use in National Statistical System. A report was produced supporting the development of a proposal</p>	<p>Partner: - MOIT - MONRE</p> <p>Consultants: - ??</p>	<p>Recommendations have been made to GoV with regard to phasing out ILs</p>	<p>Adoption and use of the appropriate national policy required for the phasing out of ILs</p>	<p>Both the documents are not appropriate for achieving the expected output. Since both these activities have no linkage to the establishment of national policy for phasing out ILs, it is not clear what prompted the project to support these activities, especially as the activities that were expected to be</p>

<sup>14</sup> The output was revised by the PMO as decided at the first PSC meeting because the GoV had already adopted the policy to phase out ILs above 60 W prior to the launching of the project. So, the output was not that ambitious to extend to ILs below 60 W.



	for “responding to climate change: projection of natural resources and environment” for presentation to the 7th Conference of the XI Congress of the Party Central Committee.		Draft guidelines on the implementation of the EE law with regard to the efficient use of lighting products have been developed  Adopted policies on phasing out production and utilization of ILs by the end of the project		undertaken for fulfilling the specific output are clearly elaborated in the Project Document. <u>Output not achieved.</u>  <i>(Evaluation team acknowledges that the activities implemented under this output were part of the Annual Work Plan that was approved by the PSC)</i>
<b>04.3:</b> Policy measures and incentives for ESL market development enhancement proposed through local partners	The two documents prepared were: - Policy to support the phasing out lighting equipment with energy efficiency below a minimum level - A study on the outcome of COP21, related to the commitment for the lighting industry and climate change action plan for the lighting industry in Vietnam.	Partners: - MONRE  Consultants: ??	Implementation of incentives for ESL recycling  Proposals of other potential incentives are made to GoV with focus on financial mechanism  Adopted policies on the	Adoption and use of appropriate policy measures and incentives required for ESL market development and enhancement	The first report covers basically about adoption of minimum energy performance standard (MEPS) for electrical appliances in general (since lamps also form part of this category of products, they also appear in the text). This second study refers to the global lighting challenge initiative for large-scale deployment of high-quality and high-efficiency advanced lamp and lighting systems in an accelerated timeframe. Like in the case of Output 4.2, however interesting these two documents may be on their own, are in no way related to the expected output.

			promotion of ESLs by the end of the project		<p>It is not clear why the project did not follow the activity that was elaborated to achieve the expected output: proposing financial incentives to accelerate the penetration of ESL in the market and incentives for ESL recycling.</p> <p><u>Output not achieved</u></p> <p><i>(Evaluation team acknowledges that the activities implemented under this output were part of the Annual Work Plan that was approved by the PSC)</i></p>
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65. On the whole, the evaluation team finds that the PMO tried to achieve the expected results by faithfully implementing the project components as outlined in the project document, barring the changes approved by the PSC, taking into account the policy initiatives taken by the government and market changes that had occurred during the time lapse between the formulation of the proposal and the starting of project implementation. However, no changes were made in the targets and indicators as a result of the changes approved by the PSC. The complete list of outputs is voluminous and shows the number of experts and consultants mobilized by the project.
66. Comments in the tables highlight the identified shortcomings in the manner some of the project activities were conducted. As pointed out for the different components, the participation of the key stakeholders was observed not be sufficient in some cases (e.g. MoF for Outcome 2 and EVN for Output 3, and MOIT for output 4). Experts from some of the relevant agencies were engaged as national consultants in their individual capacities to execute some of the project activities, and not representing the organizations they worked for. In the documents produced as outputs, there is practically no reference to the learning from the en.lighten network with the sole exception of the mobilization of GELC staff as international experts.
67. Some delays were noted in the implementation of most of the activities, especially for those involving intervention of international experts. This is mainly due to the procedural delay faced by UN Environment in recruiting consultants with the specialization required by the project. Also noted is the fact some of the activities were carried out without involving international consultants although budget was allocated to hire them and provide support to the project. The sub-optimal mobilization of international expertise is also reflected in the quality of some surveys and analyses that do not seem to have used any standard methodology.
68. As pointed out in the above tables, some of the activities undertaken have not really lead to the expected results, particularly in the case of the component 4 aiming at policy and institutional support program for promoting ESLs, which is perhaps the most important outcome of the project. Also, in component 3, the evaluation concluded that activities taken were not necessary most effective in consideration of the proposed social marketing strategies.
69. Some of the reports produced by the experts are only in Vietnamese language and no English translation is available, even in the form of summary of the reports. One may therefore wonder how effective the contribution of the technical advisor was, as he had the responsibility of reviewing the key outputs of the project as well as the technical reports submitted by the consultants. Incidentally, many documents in Vietnamese do not have a summary that could give an idea of the main findings of the study. Reports do not always carry the names of the authors and are not always well-structured in the view of the evaluator. Moreover, they are not correctly dated, and the dates appearing in some of the documents do not match with what is reported in project half-yearly progress reports. 60 % of the programme outputs were evaluated to be fully delivered.
70. Thus, the overall rating on the delivery of project's outputs is "**moderately unsatisfactory**".

### 3.3 Effectiveness: Attainment of project objectives and results

#### 3.3.1 Achievement of direct outcomes as defined in the reconstructed ToC

##### *Outcome 1: Local lighting industry capacity enhancement program*

71. The Outcome 1 aimed at successful business transformation of manufacturers of ILS and improved quality of locally produced ESLs at marketable prices. The fact that the market research was conducted following several energy efficiency initiatives undertaken by GoV and prior to the deadline set as January 1, 2013 for producing, importing and marketing of ILs with power capacities higher than 60W seems to suggest that ESL market transformation had already taken place between the time of preparation of ProDoc and the starting of the project. Hence, the evaluation questions the project's decision to continue using the mid-term and end-of-project targets as set at the time of project formulation while the baseline had changed drastically by the time the project implementation started. It may be recalled that the baseline considered that 60 million ILs were in use whereas the initial market survey concluded that less than 35 million ILs were in use and many of them would automatically be replaced at their end of their short life by ESLs because of the GoV ban on the manufacture, import and sale of ILs above 60 W.
72. As described in section 3.2, most of the activities were aimed at strengthening the technical and operational capacity of the two most important local lighting manufacturers so that they would switch from manufacturing ILs to improved quality ESLs at marketable prices. Before the official launching of the project, the GoV had already announced the timeframe for phasing out of ILs above 60 W and local manufacturers had already adopted measures to comply with the government directive (see footnote 3 for details). Hence, the first concern of switching the manufacturing from ILs to CFLs was not much of an issue as the local lighting industry had already taken this step to meet with the government directive.
73. Hence, the changing needs of the lighting manufacturers were considered in designing the training activities, focusing mainly on improving the quality of ESLs, both in terms of efficiency and their environmental impact. The two lighting industries were invited to give their comments on the appropriateness of the training activities proposed. The training evaluation report does not mention if the feedbacks from the manufacturers were considered during the design and delivery of training sessions. Post-training evaluation and feedbacks from the stakeholders of the two lighting companies suggest that while the participants had benefitted from the broad theoretical and general knowledge imparted during the training, the sharing of practical knowledge was not satisfactory. The 3-day training was perceived to be rather short, which was further exacerbated by the language barrier, and resulted in reducing the impact of the training. The training participants expressed in the survey following the training that the experts were withholding knowledge in matters related to new LED technologies and production techniques. Hence the trainees found the training to be "satisfactory, but not very successful". One of the possible reasons for this mismatch between what was delivered by GELC and what was expected by the trainees from the two companies could be the language barrier that necessitated translation which could have created some gap in comprehension. Also, while the experts were experienced to share knowledge through training, they were less prepared to answer very practical questions raised by the participants.<sup>15</sup>

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<sup>15</sup>When asked why the feedbacks of the local lighting manufacturers were not considered, a key project person responded that the contract signed with the International Consultants for the training activities was not flexible

74. Two national experts were engaged to support in the training component with one of the tasks being the assessment of the level of understanding and knowledge of the factory staff before and after the training. Interestingly, two separate reports were prepared by the two experts, but with the same contents.
75. As far as training and study tours are concerned, UN Environment has mobilized qualified international experts for ensuring the transfer of know-how. However, the expectation from the Vietnamese participants in terms of knowledge and technology transfer may have been high to be accommodated by a GEF project which attempts to address several barriers at the same time within limited budget. Moreover, the trainers in such capacity building efforts can only transfer knowledge on the basic principles, especially in a domain like efficient lighting that is rapidly evolving along with the market demand.
76. During interviews held with the representatives of the two participating companies, there was a general consensus that the technical knowledge imparted during the training has helped them to become more knowledgeable about the scope for improving the product quality as well as reducing the mercury contents in the manufactured CFLs. It is likely that both the local lighting manufacturers will get further support in the form of skills and knowledge transfer through the project funded by UNDP/GEF, aimed at removing barriers to increased production and utilization of locally produced LED lighting products in Viet Nam.
77. Taking the above into considered, the evaluation concludes that the direct outcome was partially achieved.

#### *Outcome 2: Improved Quality Assurance/Quality Control (QA/QC) framework*

78. The Outcome 2 aimed at strengthened and harmonized quality and performance standards and procedures in Vietnam, including compliance with regard to nationally and internationally traded lighting products. Good progress has been made in improving the QA/QC framework through the various activities undertaken by the project. Staff of national testing laboratories have been trained on all aspects related to the need for improving Vietnamese lighting standards so that they will be compliant with international standards, both in terms of lamp life, its energy performance and its environmental impact.
79. Based on the assessments of the national experts accompanied by international experts, training programs were designed and delivered to the staff of both the laboratories during the first quarter of 2014. Topics covered during the training included photometry, calorimetry and methods for testing lighting products. The trainees found the training contents to be useful. However, the focus was more on the theoretical aspects whereas the participants were expecting to get more practical exposure. Moreover, the participants who joined the study tour to China in March 2016 found it to be not so useful as the trip involved long hours of travel, and limited exposure to the technical aspects during the visits.
80. During the visits of the laboratories and discussion held with the concerned stakeholders in the framework of the evaluation mission, it was understood that both laboratories had not been able to mobilize financial resources to upgrade the existing laboratories with the measuring and monitoring instruments needed for testing the

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enough to accommodate such changes in terms of the contents and the length of training programs. If this is indeed the case, then there was no need to ask the manufacturers to provide any feedback on the design of the training program. Alternatively, the contracting with the international experts should have been done only after finalizing the training program and schedules.

lamp performance and quality. It would mean that while the laboratory staff gained theoretical knowledge from the training, they were not able to apply their skills due to absence of laboratory facility. This is a significant drawback in terms of strengthening the capacity of the testing laboratories, especially as both the laboratories had pledged co-financing to the project for this very purpose.

81. The project has successfully conducted training for the customs officials. Also, a handbook has been prepared by the Customs Research Institute on import and export management of incandescent lamps and energy saving equipment. It mentions about the need for coordination between customs officials and other concerned government agencies and action to be taken on goods in violation. Though the project document had identified the Ministry of Finance as the key stakeholder for the development of financial incentives, the PMO didn't have interaction with the Ministry of Finance in the project to address the issue of fiscal tools needed for the promotion of ESLs.
82. Finally, the project has assisted Vietnam Environment Administration (VEA) in the drafting of Guiding Circular for the Decision 50/2013/QD-TTg on collection and disposal of discarded products including lamps. However, lamp disposal is only a small component of the overall waste disposal and recycling issue. VEA has not made much headway in implementing regulation particularly regarding the disposal and recycling of mercury containing ESLs as there is no separate channel for segregating and treating disposed ESLs.<sup>16</sup>
83. As in the case of Outcome 1, the evaluation concludes that this direct outcome was partially achieved.

### *Outcome 3: ESL market development and consumer education and awareness*

84. Outcome 3 aimed at enhanced awareness about benefits of ESLs and significant increase in sales of ESLs and significant reduction in sales of ILs. Based on the results achieved under the component 3, the project has carried out all the tasks as outlined in the project document, starting with the designing of a national social marketing campaign, followed by its implementation, including the demonstration projects throughout the country. Reports of the demonstration projects mention about the impact of the project in creating awareness among stakeholders in the domestic and farming sector.
85. However, there is a disconnect between the proposed national social market campaign and its actual implementation, particularly in terms of the partners that were identified and those engaged to implement the activities. The national power utility company EVN which was rightly identified as a key partner for the development and implementation of national social marketing campaign, was not part of the execution of this component. After all, EVN can be seen as the most credible partner in terms of promoting ESL in Vietnam, considering its work over the past decade and wide presence in all provinces and districts of the country.<sup>17</sup>
86. There is no proper scientific or approved methodology adopted in evaluating the benefits from the demonstration projects (Output 3), such as those approved by the

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<sup>16</sup> The Circular No. 34/2017/TT-BTNMT dated 04 October 2017 has been reviewed by the evaluation team during the draft evaluation report review round; it specifies how the discarded lights should be stored, but there is no detail provided as to how it should be treated.

<sup>17</sup> According to a key project person, there were attempts to involve EVN but this cooperation did not materialize. Evaluation team's view is that this reflects the shortcoming in the consultation process held during the ProDoc development phase to identify and actively involve the key stakeholders.

IPCC or the GEF for the assessment of energy saving projects. The experts/consultants engaged by the project do not appear to have exposure to such aspects. Also, no physical measurement or monitoring systems have been considered to isolate the benefit of efficient lighting, particularly in pilot cases where lighting may represent only a part of the overall energy consumption (e.g. ISPONRE building, fishing vessels, etc.). In such circumstances, the credibility of the extent of energy savings is questionable.

87. As defined by the International Social Marketing Association, social marketing seeks to develop and integrate marketing concepts with other approaches to influence behaviours that benefit individuals and communities for the greater social good. The project seems to have just given away free lamps to the beneficiaries and the evaluation questions the marketing concept adopted by the project. On the other hand, the social marketing campaign study states that EVN had used its wide network of offices in all parts of Vietnam to sell 6 million CFLs to households in the communes, towns and rural areas during the period 2004-2011.<sup>18</sup>
88. The project also conducted public information campaigns (i.e. mini-film series, Writing and knowledge contests, print leaflets).
89. On the basis of the above observations, the evaluation concludes that the direct outcome was achieved but not as effectively as expected.

#### *Outcome 4: National policy and institutional support program towards phasing-out of ILs and promotion of ESLs*

90. Outcome 4 aimed at policy and institutional systems to support and monitor phasing out of the manufacturing, sales and use of ILs and availability of good quality ESLs in the domestic market. Based on the results achieved under the component 4, the activities undertaken seem far from being aligned with the primary objective of providing policy and institutional support for the lighting market development and ESL market transformation. It is a known fact that the MOIT has the mandate for developing policies and providing institutional support in the domain of energy efficiency and conservation in Vietnam. While the project document had rightly suggested a close interaction with MOIT for this component, MOIT does not seem to figure at all in this component.
91. Moreover, some of the studies supported by the project under this component are not linked with the expected outcome. For example, the evaluation questions how the study “responding to climate change: protection of natural resources and environment” presented to the 7<sup>th</sup> Conference of the XI Congress of the Party Central Committee would lead to national policy for phasing out ILs. Similarly, evaluation team does not see how the study of the results of the COP 21 and the relationship between the lighting industry’s commitment and the climate change action plan for the lighting industry in Vietnam contribute to policy measures and incentives for ESL market development and enhancement, through local partners.
92. Using the above facts, the evaluation concludes that the direct outcome was not achieved.

#### *Outcome 5: Increased access to knowledge of methods and good practices related to ESL market penetration*

93. Following the Prodoc narrative Outcome 5 was reconstructed keeping in mind the aim to provide a global “open space” for exchange and communication on ESLs

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<sup>18</sup> EVN was able to sell lamps without subsidy because the price of lamps could be brought down through bulk purchasing.

between all the stakeholders. As explained, this outcome was not formally included in the Results Framework though it was elaborated in the ProDoc. This aspect was repeatedly mentioned in the progress, however the evaluation team's view is that no sufficient action had been taken to document the impacts of the project activities, including results of the demonstration projects, which could serve as lessons for eventual replication both in Vietnam and in other countries, and be used for facilitating global information exchange and networking.

94. Following the recommendation of the MTE, action was initiated by PMO as well as UN Environment to develop and disseminate reports synthesizing the outputs from the different components. Preliminary draft reports of the impacts of the project activities available at the time of evaluation were reviewed and found to be simple reflections of what was available in the project reports, and not an objective assessment of the impacts of the project.
95. Moreover, final report was not made available to the evaluation by the project; this report could have highlighted the learning from the project's methods and the good practices related to ESL market transformation. Hence, the evaluation concludes that the direct **outcome was not fully achieved**.
96. Based on the review of the project results, evaluation summarizes three out of five direct outcomes were only partially achieved and two were not achieved. Notable among the latter is the support to the establishment of policy and institutional systems able to support and phasing out of the manufacture, sales and use of ILs and availability of good quality ESLs in the domestic market. Also important is the aspect related to the strengthening and harmonizing quality and performance-based standards, particularly in relation to the safe disposal of mercury in ESLs and recycling of lamps. Hence, the overall rating of direct outcomes is "**moderately unsatisfactory**".

### 3.3.2 Likelihood of impact

97. The ROTI approach is employed to assess the likelihood of impact by building upon the concept of Theory of Change (ToC), as elaborated in Chapter 2.8. In the reconstructed ToC, two levels of intermediate states have been identified before the final impact can be achieved by the project. The project's direct outcomes contribute to achieving these intermediate states which are beyond the control of the project; several other factors need to be in place. Some of the key factors identified in the reconstructed ToC are "drivers" whom the project can influence, whereas others are "assumptions" which are not under the control of the project.

#### *Level 1 of the Intermediate states*

98. Only one driver needs to be in place to lead to this intermediate state: Building on the learning from this project, UN Environment needs to mobilize international resources for the functioning of a global "open space" for exchange and communication on methods and good practices related to ESL market transformation. In partnership with GEF, UN Environment has initiated projects to speed up the transformation of the market for environmentally sustainable efficient lighting technologies in the emerging markets of developing countries. This project is meant to serve as an "umbrella" under which UN Environment intends to undertake further national projects in several Southeast Asian countries.
99. The transition from the outcomes to the level 1 of the intermediate states is dependent on several assumptions:
100. *Manufactures upgrade production lines for good quality ESLs*: Market surveys conducted showed that there is a rapid lighting market transformation taking place in



Vietnam. The project has imparted training for the two most important local manufacturers on how to produce more efficient lamps with less impact on the environment. The UNDP LED project is likely to provide further support to these two lighting manufacturers so that they can trigger the market for efficient lamps not only for sale in Vietnam but also for export to neighbouring ASEAN countries.

101. *Government mobilizes resources to strengthen testing laboratory facilities, and trained staff available to inspect quality of locally manufactured/imported ESLs:* The testing laboratories that received training still lack the means to invest in testing equipment that can help to ensure the quality of lamps produced and sold in the market. Moreover, while the project has assisted in developing standards and procedures including compliance with internationally traded lighting products, well-trained staff are likely to play a key role in developing systems and procedures for production and testing of quality ESLs and developing guidelines for recycling and safe disposal of ESLs.
102. *Government provides incentives for lighting market transformation, public media supports regular public awareness campaigns, and provincial and local authorities support ESL procurement:* Through the social marketing campaign the project has, to some extent, assisted public policy makers in understanding market barriers, and enhanced consumer awareness about the benefits of ESLs.<sup>19</sup> Along with the supply side actions taken by the lighting manufacturers, demand side actions through government, media and local authorities are essential for addressing market barriers.

#### *Intermediate states - level 2*

103. The following drivers need to be in place to lead to the next level of intermediate states:
104. *Government endorses revised standards and guidelines, adopts policy to phase out ILs, and customs office bans the import and export of low quality ESLs:* It has been noted that even prior to the implementation of the project, GoV had already taken several initiatives to promote energy conservation and efficiency, through regulatory and market-based mechanisms, such as the phasing out of ILs above 60 W and the widespread dissemination of CFLs through EVN's utility demand side management program. The project has assisted in building the capacity of national laboratories, and studying national and international standards, guidelines and practices; reports have been prepared and shared with relevant GoV agencies such as the officials from the MOIT and the customs department. It is important that these public bodies now take the project's initiatives forward by revising standards and guidelines and adopting suitable regulatory and market-based mechanisms to achieve lighting market transformation in Vietnam.
105. One assumption has been identified for the transition to intermediate state 2 as far as increased access to knowledge of methods and good practices is concerned:
106. *Other countries show interest to learn from the project's experience:* Among the neighbouring developing countries, Vietnam has become the first mover to take concrete initiatives for lighting market transformation with assistance from GEF and UN Environment. Just creating a global "open space" for exchange and communication on ESLs does not guarantee that neighbouring countries

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<sup>19</sup> Social marketing is a terminology used commonly in Vietnam. It is a marketing concept that holds that a company should make marketing decisions not only by considering consumers' wants, the company's requirements, but also society's long-term interests. Therefore, marketers must endeavor to satisfy the needs and wants of their target markets in ways that preserve and enhance the well-being of consumers and society as a whole (source: [https://en.wikipedia.org/wiki/Societal\\_marketing](https://en.wikipedia.org/wiki/Societal_marketing)).

automatically adopt required policy and regulatory frameworks. It is assumed that the regional developing countries will adopt country programs by learning from the project's experience.

*Impact: GHG emissions reduced, household electricity costs saved, and mercury releases reduced*

107. Several drivers need to be in place to move from the level 2 intermediate states to the intended impacts:
108. *Standards and guidelines are periodically updated and ban on the import and export of low quality ESLs are strictly enforced:* Standards and guidelines keep getting revised along with the progresses made in the lighting technology and market transformation. GoV needs to keep abreast with such changes to ensure periodical update of national standards and guidelines to achieve even greater environmental and social impacts.
109. *Government enforces less mercury use and safe disposal of ESLs:* The project has supported lighting manufacturers in designing lamps with less mercury contents; it has shared international experience in the implementation of policies and regulations on lamp waste management and has supported VEA in drafting Guiding Circular on collection and disposal of discarded lamps. GoV now needs to ensure the enforcement of regulations that allow reduction in mercury use and safe disposal of CFLs. Considering the latest trend of CFLs being replaced by LED lamps, GoV should also consider how to handle LED lamps at the end of their lives.
110. *Government in other countries strictly adopt standards and guidelines and ban the import and export of low quality ESLs:* ASEAN Economic Integration is a big boost for breaking regional trade barriers and free flow of goods and services. It also provides countries a great opportunity to come together and adopt more harmonized standards and guidelines that will more effectively eliminate market for low quality lamps. Only by strictly adhering to improved standards and guidelines can the governments in the region ensure complete elimination of low quality ESLs from the market.

**Overall status of drivers and assumptions**

Drivers: By creating awareness, training and capacity building, sharing policies and best practices, drafting circulars and regulations, the project has attempted influencing the drivers to ensure they are in place for achieving the level 1 of the intermediate states. Better results could have been expected if the project's efforts to engage with all the key institutional stakeholders identified during project formulation had been more effective, and if the project had adopted a more systematic approach to involve them in the execution of the various activities implemented by the project.

Assumptions: The assumptions for achieving the two intermediate states and the intended impact are not quite in place. GoV has shown its commitments to address climate change and is taking mitigation measures through the adoption of energy efficiency in the economy. However, the extent to which GoV will mobilize resources needed to sustain, upscale and replicate the processes and capacities developed is yet to be confirmed. There is certain risk of GoV not mobilizing the required resources needed to further develop human resources, strengthen capacities of testing laboratories, continue to support awareness campaigns, provide incentives for procurement of ESL and transform the lighting market. The assumption that UN Environment is willing to mobilize international resources for the functioning of a global space for exchange and communication of ESLs remains valid but UN Environment's action in this direction is yet to be confirmed.

111. The ROtI method requires ratings for outcomes achieved by the project and the progress made towards the "intermediate states" at the time of evaluation. The rating system is presented in Table 12.

**Table 12. Ratings scale for outcomes and progress towards “intermediate states”**

Outcome Rating	Rating on progress toward Intermediate States
D: The project’s intended outcomes were not delivered	D: No measures taken to move towards intermediate states.
C: The project’s intended outcomes were delivered, but were not designed to feed into a continuing process after project funding	C: The measures designed to move towards intermediate states have started, but have not produced results.
B: The project’s intended outcomes were delivered, and were designed to feed into a continuing process, but with no prior allocation of responsibilities after project funding	B: The measures designed to move towards intermediate states have started and have produced results, which give no indication that they can progress towards the intended long-term impact.
A: The project’s intended outcomes were delivered, and were designed to feed into a continuing process, with specific allocation of responsibilities after project funding.	A: The measures designed to move towards intermediate states have started and have produced results, which clearly indicate that they can progress towards the intended long-term impact.

112. As elaborated in section 3.3.1, most of the direct outcomes of the project were partially achieved or not effectively achieved. Moreover, the project has not adopted any exit strategy to sustain the project initiatives, with the expectation that the concerned government agencies have been sufficiently sensitized and supported to take the initiative forward in their respective domains of competences. There is no evidence of plans for further concerted activities by the project stakeholders after the completion of the project. In the absence of any structured coordination among the various stakeholders and no further commitment for resources, the capacity and financial constraints are likely to be stumbling blocks for continuing and sustaining the project’s initiatives. Based on the above, there is no single rating category that accurately reflects the delivery of project outcomes. Hence, the **progress towards outcomes is rated as “C”**.

113. While the project activities and outputs were expected to assist in the transitions from the outcomes to the intermediate states, there is limited possibility of intermediate achievements because some of the outcomes have not been achieved effectively, particularly related to suitable market mechanisms and policies to promote ESLs and phase out inefficient lamps. Some of the necessary drivers and assumptions to move from the outcomes towards the two levels of intermediate states are not in place. Though the UNDP/GEF supported project is likely to assist in the transition, the evaluation team didn’t find evidence of formal interaction between these two projects<sup>20</sup> because of which there is no guarantee that the UNDP/GEF project will focus on the drivers and assumptions of the present project, particularly in terms of understanding of market mechanisms and adopting policies and incentive mechanisms for promoting ESLs. Since many of the stakeholders of the project are also the key stakeholders of the UNDP/GEF project, one can reasonably assume that UNDP/GEF project will provide the necessary support to move from the project outcomes towards intermediate states, though it is too early to predict

<sup>20</sup> At the time of the evaluation report review, a project stakeholder input (single source) indicated that consultation took place between these two projects.

whether it will lead to the intended long-term impact. Hence, the **progress towards the intermediate states is rated “C”**.

114. There is a global trend towards the use of ESLs and Vietnam is also following a similar trend. Moreover, GoV’s past policies have already helped to phase out many inefficient lamps from the market and the manufacturers have also taken a positive stance to increase ESL production with improved quality. Also, surveys done by the project show that the project appears to have contributed positively in enhancing awareness of consumers from the demonstration sites about the benefits of ESLs, resulting in higher penetration of ESLs. Hence, **the impact is rated as “+”**.

115. The assessment of the project’s progress towards achieving its intended outcome is presented in Table 13.

**Table 13. Results ratings of the project**

Results rating of the project: Phasing out incandescent lamps through lighting market transformation						
Outcomes	Rating (D-)	Intermediate states	Rating (D-)	Impact (GEBs)	Rating (+)	Overall

<p>O1: Manufacturers are capable of transforming their business and producing improved quality ESLs locally</p> <p>O2: Quality and performance-based standards and procedures are strengthened in Vietnam, including compliance with nationally and internationally traded lighting products</p> <p>O3: Increased understanding of marketing mechanism by public policy makers and enhanced awareness of consumers about the benefits of ESLs</p> <p>O4: Institutional decision makers grasp the relevant policies and incentive mechanisms for promoting ESLs</p> <p>O5: Increased access to knowledge of methods and good practices related to ESL market transformation</p>	C	<p>IS1: Increase in CFLs sale as both demand and supply side actions address market barriers; systems and procedures for production and testing of quality ESLs developed; Quality parameters are harmonized with international requirements; Guidelines are developed for recycling and safe disposal of ESLs; Policy and institutional systems support and monitor phasing out of ILs and availability of good quality ESLs in the domestic market; Global "open space" is created for exchange and communication on ESLs</p> <p>IS2: ILs are phased out, lighting market transformed, and high-quality ESLs widely used in Vietnam; mercury-free technology development promoted; Lessons learned and best practices replicated in other countries</p>	C	<p>GHG emissions reduced; household electricity costs saved and mercury releases reduced</p>	+	
<p><b>Rating justification:</b> Activities aimed at increasing understanding of the market and policy and incentive mechanisms have not been effective in delivering the expected outcomes. Capacity and financial constraints along with the lack of any coordinating mechanism beyond the project life are likely to be stumbling blocks for sustaining initiatives. There is no</p>	<p><b>Rating justification:</b> The drivers and assumptions to move from the outcomes towards the intermediate states are not in place. Though UNDP/GEF project is likely to assist in the transition and provide the necessary support to move from project outcomes towards intermediate states, there has so far not been any formal interaction between the two projects although both projects have many common stakeholders.</p>	<p><b>Rating justification:</b> The project has reportedly achieved some reduction in the use of inefficient lighting in the pilot areas. In the absence of any credible marketing mechanisms, this could be attributed to the policies adopted by the GoV to phase out many inefficient lamps from the market prior to the start of the project.</p>				

single rating category (Table 12) that accurately reflects the delivery of project outcomes.			
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116. According to the ROTI methodology, the rating is translated into the usual six-point rating scale used in all UN Environment project evaluations, as shown below.

Highly Likely	Likely	Moderately Likely	Moderately Unlikely	Unlikely	Highly Unlikely
AA AB BA CA BB+ CB+ DA+ DB+	BB CB DA DB AC+ BC+	AC BC CC+ DC+	CC DC AD+ BD+	AD BD CD+ DD+	CD DD

117. The aggregate rating is “CC+” and could therefore be, as per the methodology outlined in the above Table, rated as “Moderately Likely” to achieve the expected impact. However, it is important that the UNDP/GEF project takes cognizance of the achievements and drawbacks of this project to proactively support the drivers in leading towards the intended impacts.

118. The rating for the project’s likelihood to achieve the intended impact is “**Moderately Likely**”.

### 3.3.3 Achievement of the formal project objectives as presented in project document

119. The overall goal of the project is “to speed up the transformation of the market for environmentally sustainable efficient lighting technologies in the emerging markets of developing countries”. The objective of the project is “to phase out incandescent lamps (ILs) production and sale through the transformation of the lighting products market as well as the promotion of high quality ESLs in Vietnam, thus reducing greenhouse gas (GHG) emissions”. As per the project design, the project will build on experiences and lessons learned from the en.lighten initiative (Global Market Transformation for Efficient Lighting), and the project will serve as an “umbrella” under which further national projects in Southeast Asian countries will be undertaken. Hence the objective is specifically focused on lighting market transformation in Vietnam whereas the goal is to scale up the experience to the regional or global level.

*Objective: to phase out incandescent lamps (ILs) production and sale through the transformation of the lighting products market as well as the promotion of high quality ESLs in Vietnam*

120. Transformation of the lighting market: This is the same as that described for Intermediate State 2 which is linked to the Outcomes 1 to 4. While the component 4 addresses the supply side of ESLs, the components 3 and 4 are all about creating the demand for ESLs through the introduction of suitable policies, incentives and market mechanisms. The component 2 will also partially contribute to this objective of promoting high quality ESLs. Though the mercury issues associated with CFLs and the safe disposal of ESLs is not included as part of the objective, the other aspect of the component 2 concerns promotion of technology to abate mercury emission. While the project was relatively successful in building the capacity of local manufacturers and testing laboratories, the same cannot be said about the policies and incentives as well as market mechanism to promote ESLs. Moreover, no

planning has been made and no resources have been committed to proceed beyond the outcomes.

*Goal: to speed up the transformation of the market for environmentally sustainable efficient lighting technologies in the emerging markets of developing countries*

121. Transform market for environmentally sustainable efficient lighting technologies in developing countries: As stated in the project document, while achieving the project objective which is limited to the territory of Vietnam, the overall goal is to learn from the project's experience and disseminate the knowledge of methods and good practices related to ESL transformation in neighbouring developing countries. The project failed to capture the methods, good practices and lessons learned till it was pointed out in the MTE report. Though initiatives have been taken to document these at the last moment, their effectiveness in terms of quality and content can be questioned, especially considering that the final versions were not available during the terminal evaluation. UN Environment Regional Office in Bangkok, on the other hand, has however the intention of disseminating the results in neighbouring countries like Myanmar and Pakistan.
122. The overall rating for the achievement of project goal and objective is "**moderately satisfactory**".

### **3.4 Sustainability and replication**

123. Sustainability is understood as the probability of continued long-term project-derived results and impacts after the external project funding and assistance ends. The four aspects of sustainability addressed in this section include socio-political, financial resources, institutional framework and environmental sustainability.
124. The outputs generated by the project have helped to strengthen technical capacities, created greater awareness, introduced social marketing through demonstration projects, etc. The progress from the project outcomes to the intended impacts, both at the national and the regional level, will depend on government policy and incentives, adoption and strict enforcement of product standards, certification and labelling, and the progress in lighting technology and its global adoption, and last but not least, further concerted efforts by the project stakeholders to sustain project outcomes after the completion of the project. If the mercury contents of ESLs are not reduced and the lamps are not responsibly disposed, there could be adverse impacts on the environment and human health. There is some likelihood of UNDP/GEF project helping in sustaining the actions initiated by the project.

#### **3.4.1 Socio-political sustainability**

125. The GoV has made international commitments to reduce GHG emissions and is well aware of the economic, social and environmental benefits of energy efficiency. This is reflected by the fact that before even the project implementation started, GoV had taken initiatives to:
- Approve the Law of saving and efficient use of energy;
  - Mandate all public entities to purchase energy efficient products;
  - Set the dates to ban the import, production and sale of ILs over 60W; and
  - Establish a national inspection system for standards on energy efficiency and energy efficient products.
126. The national power utility EVN has been disseminating ESLs for more than a decade as a part of its Demand Side Management (DSM) strategy. UNDP has started



implementing an energy efficiency lighting project with support from GEF through the promotion of LED production and dissemination using local manufacturers in Vietnam. Moreover, with the hikes in electricity prices in the recent years, households and businesses clearly see the economic merits of switching to ESLs. Hence, the rating for socio-political sustainability is **“likely”**.

127. However, one may question how far the project has contributed to ensure socio-political sustainability. The involvement of the key institutional partners in the execution of the project activities and delivery of outputs was relatively low. It is true that the project did engage individuals from relevant government organizations as consultants to prepare studies, build capacities and deliver reports, but this cannot really be equated to the active involvement of organizations as project partners. Moreover, no visible efforts were made by the project to collaborate with similar initiatives for promoting ESLs in Vietnam, such as EVN’s CFL distribution program under CDM, Vietnam’s Energy Efficiency Standards and Labelling Program supported by Australian Aid, UNDP’s Small Grants Program to promote LED lights for fishing to reduce GHG emissions, and UNDP/GEF project for local development of LEDs.

### 3.4.2 Financial resources

128. The issue of future financial sustainability has not been considered by the project. What is of greater concern is that the key project stakeholders have not made any concerted efforts to maintain project outcomes after the completion of the project. Sustaining project outcomes requires some funding which could be secured from the GoV and other sources such as the UNDP-GEF LED lighting project. MOIT being the nodal ministry to mandate the promotion of energy efficiency in Vietnam will continue to support ESL in terms of policies, incentives and standards and labelling, awareness activities on its own and in partnership with other relevant stakeholders at the national and local levels. UNDP-GEF is focused on supporting local development and promotion of LED technologies. And EVN continues to promote ESLs, particularly LEDs, through its wide network of branches and offices all over the country.

129. Hence, despite the failure of the project to secure the future financial sustainability of the prioritized actions, the rating for financial sustainability is **“moderately likely”**, particularly if the UNDP-GEF project works closely with the key institutional stakeholders to ensure the ultimate impacts.

### 3.4.3 Institutional framework

130. The project has made efforts to create greater awareness and sensitize the key national partners through activities aimed at developing standards and procedures, guidelines and legislation, etc. But the efforts made to involve the key institutional organizations in the project were not as outlined in the ProDoc. Overall, the project was not very successful in proposing desired changes in the institutional framework, mainly in terms of policies and incentives mechanisms needed to promote ESLs.

131. The GoV has however adopted suitable institutional structure to further the cause of energy efficiency in the country, including that of ESLs. Hence the rating for the institutional sustainability is **“likely”**.

### 3.4.4 Environmental sustainability

132. The shift towards ESL supports positive changes not only in global GHG emissions but also the local emissions in the form of reduced mercury content in FLs and CFLs. The presence of mercury in FLs and CFLs is harmful to human health and environment. The project’s aim was to reduce the mercury content in these lamps and enhance the capacity of civic authorities to handle and safely dispose mercury in



the lamps. The LED technology is progressing rapidly around the world, helping to transform the light market by making it more affordable. Moreover, as LED does not contain any mercury, it will contribute to further drop in mercury emissions, bringing about more positive environmental and health benefits.

133. In the case of Vietnam, strict enforcement of standards to eliminate cheap but poor-quality products in the market and to adopt measures for safe collection and recycling of ESLs are critical to avoid negative impact on the local environment. In the overall objective, the target is to issue regulations for recycling and safe disposal of ESLs whereas there is no mention of any target for the outcome 2 which includes activities to study and introduce regulations for recycling and safe disposal of ESLs. The project has supported the concerned institutional authorities to take note of the issue but more needs to be done to ensure an effective enforcement regime. Hence, the rating for environmental sustainability is **“likely”**.

134. According to the UN Environment Evaluation Office guidelines, the overall rating cannot be higher than the lowest of the four sustainability ratings. Hence, the overall rating for the sustainability is **“Moderately likely”**.

#### 3.4.5 Catalytic role and replication

135. The project has played a catalytic role in strengthening the technical capacities of the local lighting manufacturers in producing better quality ESLs and in reducing the mercury contents of the CFLs. On the other hand, the extent to which the project has catalyzed behavioural changes of consumers and other relevant stakeholders is debatable. The project initiated several demonstration projects, but no standard monitoring mechanism was adopted to assess the savings accrued from the replacement of lamps. Surveys were conducted barely a month after the free distribution of lamps for the households in rural areas; this time gap is rather brief to realistically quantify the benefits of replacing the lamps, both qualitatively and quantitatively. Another such example is the decision of the PMO to use MONRE’s highly scientific and environmental newspaper and journals to create awareness, even though the surveys conducted in the activities related to social marketing campaign concluded that the general public did not read scientific and environmental news from newspapers.

136. As far as incentives are concerned to catalyze changes in stakeholder behavior, lamps were given away free of cost to rural households and are unlikely to be replicated or scaled up in the absence of any sustainable business model. The en.lighten Toolkit provides many solutions and shares experiences and good practices in several countries, including the case study of EVN in Vietnam. In contrast to the strategy adopted by the project, EVN had managed to bring down the cost of high quality lamps distributed to the customers by bulk purchasing through competitive tendering process way back in 2004.

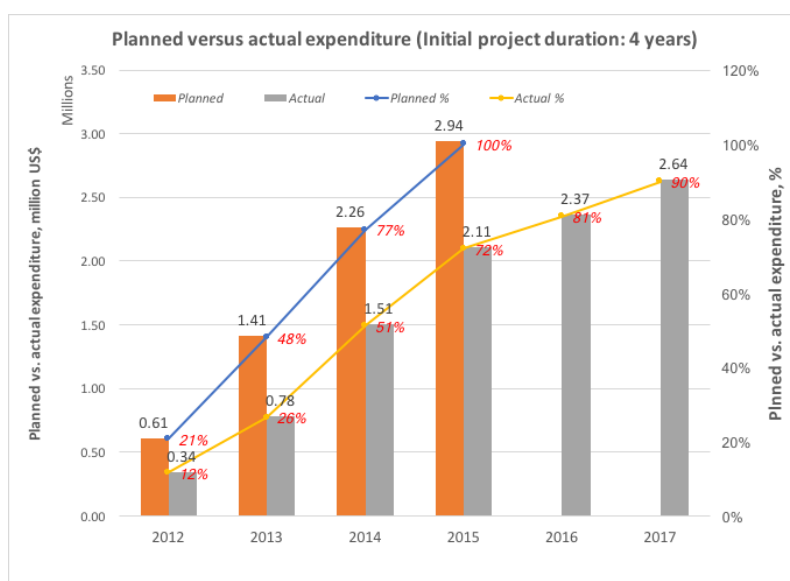
137. The project has produced documents in components 2 and 4, meant to contribute to institutional and policy changes. However, the impact in real terms is not appreciable because of the lack of active involvement of the concerned stakeholders.

138. As far as sustained follow-on financing is concerned, this has neither been considered by the project nor discussed with the government partners or any other potential supporting agencies. Therefore, the rating for the catalytic role and replication is **“moderately unsatisfactory”**.

### 3.5 Efficiency

139. The efficiency of the project’s implementation is being assessed using its cost-effectiveness and timeliness. The PMO has strived to complete all the tasks outlined in the ProDoc though some of these outputs were found not to be adequate or appropriate for achieving the expected outcomes.<sup>21</sup> Such qualitative and quantitative inadequacies cannot be attributed to the lack of funds as 28% of funds remained unused by the end of initial project closure date (see Figure 2). Also, while funds were allocated for some activities, there wasn’t documentation available for the evaluation team of what was delivered. For example, many workshops and meetings were conducted but no agenda or minutes were kept. Similarly, substantial budget was allocated for the project’s participation in ENTECH 2015 but there is no documentation of the context in which the project participated in the event and what were the concrete outputs from this event (this was also mentioned in the half yearly progresse report)<sup>22</sup>.

140. Figure 2 illustrates the planned versus actual expenditure of the project. The project was initially planned for a duration of 4 years and GEF grant amounted to US\$ 2.94 million. At the end of 4 years, the actual expenditure accounted for 72% of the planned grant budget. Following the extension of the project by another year, the project had spent 81% of the grant budget by December 31, 2016. Despite further disbursements made by UN Environment in 2017 after the official closure of the project, the project is still left with 22% of the UN Environment Budget unspent (or 10% of the grant budget unspent).<sup>23</sup>



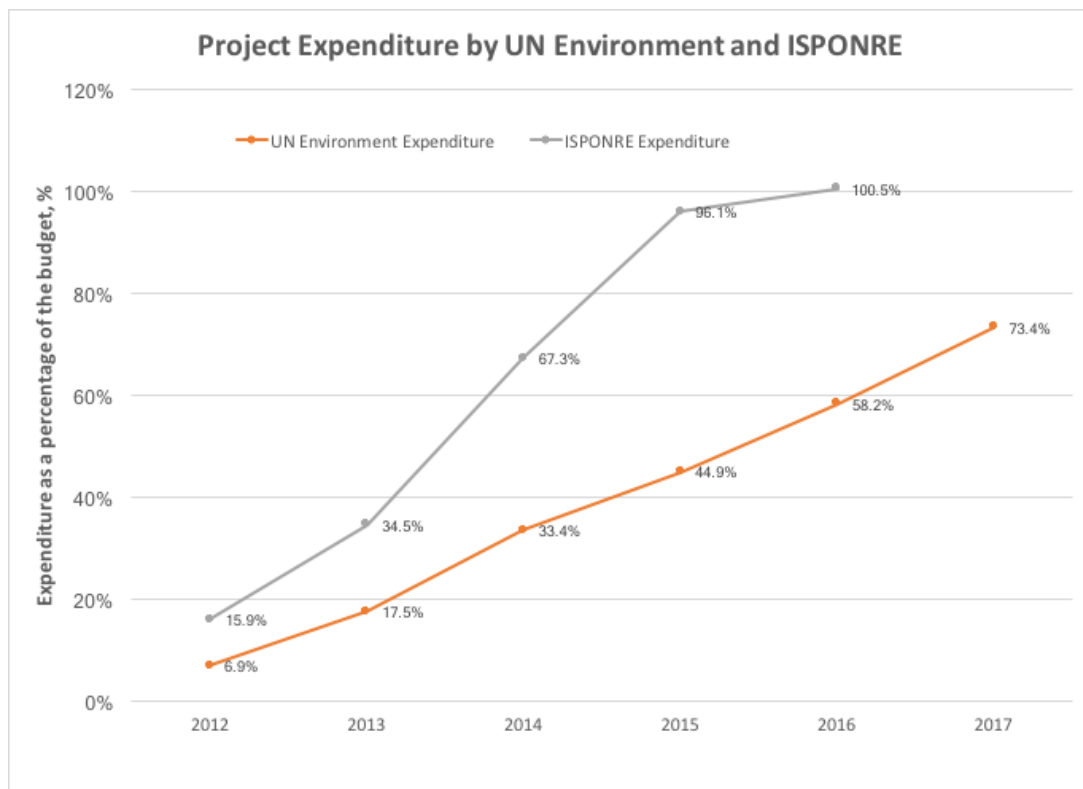
**Figure 2: Planning versus actual expenditure of the project**

<sup>21</sup> Interestingly, most of the project outputs were achieved during 2013-14, and a limited number of outputs were produced in 2015 to meet the project deadline. However, since the budget was still available to fulfill the recommendations made by the MTE, the project duration was extended to conduct more demonstration activities, produce materials for disseminating on national TV, and to document good practices and lessons from the project. However, no concrete activities were undertaken during the first half of 2016 due to the lack of clarity on the activities to be prioritized and undertaken as well as the delays by UN Environment in approving the budget to be used by ISPONRE.

<sup>22</sup> Evaluation office acknowledges that documentation that demonstrates project participation in the ENTECH event was provided by partners during the evaluation report review round.

<sup>23</sup> The terminal evaluation costs do not form part of the unspent grant budget as they have been considered as “committed expenditure”.

141. The numbers presented in the above figure do not consider the project's co-financing. Unfortunately, the PMO has not kept track of the project's actual co-financing, which was expected to contribute to 88.3% of the total project cost.
142. Detailed analysis of the project expenditures is done to understand how the budget was allocated and how effectively it was used by the project. This happens to be the first project in which UN Environment has partnered with a local agency for the in-country execution of a GEF project. Following the initial agreement, UN Environment retained the budget to cover the cost of international experts and international travels whereas ISPONRE was entrusted with a budget to cover the costs of local personnel, national consultants, training and workshops, and the operation of the PMO. The statements of actual expenditures are presented in Figure 3.



**Figure 3: Statement of actual expenditures by UN Environment and ISPONRE (Source: UN Environment)**

143. At the end of 4 years of project implementation, the actual expenditure of ISPONRE was only 4% below the budget whereas UN Environment had engaged less than 45% of the budget. At the end of the official closure of the project on December 31, 2016, ISPONRE had fully spent the allocated budget whereas UN Environment was left with over 40% of unspent budget. This is despite the fact that UN Environment expenditure in 2016 included a separate sub-contract of US\$180,000 for ISPONRE to undertake additional demonstration and outreach activities. Thanks to a more detailed analysis of the project expenditure, the main reason for UN Environment being unable to engage the funds as planned is due to limited engagement of international experts in the project. An amount of US\$964,000 was initially budgeted for hiring international experts to support activities related to ESL production, testing and standards, environment, marketing campaigns, policy, etc.

144. Without considering the initial delay to start the project, the project was expected to be completed by 2015. Some delays in activities were due to the time taken in getting work plans approved by the PSC, and the time needed for UN Environment to identify and engage suitable international experts to support project activities. However, these reasons do not justify the exceptionally low expenditure by UN Environment by the end of 2015 (44.9%). Moreover, UN Environment had spent less than one-third of the budget for international experts (US\$310,043), including a sub-contract of US\$119,642 to GELC. This could be one of the principal reasons for the relatively low quality of outputs of some of the project components that were carried out without mobilization of international expertise from the en.lighten network.
145. Also, a consultant was hired by UN Environment to provide technical support to the project. During the evaluation, practically no documentary evidence could be shared by the consultant to showcase the effectiveness of the service rendered to the project, in terms of advice and quality control.
146. As seen above, the project has not scored well in terms of both cost effectiveness and timeliness. The evaluation cannot, however, assess the expenditure against the component level information because UN Environment was unable to share a systematic record of expenditure by components. Four financial revisions were made between 2012 and 2015 to reallocate the budget based on the unspent expenditures of the previous years. No official financial revision was made after 2015 for the expenditures incurred till the end of the project. According to UN Environment Fund Management Office, a 5<sup>th</sup> financial revision was discussed but not formally adopted. The rating for efficiency is “**unsatisfactory**”.

### **3.6 Factors and processes affecting project performance**

147. This section discusses the factors and processes that affected the project performance under eight categories, as follows.

#### **3.6.1 Preparation and readiness**

148. Prior to designing the project in Vietnam, UN Environment had already established a partnership with GEF to launch the en.lighten initiative with the objective to accelerate a global market transformation to environmentally sustainable, energy efficient lighting technologies, as well as to develop strategies to phase-out inefficient incandescent lamps to reduce CO<sub>2</sub> emissions and the release of mercury from fossil fuel combustion. The en.lighten initiative was designed to serve as a platform to build synergies among international stakeholders; identify global best practices and share this knowledge and information; create policy and regulatory frameworks; address technical and quality issues; and encourage countries to develop National and/or Regional Efficient Lighting Strategies. The project in Vietnam was developed with the premise that it will be properly coordinated with the global en.lighten project in order to learn from the experiences and actions taken in other countries. UN Environment had chosen Vietnam as the first country in the region to benefit from the global experience with the understanding that the project will serve as an “umbrella” under which further national projects in various Southeast Asian countries will be undertaken.
149. Given the above, the project could have been better designed as there are some gaps between the ProDoc text and the project results framework. Moreover, the contents of the ProDoc are more general in nature without specifying the learnings from the international experiences that could benefit Vietnam. It should be noted that Vietnam already had considerable experience of promoting ESLs, particularly through the UNDP-GEF program aimed at public lighting and the EVN program aimed at

households throughout the whole country. The learning from these projects could have helped in better designing of the project.

150. The section on “stakeholder mapping and analysis” mentions that consultations were made with several stakeholders through meetings and the identified stakeholders will be involved in project implementation by using appropriate mechanisms and channels. There is no mention of any consultative meetings being held with the identified stakeholders to ensure their involvement in project development and sharing with them the proposed timeframe and budget to enable effective and efficient implementation. The ProDoc recognizes that MOIT is responsible for defining government policies on energy efficiency as well as proposing of legislative framework for the implementation of energy efficiency regulations. So, the evaluators question why MONRE which has the mandate to manage natural resources and environment, took up the responsibility of developing policies and standards for CFL and ESL. In the same vein, it was not clear for the evaluators why ISPONRE was chosen to manage and monitor implementation of the project considering the fact it has never carried out any activity related to ESL. Based on the feedbacks from some stakeholders, the decision could have been done because of MONRE’s role as the national focal point for GEF, that has influence over the GEF allocation for Vietnam.
151. During the stakeholder mapping, EVN was identified as a stakeholder active in the production and trade of electricity but there was no mention of the fact that EVN has had considerable experience in promoting ESLs in Vietnam. Evaluation team’s view is that these examples show that the capacities of executing agencies were not sufficiently considered and the partnership arrangements were not properly identified, and the roles and responsibilities not negotiated prior to project implementation. A wider national consultation process would have helped to make a proper selection of executing agencies and improved partnership arrangement, thus providing the project with a stronger base right from the beginning.
152. The deficiency in the project designs noted above suggest inefficient use of resources in the design phase. Hence, the rating for the project preparation and readiness is “**moderately unsatisfactory**”.

### 3.6.2 Project implementation and management

153. The project document recognized that “under other GEF-financed projects ISPONRE has shown to require further strengthening to successfully execute projects”. Hence it proposed DTIE of the UN Environment as the official executing agency will support ISPONRE. To ensure this support, a part-time project coordinator/manager<sup>24</sup> was appointed by DTIE, to be based in Bangkok. In defining the M&E activity, it was stated that UN Environment Project Manager would be responsible for several reports, with support from PMO. These include the progress and financial reports, inception report, annual project report (APR), Project Implementation Review (PIR), Tripartite Review (TPR), Terminal Tripartite Review (TTR), and Project Terminal Report. It is obvious that a project manager based in Bangkok and devoting only a quarter of the time for the project would not have been able to effectively support ISPONRE while taking the responsibility for so many reports.

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<sup>24</sup> In the project document, there is no clear description of how UN Environment would support ISPONRE in the project execution. In the section on reporting requirement, there is a mention of UN Environment appointing Project Manager and Task Manager. In the budget line, budget is allocated for a part-time UN Environment Project Coordinator. Since there is no clarity, the evaluation consultant assumes that the Project Coordinator appointed by UN Environment is the same person as the UN Environment Project Manager.

154. The PMO made its best efforts to implement the required activities for delivering a large number of outputs defined in the project. As mentioned earlier, some of the activities undertaken did not lead to the expected outputs and some reports were not of the professional quality expected from a project of this nature. The project terminal report which is considered as an important document, was not made available to the evaluation team during the evaluation data collection period. In fact, there was practically no reporting (e.g. AWP, APR, etc.) was available for the evaluation team concerning the extension period from January to December 2016. No PSC meeting was held after February 2015.<sup>25</sup>
155. Regular progress reports were prepared with detailed contents up to 2014, including the outcomes of the meetings held by the PSC and TWG and the action taken by the PMO based on the direction/guidance provided by them. Reports prepared in 2015 were less detailed. Moreover, not much information was available for the evaluation purposes on the numerous workshops and training sessions organized during that period<sup>26</sup>.
156. It was quite challenging to assess the effectiveness of the role played by the UN Environment Project Manager as well as the Senior Technical Adviser hired to provide guidance to the PMO. According to the implementation arrangement proposed in the ProDoc, the UN Environment Project Manager was expected to undertake visits to Vietnam to hold quarterly meeting with the PMO and discuss the quarterly progress report, work plan, budget and any other relevant issues. The evaluation was informed that meetings took place in Vietnamese, as a result of which decision was made to limit the Project Manager's visits to Vietnam and conduct most of the exchanges with the PMO through e-mail correspondences. In the progress reports, the PMO often cited the delay in the implementation due to slow response from UN Environment, particularly in mobilizing international consultants to lead the studies and guide the local consultants.
157. On the whole, the rating for project implementation and management is "**moderately satisfactory**".

### 3.6.3 Stakeholder participation, cooperation and partnerships

158. The ProDoc referred to collaboration with various groups of stakeholders: government ministries and agencies, enterprises, NGOs, media, etc. It was expected to be built on experiences and lessons learned from various international initiatives led by UNDP, WB (World Bank), REEEP (Renewable Energy and Energy Efficiency Partnership), IPEEC (International partnership for Energy Efficiency Cooperation), CLASP (Collaborative Labelling Appliance Standards Programme), etc. It also spoke of collaborating with UN Environment initiatives such as Global Mercury Partnership and en.lighten project.
159. The project interacted closely and involved agencies from a couple of ministries such as the MONRE and MOST, and supported the capacity building of the participating lighting manufacturers. It also cooperated and established partnerships with several local bodies and authorities in implementing the pilot initiatives in rural areas as well as in the agricultural and fishery sectors. The project however was not successful in actively involving some of the key institutional partners such as MOIT and MOF who were expected to play an important role in policy and incentives for phasing out inefficient lamps and promote ESLs. The subject of collaboration with other UN Environment initiatives was raised with several stakeholders during the evaluation.

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<sup>25</sup> Additional documentation was provided during the evaluation report review process

<sup>26</sup> Most of these documents provided only at the evaluation report review stage.



The interviews revealed that the project did get the support of GELC for training of lighting manufacturers and testing laboratories, but could have benefitted much more by establishing closer interaction with the en.lighten project as well as its member countries and organizations. The Project Manager was part of DTIE which was executing the en.lighten project, hence he was fully knowledgeable of the en.lighten project.<sup>27</sup>

160. As already mentioned, the project engaged the staff of the key stakeholders as local experts/consultants for the implementation of some of the project activities. These experts have contributed effectively to enrich the reports, and in some cases, benefitted from collaborating with international experts. But this type of engagement with individual experts cannot be considered as collaboration with institutional partners. One explanation for the lack of involvement of key stakeholders could be the absence of mandate of the implementing agency vis-à-vis the entities those who had mandate and wider recognition for the activities being implemented by the project.<sup>28</sup>
161. The findings of the MTE were shared with PSC during the meeting held in February 2015.<sup>29</sup> The fact that no further PSC meeting was held after February 2015 shows that there was no strategic thinking and brainstorming with the key project partners about the exit strategy beyond the project life and what type of follow-up activities and commitments were needed to continue benefitting from project initiatives.
162. The rating for stakeholder participation, cooperation and partnership is “**moderately unsatisfactory**”.

#### 3.6.4 Communication and public awareness

163. The communication and public awareness activities were conducted in Component 3. In order to educate and raise public awareness about energy saving for environmental protection and development of national economy and society, the project cooperated with Light & Life Magazine in organizing a writing contest about energy savings and switching from using ILs to ESLs. Also, as a part of the pilot projects to disseminate ESLs in rural areas, media conferences were organized on eliminating incandescent bulbs in several provinces and calendars were distributed with messages related to ESLs. However, as the pilot initiatives were limited to only a few villages in a small number of provinces due to paucity of funds, the impact is perceived to be rather local than national; the project could have adopted a strategic

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<sup>27</sup> The pdf version of “Efficient Lighting Toolkit” was shared by the Project Manager with the PMO in October 2014. But by then, the project had already completed or was in advance stage of completion of the planned activities.

<sup>28</sup> When asked about the non-participation of EVN in the project, a key project stakeholder responded that attempts were made to associate EVN with the project but this cooperation didn’t materialize in its full potential.

<sup>29</sup> The PSC meeting of February 2015 was attended by UN Environment Task Manager and Project Manager. The minutes of the meetings were never fully translated into English and a full list of the PSC meeting participants is not on record. This would mean that no one from UN Environment reviewed the contents of the minutes of this PSC meeting, which was quite crucial in terms of discussing the findings of the MTE and taking decisions on the future course of action. During the 4<sup>th</sup> PSC meeting held on 2<sup>nd</sup> February 2015, it was stated that UN Environment budget for the different components was not much, hence there was unlikely to be any transfer of funds to PMO for activities. The evaluation observes that this is quite in contrast to the ground reality as records show that UN Environment had engaged only 44.9% of its share of the budget by the end of December 2015.

approach to document the key results and lessons from the demonstration project to disseminate them nationally.

164. The project produced and broadcasted films/clips on national TV on phasing out of incandescent lamps but details of the broadcasts were not available to the evaluation during the data collection phase<sup>30</sup>. Project collaborated with the Natural Resources and Environment Newspaper to publish several journals, news articles and brief information articles on subjects related to climate change, natural resource management and environmental protection, focusing on energy efficiency and phasing out of ILs. The project also collaborated with the Natural Resources and Environment Journal in publishing thematic write-ups, news articles and photographs on response to climate change, resource management and environment protection, focusing on energy savings and the switch of ILs to ESLs. Surveys have shown that the most effective means of reaching out to the public is through TV channels. As pointed out earlier, it is not clear why the project decided to collaborate with highly specialized journals and newspaper on resources and environment management to create public awareness apart from the fact that they are operated under the umbrella of MONRE.
165. Though safe disposal of mercury and recycling of waste lighting products were an important concern for the project, there was no efforts made to create public awareness of these issues. The rating for communication and public awareness is **“moderately satisfactory”**.

### 3.6.5 Country ownership and driven-ness

166. Judging by the way the stakeholder consultation was conducted during the project development phase without taking into due consideration of the mandate of the key stakeholders involved in the energy efficiency field in general and efficient lighting in particular, it is not surprising that the engagement and commitment of the country partners in the project implementation are considered low by the evaluation team. This is also reflected by the non-availability of the details of co-financing, both in cash and in kind, to the project. Also, the absence any discussion regarding the fate of the initiatives after the completion of the project as well as the absence of clear commitment from the partner organizations, including the key project partner MONRE, to sustain the project initiatives demonstrate the lack of country ownership. These aspects are also discussed in the “Prepared and readiness” section. The rating of the country ownership and driven-ness is **“moderately unsatisfactory”**.

### 3.6.6 Financial planning and management

167. Though the overall budget was divided into two parts to be managed by UN Environment and ISPONRE separately, UN Environment was accountable to the GEF on the whole. Accordingly, UN Environment required ISPONRE to prepare and submit approved AWP along with the budget for approval, ensure that the expenditures corresponded to the approved budget line, and undergo annual external audit and report to UN Environment which ISPONRE adhered to. On the other hand, project specific audits were not required for UN Environment’s internally executed part. No records of the actual project costs were available by activities or outputs<sup>31</sup>, hence it is not possible to assess the actual project costs by activities and their variances in

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<sup>30</sup> Material on broadcast campaign was provided for the evaluation teams review prior to finalization of this report.

<sup>31</sup> UN Environment’s financial management systems do not support providing output, outcome nor component level financial data



comparison to the budget. According to the UN Environment Funds Management Office, this was not a requirement.

168. As far as ISPONRE is concerned, the project costs were low during the first couple of years of the project due to the delay in launching the project and time taken by UN Environment to establish the contracting agreement (details provided in the efficiency section). The AWP's generally took longer time to get PSC approval, because of which the annual budgeting was delayed. Further, UN Environment had to follow the appropriate procedure to hire international consultants and this led to further delays in project execution. Table 14 shows the expenditure by year, considering only the GEF allocation.

**Table 14. Expenditure by year (only for GEF allocation)**

All amounts in US\$	Budget and reimbursable expenditure	Actual expenditures					
		2012	2013	2014	2015	2016	2017
GEF Budget	2,940,000	610,000	802,000	852,000	676,000		
UN Environment expenditure	1,021,227	95,574	148,385	221,048	160,212	185,545	210,463*
ISPONRE expenditure	1,556,000	246,293	288,189	506,804	445,804	69,417	
Amount unspent (after deducting commitments)	296,954						

\* Amount committed by UN Environment by June 30, 2017: US\$65,819 (Source: UN Environment team February 28, 2018)

169. As explained in section 3.5, at the end of the official closure of the project, 19% of the budget remained unspent. ISPONRE on its part had completely exhausted its share of the budget. Further amounts were disbursed by UN Environment beyond the project closure. At the end, about 10% of the project's budget remained unspent.

170. The above analysis does not take into consideration the project's co-financing which, according to the ProDoc, was supposed to account for 88.3% of the project's cost. Unfortunately, the project did not keep track of the co-financing, hence there is no way to assess what percentage of co-financing had materialized. The evaluation found the co-financing report prepared by ISPONRE to not be based on actual assessment of realized co-financing. UN Environment had accepted the co-financing reports as it was submitted without checking a methods of calculation or providing ISPONRE the procedure to report co-financing. A sum of US\$ 1,970,000 was pledged as cash in co-financing but the project was unable to show any cash contribution. This is a matter of serious concern as the co-financing not only ensures a successful completion of all activities planned by the project, but it also shows the commitment of the national counterparts to the project.

171. Based on the information made available for the evaluation, the project has not leveraged much resources that could contribute to the project's ultimate objective. Annex 7 includes a table that evaluates the financial management components as

required for GEF projects. Considering this the rating for financial planning and management is “**Moderately Satisfactory**”.

### 3.6.7 Supervision, guidance and technical backstopping

172. The earlier sections have highlighted the project’s achievements as well as some of the deficiencies in its execution, its deliveries as well as the financial planning and management. From the nature of deficiencies, it is obvious that the supervision, guidance and technical backstopping provided by UN Environment was not adequate and effective as one would have expected. As earlier mentioned, the choice of the executing agency was not the most appropriate during the project development phase. But having chosen an executing agency which did not have required expertise on the subject, UN Environment should have been more careful in mobilizing the required resources to support the executing agency further in implementation of the project.
173. After the approval by GEF, it took 15 months for the project to start but once it was officially launched, the PMO seemed to have made all efforts to catch up with the lost time in order to carry out as many activities and as quickly as possible. The evaluation team finds that this was hindering the quality of outputs and whether these outputs were appropriate to attain the expected outcomes. UN Environment could have insisted not only on the quantity but also the quality of the outputs. As ISPONRE was confident enough about the subject matter, it had requested UN Environment to mobilize a senior international technical adviser instead of the senior local technical adviser as foreseen in the ProDoc. Accordingly, UN Environment engaged a senior international Technical Adviser but on part-time basis and not based in Vietnam. The evaluation questions the effectiveness of taking such a decision for several reasons, such as: (1) PMO would have required advice on a regular basis but this was not available as the concerned expert was based in Bangkok; (2) There was a strong language barrier as many local consultants did not comprehend English; (3) Many reports were only available in Vietnamese language without English translation for the evaluation team, which raises the question regarding the quality control approaches over the project deliverables; (4) The contract was for shorter terms and renewed by UN Environment with the usual delay in following the contracting procedure.<sup>32</sup> The PSC meetings were mostly held in Vietnamese language, which would have required special arrangements to accommodate a non-Vietnamese participant.
174. An example to illustrate the point is the activity related to national consumer awareness and marketing campaign, including pilot project. According to the ProDoc, the subcontracting for these activities were scheduled to be conducted in the last 2 years of the project, following a sufficiently mature market study and research during the first two years of the project. In reality, the study of national social marketing campaign was completed within a few months, mobilizing only one expert on a shorter term whereas a substantial amount of budget was allocated in the ProDoc to mobilize international expertise for the purpose. Similarly, many of pilot projects in rural households were completed within the last quarter of 2013, including the survey of households, dissemination of the lamps, awareness campaign and training of local stakeholders as well as the evaluation of the impact of the project. How can one possibly assess the tangible output from changing a lamp in a household in terms of the monetary savings achieved within a month? In both cases, no standard

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<sup>32</sup> Very little information was available for the evaluation team for assessing the advisory role played by the senior technical adviser in the project.

and scientific methodologies were applied to undertake the baseline study or disseminating lamps free-of-cost to the households.

175. Another example is the way the project made progress during the year of extension in 2016. Having decided to extend the project, the PMO did not feel the necessity to hold the PSC meeting in 2016 to discuss and approve the AWP. A PIR for 2016 is available but its contents are quite confusing and there are several inconsistencies as the reporting is not limited to the activities during the FY2015-16. Practically no project activity took place during the first half of 2016 due to the slow decision-making process within UN Environment.<sup>33</sup> Then a decision was taken to sub-contract ISPONRE to carry out more pilot activities and make efforts to further disseminate the results. Also, as recommended by MTE, UN Environment decided to undertake an impact study, document best practices and lessons learned. For some reasons, these activities could only start during the last quarter of 2016. In fact, most of the outputs were not ready at the time of the evaluation field mission, as reflected by the expenses incurred by UN Environment after the official closure of the project (see Table 14).
176. Lastly, no final report was made available to the evaluation team. This is a very important document that was expected to summarize all activities, achievements, drawbacks and limitations, and most importantly, give recommendations for any further steps that should be taken to ensure the sustainability and replication of project activities.
177. The evaluation view is that UN Environment should have raised issues of concern with the PMO as well as with the PSC and provided better supervision and guidance to the PMO for ensuring acceptable results from the activities undertaken. While UN Environment was committed to sustain whatever was being done by the GEF project, it should also have ensured that there was a continuity of support and supervision from its side. During the period of project implementation, both the Task Manager and Project Manager had changed. The Task Manager appointed by DTIE was initially based in Paris; later a new Task manager was appointed, who initially was based in Nairobi and later moved to the regional office in Bangkok. Similarly, the project manager appointed by DTIE was based in UN Environment's regional office in Bangkok and handled other UN Environment activities as he was assigned to this project on part-time; after he took up a new assignment in the middle of 2015, another person was appointed on a temporary basis as a stop-gap measure. The last person who was appointed to take over the mantle of project manager during the last quarter of 2016 was new to the project and thus not fully aware of the history of the project and what were the achievements and what was needed to be completed. All these changes during the project implementation, possibly due to the GEF Division related changes at the UN Environment, appear to be the key reason for the lack of continuity in the provision of supervision and guidance and technical backstopping.
178. In consideration of such issues, the rating for the supervision, guidance and technical backstopping is "**unsatisfactory**".

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<sup>33</sup> Reportedly this was a period when the project was undergoing staff transitions and changes in the UN's financial management system, which caused substantial disruption to financial management of the project.

### 3.6.8 Monitoring and evaluation (M&E)

#### *M&E design*

179. There are several appendices in the ProDoc referring to the M&E plan: PRF matrix, key deliverables and benchmarks, reporting requirements, and budgeted M&E plan. Some contents in these appendices are repeated and could have been streamlined instead of presenting them in 4 different appendices.
180. The budgeted M&E plan elaborates the mechanism to monitor results and track progress towards achieving project objectives. The plan specifies the objective/outcome, indicators, baseline conditions, mid-point and end of project targets, means of verification, responsibility for monitoring the different outcomes, time frame for the various M&E activities and the frequencies, etc. Apart from the budget allocated for MTE, terminal evaluation and tripartite as well as PSC meetings, there is budgeting for each outcome, including the amounts that would come from GEF and through co-financing. However, there is no record of the co-financing of the project. The budget for reporting each of the activities under the outcomes is quite small; there is a separate budget for workshop to strengthen national M&E system for the outcome 4 related to policy and institutional aspects to support and monitor phasing out of inefficient lamps. Both ISPONRE and UN Environment have the joint responsibility for the expected achievements. The budget for tripartite and PSC meetings seems quite generous.
181. Some of the end-of-project targets set are not realistic, especially because during the project implementation period, the focus was to create awareness, build the capacity and develop policies. It is quite ambitious to expect the targeted results to be achieved by the end of the project. There is no clear basis for targets set (e.g. if the baseline estimates that 60 million ILs are still in use, what is the basis to fix the target of 45 million ESLs being sold annually at the end of the project?). Also, there are a number of inconsistencies among the overall target and targets set for different outcomes. For example, the project target is the phasing out of the ILs whereas the project target for the outcome 1 is the change of production lines from ILs to ESLs by 70% of manufacturers. Similarly, the target of outcome 1 is the manufacturing of good quality ESLs with average life of 6,000 hours whereas the target of outcome 2 is to make lamps manufactured in Vietnam compliant with internationally traded lighting products.
182. It has already been stated that the key stakeholders were not closely involved in the project design, and gender aspects was not elaborated in the ProDoc. The ProDoc has a section on risk analysis and risk management measures. However, the measures proposed to manage some of the risks are not appropriate or effective. For example, to address the risk associated with weak government support, it is proposed to incorporate necessary interventions for the policies on ESL. The rating for M&E design is **“moderately satisfactory”**.

#### *M&E plan implementation*

183. **Though some of the outputs were revised at the project inception stage, no revisions were made to the project’s results framework or the M&E plan. Several institutional initiatives had been taken by the GoV by the time project got started. Because of these changes, the baseline was no longer the same as what was set during the project designing. But nothing was done to revise the baseline and set new mid-point and end-of-the project targets.** Take the case of the government banning the production, import and sale of ILs exceeding 60 Watts. No study was done to assess what percentage of lamps in the market exceeded 60 Watts.

184. Having gone through the detailed reports prepared by the project, the evaluation noted the conscious efforts made by the PMO to accelerate the execution of the project during the first two years in order to catch up with the delay in project's launching. However, in the process, the initial planning has been disregarded to a great extent, and focus had been more on completion of activities without necessarily ensuring the required contents and quality of the outputs.
185. There is no documentary evidence to support the timely tracking of results and progress towards project's objectives or how the planned M&E budget was spent throughout the project implementation period. A case in point is the extension of project duration from June 2015 to June 2016 and further to December 2016, and not holding any PSC meeting after February 2015. The numbers quoted to support the mid-point target seem random in the absence of any mechanism to actually track the progress on yearly basis (overall objective and outcome 2) or twice a year (outcomes 1, 3 and 4). The PIR of 2014 reports that from the market research carried out by the project, the number of sold ESLs is approximately 42 million. But there is no record of any market research done in 2014 to come up with such a number. Similarly, the UN Environment reports indicated that the co-financing has been smooth so far while there wasn't any information to assess the co-financing throughout the project period. The implementing agency-approved PIR of 2016 stated that the project can obtain technical support from the Global Environment Facility, and it had already adopted the technical guidelines developed by the global project but the evaluation did not find much evidence to confirm such adoption. Also, the evaluation did not observe any feedback from the implementing agency about the quality and contents of the outputs prepared by the project.
186. The half-yearly progress and financial reports were prepared but they were not always complete and accurate. There was no mention of any initiatives to assess and mitigate the risks, or any M&E activities conducted during the half-yearly period. Hence, no monitoring report is available to verify if it met the specifications laid out in the monitoring plan. As mentioned earlier, no project terminal report was prepared at the end of the project. According to the ProDoc, the tripartite project review (TPR) was the highest policy level meeting of all the parties involved in project implementation. And yet, there is no record of any tripartite review scheduled at least once a year nor any terminal tripartite review (TTR) during the last month of project closure.
187. A planned MTE was conducted in June 2014 but the TE found no evidence that the focus and findings of the MTE provided any relevant information for the project management. Terminal evaluation team finds that the MTE findings were lacking triangulation of the reported results with the information gathered during the field mission.
188. Hence, considering the numerous deficiencies observed and listed above, the rating for M&E plan implementation is **"moderately unsatisfactory"**.

## 4 CONCLUSIONS, RECOMMENDATIONS AND LESSONS LEARNED

### 4.1 Conclusions

189. The evaluation considers that the project to accelerate the phase out the incandescent bulbs from Vietnamese market by removing the market barriers to energy-efficient lighting and promoting the development of mercury-free technologies was a timely initiative, and very much in line with the goals set by the

GoV to address the challenges to the reduction of global greenhouse gas emissions. The project was highly relevant in the context of the joint GEF-UN Environment initiatives to speed up the market for environmentally sustainable efficient lighting technologies in emerging markets of developing countries. The idea to build on experiences and lessons learned from various international initiatives, particularly the en.lighten network, was appropriate. The principle of using the project as “umbrella” to undertake further national projects in various Southeast Asian countries was very sensible. However, not all these aspects were part of the actual implementation approach.

190. The project deliverables included a large number of different outputs aimed at addressing barriers to promotion of ESLs and the proper disposal of the lamps at the end of their lives. The evaluation has pointed at the lack of sufficient mandate of the implementing agency vis-à-vis the entities those who had mandate and wider recognition for the activities that were planned to be implemented by the project. As a result, while the project has witnessed reasonable success in enhancing the ability of the manufacturers to produce improved quality ESLs locally, and created consumer awareness about benefits of ESLs, it has been less effective in engaging institutional stakeholders in matters related to developing policy and promotional mechanism.
191. The project has conducted a large number of training and capacity building activities for various stakeholders. The energy, environmental and quality standards for ESLs were drafted, as well as the guiding circulars for the collection and disposal of discarded products, including lamps. However, no separate channel is available for segregating and treating disposed ESLs. The capacity of two testing laboratories to inspect the quality of ESLs has been strengthened, but due to lack of funds mobilization, the existing laboratories have not been upgraded with measuring and monitoring instruments needed to test the lamp performance and quality. The project has disseminated guidelines developed on Green Customs initiatives for environmentally sensitive products including lamps to customs officials. However, the project has not interacted with the MOF to address the issue of fiscal tools needed for the promotion of ESLs.
192. The evaluation found no evidence of the project team creating a repository of reports, documents, toolkits, guidelines, case studies and lessons learned for wider dissemination to all concerned citizens in Vietnam, and to eventually serve as an “umbrella” under which further national projects in various Southeast Asian countries could be undertaken. Hence, the evaluation considers the project’s likelihood to achieve the intended impact to be moderately unlikely.
193. As for the factors affecting the project’s performance, the evaluation found that the initial delays were longer than the usual in other similar projects due to the decision taken to adopt a National Execution Modality (NEX) which recognizes ISPONRE as UN Environment’s executing partner with the responsibility to manage and monitor implementation of the project, ensure the delivery of project outputs and the judicious use of project resources. Further delays were noted during the execution of the project, partly due to slow pace of UN Environment in engaging international consultants as well as the time taken by the PSC in approving the annual budgets. In spite of such delays, the project team tried its best to accelerate the execution of the project, as documented well in the reporting made during the first two years of project implementation. However, in the process, the initial planning has been disregarded to a great extent, and focus has been more on completion of activities without necessarily ensuring the required contents and quality of the outputs. As a result, most of the activities have been compressed to be completed faster and

outputs delivered within 2 years, in 2013 and 2014, whereas the initial work plan was designed to be implemented over 4 years. A typical example is the implementation of pilot projects which were supposed to be conducted during the 3<sup>rd</sup> and the 4<sup>th</sup> year of project execution. Surveys were conducted barely a month after the installation of the lamps to assess the quantum of savings and the impacts of the awareness campaigns without resorting to any standard method or practice.

194. There were significant shortcomings in the monitoring of the project performance. The poor quality of some of the outputs can be attributed to the lack of mobilization of international expertise to support the domestic consultants in spite of the fact that there were no budget constraints. The level of supervision, guidance and technical backstopping expected from UN Environment was not adequate, thus letting the project team to carry out some activities that were not even relevant to the project components. One of the reasons cited was the language barrier but this could have been easily addressed by mobilizing resources to engage someone who could play a suitable intermediary for improving communication. This would also have allowed UN Environment to get more details of the contents of the reports produced only in Vietnamese language. Engaging a Senior Technical Advisor based in Vietnam and with working knowledge of Vietnamese language could have contributed to better monitoring the content and quality of the project outputs.
195. The project team was not very successful in actively engaging the key institutional stakeholders in the implementation of the various activities of the project. This was further exacerbated by the absence of any collaborative efforts with similar initiatives in Vietnam or at the international level. The project document was designed with a total budget of over US\$25 million out of which only 11.7%, or US\$2.94 million, was expected to be contributed by the GEF Trust Fund, the remaining 88.3% being co-financing, both cash and in-kind. Absence of any record of co-financing displays to some extent the lack of ownership by the stakeholders who had committed co-financing at the time of project development. The lack of country ownership is also reflected by the absence of any commitment from the partner organizations to sustain the project initiatives after the completion of the project. While the PSC was expected to provide overall guidance to the implementation of the project, the minutes of the PSC meeting do not portray the guidance to the project to be very effective. It is also reflected by the fact that no PSC meeting was scheduled after February 2015 till the project closure at the end of December 2016.
196. The project was conceived with the premise that it would learn from the experiences and lessons learned from various international initiatives, including the en.lighten network. However, this was not the case in reality. Being a global player and an important partner of GEF for promoting energy efficient lighting around the world, UN Environment was expected to play an important role in ensuring the linkage with the international players, but it failed to do so, especially during the initial phase of project implementation so that activities could be better streamlined thanks to the advice and inputs from experienced international experts. Also, though the project document had made it amply clear that the project would later serve as “umbrella” for UN Environment to undertake other national projects in neighbouring Southeast Asian countries, it was not captured well in the PRF, hence no importance was given to documenting the project’s experience and lessons learned till the issue was raised by the MTE.

**Overall Evaluation Rating is Moderately Unsatisfactory**



Criterion	Summary Assessment	Rating <sup>34</sup>
<b>Strategic relevance</b>	The project objectives were highly consistent with the global and regional priorities and operational programs of UN Environment and GEF, related to climate change. It is also consistent with the national environmental issues and needs, based on the various initiatives taken by the GoV in response to climate change. The project fits into some of the mandates of UN Environment, and it contributes to several UN Environment objectives, priorities and sub-programs. Its goal is in line with some of the objectives of Bali Strategic Plan and the project document favours South-South Cooperation. See Section 3.1.	S
<b>Achievement of outputs</b>	The project outputs are listed in Tables 8, 9, 10 and 11 along with comments on the adequacy and quality of outputs. The evaluation assesses that only 60% of the expected outputs were fully delivered. The considered as most critical ones under the component 4 (see Table 11) were not fully achieved. There was practically no reference to the learning from international initiatives, especially the enlighten network. The participation of the key stakeholders was observed to be low and some delays were noted, especially those activities involving intervention of international experts.	MU
<b>Effectiveness: Attainment of project objectives and results</b>	The evaluation assesses the overall effectiveness of the project to be moderately unsatisfactory based on the three criteria below, as discussed in Section 3.3.	MU
1. Achievement of direct outcomes	The five direct outcomes of the project were not fully achieved. The project managed to contribute largely to the local lighting industry capacity enhancement program, created an improved quality assurance/quality control (QA/QC) framework, and created awareness among consumers where pilot activities were undertaken. However, no regulation regarding the disposal and recycling mercury containing ESLs was implemented due to the absence of separate channel to segregate and treat disposed ESLs. The project didn't contribute adequately to the national policy and institutional support program towards phasing-out of ILs and promotion of ESLs. See 3.3.1 for details. Efforts made to learn from	MU

<sup>34</sup> Most criteria will be rated on a six-point scale as follows: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU). Sustainability is rated from Highly Likely (HL) down to Highly Unlikely (HU).



Criterion	Summary Assessment	Rating <sup>34</sup>
	project's experience for wider dissemination was too little and too late.	
2. Likelihood of impacts	The likelihood of impact is discussed in Section 3.3.2. The likely medium-terms impacts are in the following forms: ILs are phased out, lighting market transformed, and high-quality ESLs are widely used in Vietnam; mercury-free technology development is promoted; and lessons learned from the project and best practices are replicated in other countries. Some of the outcomes have not been achieved effectively in the project, particularly those related to suitable market mechanisms and policies to promote ESLs. However, it is assumed that the UNDP/GEF project along with key GoV players will provide the support to move towards medium-term impact. One must also consider the rapid evolution of the lighting market.	MS
3. Achievement of project goal and planned objectives	The achievement of results along the ToC suggests that the project was relatively successful in building the technical capacity of local manufacturers and testing laboratories; it was less effective in supporting the development of policies and incentives as well as market mechanism to promote ESLs. Also, it achieved lower performance in terms of capturing the methods, good practices and lessons learned for dissemination in neighbouring countries.	MS
<b>Sustainability and replication</b>	The overall rating for sustainability is the lowest rating on the separate dimensions. The overall rating is largely extrinsic to the project because of the strong commitment of the GoV to reduce GHG emissions through energy efficiency initiatives.	ML
1. Financial	Despite the project did not manage to secure the future financial sustainability of the prioritized actions, there is high probability of UNDP-GEF project working closely with the key institutional stakeholders to ensure the ultimate impacts. See Section 3.4.2.	ML
2. Socio-political	In spite of the project did not manage contributing to ensure socio-political sustainability, it is highly likely that the GoV will continue to support energy-efficiency initiatives in consideration of the international commitments to reduce GHG emissions and the terrain is fertile for implementing energy-efficiency through the GEF supported LED project led by UNDP, involving several key institutional stakeholders. See 3.4.1.	L
3. Institutional framework	Project was not very successful in proposing desired changes in the institutional framework; however, the GoV has adopted suitable institutional structure to	L

Criterion	Summary Assessment	Rating <sup>34</sup>
	boost energy efficiency in Vietnam, including ESLs. See Section 3.4.3.	
4. Environmental	The project has supported the concerned institutional authorities to take note of the environmental sustainability issue through the elimination of cheap but poor-quality lighting products in the market, but more needs to be done to ensure an effective enforcement regime. See Section 3.4.4. The project has supported the concerned institutional authorities to take note of the safe lamp disposal issue but more needs to be done to ensure an effective enforcement regime.	L
5. Catalytic role and replication	The project has undoubtedly played a catalytic role in strengthening the technical capacities of local lighting manufacturers; however, as elaborated in Section 3.4.5, the impact in real terms is not appreciable. Moreover, sustained follow-on financing has not been considered or discussed among the key institutional partners.	MU
<b>Efficiency</b>	As elaborated in Section 5, the project has not scored well in terms of both cost effectiveness and timeliness.	U
<b>Factors affecting project performance</b>	The project performed quite poorly but the likelihood of impact is driven more strongly by GoV drivers and the rapid evolution in the lighting market.	
1. Preparation and readiness	The assessment done in Section 3.6.1 suggest inefficient use of resources in the design phase. The project could have been better designed, the selection of the partner could have been more judicious, and better consultation with key stakeholders could have been made.	MU
2. Project implementation and management	The project team has put in considerable efforts for the successful implementation of the project. However, several deficiencies were observed in the project implementation and management, as detailed in Section 3.6.2.	MS
3. Stakeholders participation, cooperation and partnerships	Engagement of key stakeholders was a critical element for the effective and efficient implementation of the project. As explained in Section 3.6.3, The project was not successful in actively engaging some of the key stakeholders and building on experiences and lessons learned from various international initiatives.	MU
4. Communication and public awareness	The project took several initiatives to ensure communication and enhance public awareness, though the choice of partners to carry out the tasks was not always found to be the most efficient. As	MS

Criterion	Summary Assessment	Rating <sup>34</sup>
	elaborated in Section 3.6.4, no efforts were made to create public awareness on issues related to safe disposal of mercury and recycling of waste lighting products.	
5. Country ownership and driven-ness	The engagement and commitment of the country partners in the project implementation was found to be low. It is also reflected by the absence of details of co-financing which occupied a very large share of the project cost, and the absence of any commitment from the key partners to sustain project initiatives. See Section 3.6.5.	MU
6. Financial planning and management	As highlighted in Section 3.6.6., the financial planning and management was found to be lax and expenditures incurred by UN Environment were not sufficiently monitored. No efforts were made to keep track of the project co-financing which represented as high as 88.3% of the project cost.	MS
7. UN Environment supervision and backstopping	As presented in detail in Section 3.6.7., UN Environment should have been more careful in guiding the project implementing team and should have mobilized the required resources to ensure the smooth execution of the project and delivery of the required outputs and outcomes.	U
8. Monitoring and evaluation	Monitoring the progress was built into the project design with clear milestones and evaluation mechanisms. However, serious lapses were found in the M&E plan implementation.	MU
a. M&E design	The M&E plan was very elaborate in terms of monitoring results and tracking progress towards achieving project objectives. However, stakeholders were not closely involved in the project design and some of the end-of-project targets set were not realistic. Also, there were a number of inconsistencies between the overall target and targets set for different outcomes. Measures proposed to manage some risks were found to be inappropriate.	MS
b. Budgeting and funding for M&E activities	The project had allocated adequate budget for M&E activities and included both mid-term and final evaluations.	S
c. M&E plan implementation	Several deficiencies were observed in the M&E plan implementation, as elaborated in Section 3.6.8. Notable among them is the absence of support for the timely tracking of results and progress towards project's objectives, especially during the period of extension of the project.	MU
<b>Overall project rating</b>	Based on the above and details provided in the evaluation, the project had a high strategic relevance	MU

Criterion	Summary Assessment	Rating <sup>34</sup>
	<p>though the outputs and outcomes fell short of the project's targets. There were some deficiencies and inconsistencies in the project design. The selection of partner to implement the project lacked mandate and experience in the subject matter. The project was not very successful in getting commitments of some of the key stakeholders. The overall effectiveness of the project in attaining project objectives and results was moderately satisfactory mainly because it was unable to engage key stakeholders in developing policies and incentives for phasing out of ILs. The project did not score well in terms of cost-effectiveness and timeliness.</p>	

## 4.2 Lessons learned

**Lesson 1.** *The project document should ensure consistency between the text and the Project Results Framework.*

197. In the project document, the following project goal and objectives are stated (see Section 3.2): the project will learn from the international experience (en.lighten) and will provide support to the implementation of market transformation mechanisms in a large majority of developing countries. The PRF, on the other hand, ignores both these issues: (1) learning from international experiences; (2) providing support through the learning and best practice of the project for the replication in other countries.

**Lesson 2.** *The quality of a project's outcomes and outputs depend a lot on the choice of the project's partner in terms of competence, experience and mandate. If the capacity is not available, the project should develop it to increase likelihood of larger and more sustainable results.*

198. ISPONRE has the ability to conduct and summarize international practices and experiences on natural resources management and environmental protection, and socio-economic issues related to strategies and policies in areas of MONRE's mandate. But ISPONRE doesn't have particular expertise and experience on issues related to market transformation for environmentally sustainable lighting technologies. The contents and quality of the outputs and outcomes indicated that ISPONRE has definitely the administrative ability to manage such project but lack the technical capacity in the project substance area.

**Lesson 3.** *Stakeholders' consultation is an important process to ensure that stakeholders comprehend the project objective and commit to contribute for its achievement.*

199. The project document confirms that consultations were made with the stakeholders to define their partnership/roles in project implementation. In reality, no consultative meeting was held, and most institutional stakeholders were not entrusted the task of leading or partnering in the project (refer to paragraphs 66 and 150). Mere

participation in Project Steering Committee or hiring of experts from the key stake holding organizations as individual consultants to conduct study or draft report cannot be construed as the participation of stakeholders as lead or partner.

**Lesson 4.** *The project implementing agency has the onus of designing and implementing a robust M&E plan and ensure its implementation.*

200. A detailed M&E plan was outlined in the project document. The quality and contents of some of the outputs and the analysis of the cost-effectiveness and timeliness of project execution show sizeable deficiency in the implementation of the M&E plan.

**Lesson 5.** *If the baseline conditions change considerably between the time of project formulation and its actual implementation, end-of-project targets and indicators should be revised accordingly to reflect the changing circumstances.*

201. During the 3-year gap between the project formulation and its implementation, the GoV had taken several proactive measures to promote energy efficiency, including the phasing out of ILS and improving the quality of ESLs in Vietnam. One of the important decisions was the ban on the import, manufacturing and distribution of ILs above 60 Watts. Manufacturers had followed suit by upgrading their production facilities and had even started producing LED lamps. No efforts were, however, made by the project to take these into consideration and revise the end-of-the project targets and indicators to reflect such changes.

**Lesson 6.** *It is crucial for GEF projects to mobilize highly qualified experts and facilitate exchange and communication at the global level to strengthen national capacities and create greater awareness.*

202. Along with GEF, UN Environment is playing a leading role in promoting efficient lighting at the global level. The learning from activities in other parts of the world and mobilization of experts with suitable experience is crucial to share appropriate methodologies and good practices with key stakeholder; this ensures strengthened local capacity and a better understanding of the issues to address the challenges. Some of the outputs could have been delivered more effectively if international experts were mobilized to collaborate closely with local experts (e.g. policy and institutional support), especially as budget was allocated and available for this purpose.

**Lesson 7.** *When the project team is geared towards delivering the outputs and outcomes, it should not lose focus on sustainability beyond the project life.*

203. The PMO has quite closely followed the PRF of the project document to ensure the delivery of outputs by undertaking the planned activities. However, not enough emphasis was given to ensure the sustainability of all that has been achieved by the project. It is the typical case of "operation is successful, but the patient died". It is a well-known fact that post-operation care is as important as the operation itself. In this project, no discussions were held on the steps needed to progress from outcomes towards the ultimate impact. It should be noted that in spite of the poor performance of this project, the key GoV stakeholders have been working on the

lighting energy efficiency issue on their own, and the lighting market is also transforming very quickly.

**Lesson 8.** *Financial performance monitoring is crucial for the management of the project within time and budget without compromising on the quality of outputs and outcomes.*

204. The project budget is prepared on the basis of the activities to be conducted for delivering outputs and outcomes. ISPONRE was required to keep track of the financial performance based on the overall budget and the approved work plan; ISPONRE also had to get the annual financial statement externally audited. However, project audits were not a requirements for UN Environment<sup>35</sup>. Sizeable amount of budget remained unutilized after 4 years of project duration. This could be interpreted as either the initial budget was too high or there were some compromises in project delivery.

**Lesson 9.** *Demonstration projects to raise awareness in rural areas regarding the benefits of ESLs need to look for out-of-the box solutions that are affordable to the local population.*

205. The enlighten Toolkit has documented many innovative ways to address the high first-cost of ESLs, such as government- or utility-administered on-bill financing or bulk-purchasing, etc. Moreover, EVN had already been striving to promote the wider dissemination of ESLs through innovative market mechanism for several years. So, it is surprising that the project opted to give away lamps free-of-cost in rural areas. While a few lucky people are happy to get the lamps free, it increases the expectation of the others of also getting free lamps in future. Also, it is not clear what was the basis for ISPONRE deciding to conduct a lighting demonstration in its own building.

### 4.3 Recommendations

206. There is no record of any high-level meeting of the stakeholders after the PSC meeting held in February till the end of the project at the end of 2016. No discussions were held on how and from where to mobilize resources to sustain the project activities beyond the project life. Another efficient lighting project was approved by GEF for implementation by UNDP in Vietnam, involving many of the key stakeholders of this project, but there was no formal linkage established or exchanges made between the two projects so that the UNDP project building upon the achievements of this project. **UN Environment should initiate dialogue with the GoV and UNDP-GEF project to share the learning from this project and discuss how the UNDP-GEF project can build on the outcomes of this project to move towards the ultimate impact.**

207. The evaluation has noted several deficiencies in the project execution, its deliveries as well as financial planning and management (see Section 3.6.6). Section 3.6.7 pointed out the deficiencies in supervision, guidance and technical backstopping provided by UN Environment. The M&E plan considers UN Environment as the responsible party for the execution of the project with support from PMO and ISPONRE. At the time of TE evaluation, UN Environment had not produced the final report, which summarizes all activities and achievements, etc., and lays out recommendations for any further steps that may be needed to ensure project's sustainability and replication. **Hence, as the GEF project implementing agency, UN Environment should assume the overall responsibility of meeting all the GEF**

<sup>35</sup> Evaluation office: Internally executed projects (or project components) do not require an audit

**requirements and obligations instead of leaving them to the national project implementing partner, especially when the proDoc anticipates the need of developing capacities to successfully execute projects (para 153).**

208. As UN Environment's executing partner, ISPONRE had to follow all the GEF requirements during project implementation. As specified in the Project Cooperation Agreement between UN Environment and ISPONRE, the latter submitted to UN Environment detailed work plan, quarterly financial reports and audited annual financial reports for the part of the budget allocated to it. **UN Environment must adhere to the complete transparency of project management, including reporting, budgeting, resources and their use, co-financing, etc., following GEF's project management guidelines.**
209. This project was the first regional enlighten initiative being implemented in South-East Asia and UN Environment envisages undertaking similar initiatives in other emerging countries in the region, such as Myanmar and Pakistan. The evaluation has emphasized the need for mobilizing international expertise to strengthen the local capacity instead of depending excessively on local experts who may not have adequate international exposure. **Learning from the project, UN Environment must examine similar projects in the pipeline for other emerging countries in the region, particularly ensuring that international expertise is available to enhance the quality of project delivery.**
210. The project was designed with the premise that it will provide a global "open space" for exchange and communication between all stakeholders and provide support to the implementation of adapted country programs in the region. For this, it was important to establish a platform for documenting and dissemination of the project's outputs, outcomes, best practices and lessons learned. However, the evaluation noted that the project had not made any efforts in developing such a platform or website created for this purpose. Documentation is an important aspect of project management. **UN Environment should make sure that all outputs and deliverables are readily available for internal and external review. This will ensure that knowledge gained from the project execution can be easily shared with others.**
211. The project has failed to keep track of the co-financing sources as well as contributions to the project as confirmed by the various co-financiers at the time of project submission to GEF. As the GEF implementing agency, UN Environment should ensure that project implementing partner keeps track of the co-financing and report it along with the financial reports. Co-financing also increases the likelihood that after the completion of the project, follow-up activities receive support of the national stakeholders. **UN Environment should systematically monitor that the co-financing committed is actually materializing as it helps to mobilize additional resources to achieve GEF objectives and demonstrates country ownership as well as provide sufficient guidance for executing partners.**



## Terminal Evaluation of the UN Environment/GEF project Phasing out Incandescent Lamps through Lighting Market Transformation in Vietnam

### I. TERMS OF REFERENCE FOR THE EVALUATION

#### 1. Objective and Scope of the Evaluation

1. In line with the UNEP Evaluation Policy<sup>36</sup> and the UNEP Programme Manual<sup>37</sup>, the Terminal Evaluation is undertaken at completion of the project to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned among UNEP and Government of Vietnam, ISPONRE, MONRE and other partners [such as Ministry of Industry and Trade (MOIT), Ministry of Science and Technology (MOST), Directorate for Standard, Measurement, and Quality (STAMEQ), Ministry of Finance (MOF), and Ministry of Education and Training (MOET)]

2. UNEP has other market transformation projects currently on going. Therefore, the evaluation will identify lessons of operational relevance for future project formulation and implementation.

3. The evaluation criteria are specified in the section four. The following set of **key questions will guide the evaluation**. These questions may be expanded by the consultants as deemed appropriate:

- (a) To what extent phasing out the incandescent lamps (ILs) production and sales has been successful in Vietnam? Can the progress in the markets be attributed to the project outcomes, outputs and activities? To what extent the project design, planned activities and target setting supported overall project aim.
- (b) To what extent did the project cooperate with other efficient lighting initiatives at the global, regional and national level? To what extent the cooperation with the global en.lighten initiative and other similar GEF projects helped the project to progress towards its targets in Vietnam?
- (c) What are the key lessons regarding the implementation modality and arrangements of the project? Did the implementation structure, partner selection, and other arrangements support/hinder the project in achieving its goals and objectives?
- (d) What are the key questions regarding the sustainability of achieved outputs and outcomes? To what extent environmental sustainability as well as social,

<sup>36</sup> <http://www.unep.org/eou/StandardsPolicyandPractices/UNEPevaluationPolicy/tabid/3050/language/en-US/Default.aspx>

<sup>37</sup> [http://www.unep.org/QAS/Documents/UNEP\\_Programme\\_Manual\\_May\\_2013.pdf](http://www.unep.org/QAS/Documents/UNEP_Programme_Manual_May_2013.pdf)



environmental and economic safeguards were taken into account in the project design and implementation?

- (e) In terms of key activities: How effective and relevant were the capacity building and training efforts coordinated by the project? To what extent the demonstration projects are expected to contribute to market transformation?

## 2. Overall Approach and Methods

4. The Terminal Evaluation of the Project will be conducted by independent consultants under the overall responsibility and management of the UNEP Evaluation Office in consultation with the UNEP Task Manager, key persons at UNEP Regional Office for Asia Pacific (ROAP) and Division of Technology, Industry and Economics (DTIE).

5. It will be an in-depth evaluation using a participatory approach whereby key stakeholders (including, but not limited to, the project team and implementing partners), are kept informed and consulted throughout the evaluation process. Both quantitative and qualitative evaluation methods will be used as appropriate to determine project achievements against the expected outputs, outcomes and impacts. It is highly recommended that the consultant(s) maintains close communication with the project team and promotes information exchange throughout the evaluation implementation phase in order to increase their (and other stakeholder) ownership of the evaluation findings.

6. The findings of the evaluation will be based on the following:

(a) A **desk review** of:

- Relevant background documentation, such as the UNEP Medium-term Strategy 2010-2013 and 2014-2017 and Programme of Work (on Climate Change sub-programme)
- Relevant country specific framework documents (including UNDAF(s), Government plans, strategies and policies on energy efficiency and sustainable development)
- Relevant documentation concerning “Global Market Transformation for Efficient Lighting” project (the global umbrella project) including the ProDoc, Mid-Term Evaluation, Terminal Evaluation (if available), key outputs and reports.
- Project design documents (including minutes of the project design review meeting at approval and inception documentation); Annual Work Plans and Budgets or equivalent, revisions to the project (Project Document Supplement); the logical framework and its budget; and M&E plans;
- Project reports such as Project Implementation Reports (PIRs), six-monthly progress and financial reports, progress reports from collaborating partners, meeting minutes, relevant correspondence etc.;
- Project outputs/publications, such as strategies, policies and guidelines developed by partners/project team, technical publications, guides and toolkits, reports, webinars, videos, country lighting assessment(s), policy and regulatory maps, workshop reports, etc.  
Project monitoring data and reports (e.g. training and event participant lists, surveys and participant feedback)
- Other evaluations/reviews of similar projects (including ‘Evaluation of lites.asia and the UNEP en.lighten initiative Southeast Asia and the Pacific Monitoring, Verification and Enforcement Project’ by Australian government)

- Other relevant documentation.
- (b) **Interviews (individual or in group) with:**
- UNEP Task Manager
  - Project management team
  - Relevant staff at ROAP and DTIE
  - UNEP Fund Management Officer;
  - Project partners, (including but not limited to) Institute of Strategy & Policy on Natural Resources & Environment (ISPONRE)-Ministry of Natural Resources and Environment (MONRE); Ministry of Industry and Trade (MOIT); and Ministry of Science and Technology (MOST)
  - Private sector representative, including the Vietnam-based lamp producers participating in the project as well as the major international players such as Osram and Phillips
  - Key resource persons of the global en.lighten initiative (UNEP)
  - Relevant resource persons (will be further specified in the inception phase)
- (c) **Surveys** (will be specified in the evaluation inception phase)
- (d) **Field visits** to Vietnam, Hanoi and selected pilot site(s)
- (e) **Other data collection tools**

### 3. Key Evaluation principles

7. Evaluation findings and judgements should be based on **sound evidence and analysis**, clearly documented in the evaluation report. Information will be triangulated (i.e. verified from different sources) to the extent possible, and when verification was not possible, the single source will be mentioned. Analysis leading to evaluative judgements should always be clearly spelled out.

8. The evaluation will assess the project with respect to **a minimum set of evaluation criteria** grouped in five categories: (1) Strategic Relevance; (2) Attainment of objectives and planned result, which comprises the assessment of outputs achieved, effectiveness and likelihood of impact; (3) Sustainability and replication; (4) Efficiency; and (5) Factors and processes affecting project performance, including preparation and readiness, implementation and management, stakeholder participation, communications & public awareness, country ownership and driven-ness, financial planning and management, UNEP supervision and backstopping, and project monitoring and evaluation. The evaluation consultants can propose other evaluation criteria as deemed appropriate.

9. **Ratings.** All evaluation criteria will be rated on a six-point scale. Annex 3 provides guidance on how the different criteria should be rated and how ratings should be aggregated for the different evaluation criterion categories.

10. **Baselines and counterfactuals.** In attempting to attribute any outcomes and impacts to the project intervention, the evaluators should consider the difference between *what has happened with, and what would have happened without, the project*. This implies that there should be consideration of the baseline conditions, trends and counterfactuals in relation to the intended project outcomes and impacts. It also means that there should be plausible evidence to attribute such outcomes and impacts to the actions of the project. Sometimes, adequate information on baseline conditions, trends or counterfactuals is lacking. In such cases this should be clearly highlighted by the evaluators, along with any simplifying assumptions that were taken to enable the evaluator to make informed judgements about project performance.

11. **The “Why?” Question.** As this is a terminal evaluation and a follow-up project is likely [or similar interventions are envisaged for the future], particular attention should be given to learning from the experience. Therefore, the “Why?” question should be at the front of the consultants’ minds all through the evaluation exercise. This means that the consultants need to go beyond the assessment of “*what*” the project performance was, and make a serious effort to provide a deeper understanding of “*why*” the performance was as it was, i.e. of processes affecting attainment of project results (criteria under category F – see below). This should provide the basis for the lessons that can be drawn from the project. In fact, the usefulness of the evaluation will be determined to a large extent by the capacity of the consultants to explain “*why things happened*” as they happened and are likely to evolve in this or that direction, which goes well beyond the mere review of “*where things stand*” at the time of evaluation.

12. A key aim of the evaluation is to encourage reflection and learning by UNEP staff and key project stakeholders. The consultant should consider how reflection and learning can be promoted, both through the evaluation process and in the communication of evaluation findings and key lessons.

13. **Communicating evaluation results.** Once the consultant(s) has obtained evaluation findings, lessons and results, the Evaluation Office will share the findings and lessons with the key stakeholders. Evaluation results should be communicated to the key stakeholders in a brief and concise manner that encapsulates the evaluation exercise in its entirety. There may, however, be several intended audiences, each with different interests and preferences regarding the report. The Evaluation Manager will plan with the consultant(s) which audiences to target and the easiest and clearest way to communicate the key evaluation findings and lessons to them. This may include some or all of the following; a webinar, conference calls with relevant stakeholders, the preparation of an evaluation brief or interactive presentation.

#### 4. Evaluation criteria

##### A. Strategic relevance

14. The evaluation will assess, in retrospect, whether the project’s objectives and implementation strategies were consistent with a) global, b) regional, and c) national environmental issues and needs. The evaluation will pay attention to evidence provided by the umbrella project (en.lighten initiative), regional priorities and national plans and strategies on energy efficiency and sustainable development in Vietnam. Based on an analysis of project stakeholders, the evaluation should assess the relevance of the project intervention to key stakeholder groups.

15. The evaluation will assess whether the project was in-line with the GEF Climate Change focal area’s strategic priorities and operational programme(s).

16. The evaluation will also assess the project’s relevance in relation to UNEP’s mandate and its alignment with UNEP’s policies and strategies at the time of project approval. UNEP’s Medium Term Strategy (MTS) is a document that guides UNEP’s programme planning over a four-year period. It identifies UNEP’s thematic priorities, known as Subprogrammes (SP), and sets out the desired outcomes [known as Expected Accomplishments (EAs)] of the sub-programmes. The evaluation will assess whether the project makes a tangible/plausible contribution to any of the EAs specified in the MTS 2010-2013 and 2014-2017. The magnitude and extent of any contributions and the causal linkages should be fully described.

The evaluation should assess the project’s alignment / compliance with UNEP’s policies and strategies. The evaluation should provide a brief narrative of the following:

- *Alignment with the Bali Strategic Plan (BSP)*<sup>38</sup>. The outcomes and achievements of the project should be briefly discussed in relation to the objectives of the UNEP BSP.
- *Gender balance*. Ascertain to what extent project design, implementation and monitoring have taken into consideration: (i) possible gender inequalities in access to and the control over natural resources; (ii) specific vulnerabilities of women and children to environmental degradation or disasters; and (iii) the role of women in mitigating or adapting to environmental changes and engaging in environmental protection and rehabilitation. Are the project intended results contributing to the realization of international GE (Gender Equality) norms and agreements as reflected in the UNEP Gender Policy and Strategy, as well as to regional, national and local strategies to advance HR & GE?
- *Human rights based approach (HRBA) and inclusion of indigenous peoples issues, needs and concerns*. Ascertain to what extent the project has applied the UN Common Understanding on HRBA. Ascertain if the project is in line with the UN Declaration on the Rights of Indigenous People, and pursued the concept of free, prior and informed consent.
- *South-South Cooperation*. This is regarded as the exchange of resources, technology, and knowledge between developing countries. Briefly describe any aspects of the project that could be considered as examples of South-South Cooperation.
- *Safeguards*. Whether the project has adequately considered environmental, social and economic risks and established whether they were vigilantly monitored. Was the safeguard management instrument completed and were UNEP ESES requirements complied with?<sup>39</sup>

## B. Achievement of Outputs

17. The evaluation will assess, for each component, the projects' success in producing the programmed outputs (products and services delivered by the project itself) and milestones as per the ProDocs and any modifications/revisions later on during project implementation, both in quantity and quality, as well as their usefulness and timeliness.

18. Brief explanation on the reasons behind the success (or failure) of the project in producing its different outputs and meeting expected quality standards will be provided. The evaluator will cross-refer to explanations provided under Section F (which covers the processes affecting attainment of project results criteria) to avoid repetition in reporting.

19. The evaluation will explain to what extent stakeholders were involved in producing the programmed outputs and assess how other global and regional enlighten initiatives supported achievement of outputs. The evaluation should pay attention to what extent the lessons from enlighten network helped in producing the project outputs in Vietnam.

## C. Effectiveness: Attainment of Objectives and Planned Results

20. The evaluation will assess the extent to which the project's objectives were effectively achieved or are expected to be achieved.

21. The **Theory of Change (ToC)**<sup>40</sup> of a project depicts the causal pathways from project outputs (goods and services delivered by the project) through outcomes (changes resulting from the use made by key stakeholders of project outputs) towards impact (long term changes in environmental benefits and living conditions). The ToC will also depict any

<sup>38</sup> <http://www.unep.org/GC/GC23/documents/GC23-6-add-1.pdf>

<sup>39</sup> The project was initiated before ESES framework became applicable at UNEP. Nevertheless the evaluation should assess whether the environmental, social and economic risks were established and monitored.

<sup>40</sup> See Annex documents for guidance

intermediate changes required between project outcomes and impact, called 'intermediate states'. The ToC further defines the external factors that influence change along the major pathways; i.e. factors that affect whether one result can lead to the next. These external factors are either drivers (when the project has a certain level of control) or assumptions (when the project has no control). The ToC also clearly identifies the main stakeholders involved in the change processes.

22. At the time of the en.lighten Vietnam project design, the ToC was not a requirement. Nevertheless, in order to assess effectiveness of the project this evaluation will reconstruct the project ToC based on a review of project documentation and stakeholder interviews. The evaluator will be expected to discuss the reconstructed TOC with the stakeholders during evaluation missions and/or interviews in order to ascertain the causal pathways identified and the validity of impact drivers and assumptions described in the TOC. This exercise will also enable the consultant to address some of the key evaluation questions and make adjustments to the TOC as appropriate (the ToC of the intervention may have been modified / adapted from the original design during project implementation).

23. The assessment of effectiveness will be structured in three sub-sections:

- (a) Evaluation of the **achievement of direct outcomes as defined in the reconstructed ToC**. These are the first-level outcomes expected to be achieved as an immediate result of project outputs. Reconstructed ToC will take into account any revisions/additions to the ProDoc outcomes and assesses the achievement against the modified outcomes.
- (b) Assessment of the **likelihood of impact** using a Review of Outcomes to Impacts (ROtI) approach<sup>41</sup>. The evaluation will assess to what extent the project has to date contributed, and is likely in the future to further contribute, to intermediate states and long-term outcomes as defined in the reconstructed ToC. Then the evaluation will assess the likelihood that those changes in turn will lead to positive changes in the natural resource base, benefits derived from the environment and human well-being (impacts). In addition to intended positive changes/impacts, the evaluation will also consider the likelihood that the intervention may lead to unintended negative effects (project documentation relating to Environmental, Social and Economic Safeguards).
- (c) Evaluation of the **achievement of the formal project overall objective, overall purpose, goals and component outcomes** using the project's own results statements as presented in the Project Document<sup>42</sup>. This sub-section will refer back where applicable to the preceding sub-sections (a) and (b) to avoid repetition in the report. To measure achievement, the evaluation will use as much as appropriate the indicators for achievement proposed in the Logical Framework (Logframe) of the project, adding other relevant indicators as appropriate. Briefly explain what factors affected the project's success in achieving its objectives, cross-referencing as needed to more detailed explanations provided under Section F. Most commonly, the overall objective is a higher level result to which the project is intended to contribute. The section will describe the actual or likely **contribution** of the project to the objective.
- (d) The evaluation should, where possible, disaggregate outcomes and impacts for the key project stakeholders. It should also assess the extent to which HR and GE were integrated in the intervention logic and PRF of the project and to what degree participating institutions/organizations changed their policies or

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<sup>41</sup> Guidance material on Theory of Change and the ROtI approach is available from the Evaluation Office.

<sup>42</sup> Or any subsequent **formally approved** revision of the project document or logical framework.

practices thereby leading to the fulfilment of HR and GE principles (e.g. new services, greater responsiveness, resource re-allocation, etc.)

#### D. Sustainability and replication

24. Sustainability is understood as the probability of continued long-term project-derived results and impacts after the external project funding and assistance ends. The evaluation will identify and assess the key conditions or factors that are likely to undermine or contribute to the persistence of benefits. *Some of these factors might be direct results of the project while others will include contextual circumstances or developments that are not under control of the project but that may condition the sustainability of benefits.*

25. The evaluation should ascertain to what extent follow-up work has been initiated and how project results will be sustained and enhanced over time. Did the project conduct 'succession planning' and implement this during the life of the project? The evaluation should address whether the project has sufficient plans/mechanisms in place to support the sustainability of the results. The reconstructed ToC will assist in the evaluation of sustainability, as the drivers and assumptions required to achieve higher-level results are often similar to the factors affecting sustainability of these changes.

26. Four aspects of sustainability will be addressed:

- (a) *Socio-political sustainability.* Are there any social or political factors that may influence positively or negatively the sustenance of project results and progress towards impacts? Is the level of ownership by the main stakeholders sufficient to allow for the project results to be sustained? Are there sufficient government and other key stakeholder awareness, interests, commitment and incentives to continue the work initiated by the project? Was capacity building conducted for key stakeholders and did this help in terms of sustainability? Did the intervention activities aim to promote (and did they promote) positive sustainable changes in attitudes, behaviours and power relations between the different stakeholders? To what extent has the integration of Human-rights and Gender equality led to an increase in the likelihood of sustainability of project results?
- (b) *Financial resources.* To what extent are the continuation of project results and the eventual impact of the project dependent on financial resources? What is the likelihood that adequate financial resources<sup>43</sup> will be or will become available to use capacities built by the project? Are there any financial risks that may jeopardize sustenance of project results and onward progress towards impact?
- (c) *Institutional framework.* To what extent is the sustenance of the results and onward progress towards impact dependent on issues relating to institutional frameworks and governance? How robust are the institutional achievements such as governance structures and processes, policies, sub-regional agreements, legal and accountability frameworks etc. required to sustaining project results?
- (d) *Environmental sustainability.* Are there any environmental factors, positive or negative, that can influence the future flow of project benefits? Are there any project outputs or higher level results that are likely to affect the environment, which, in turn, might affect sustainability of project benefits? Are there any foreseeable negative environmental impacts that may occur as the project results are being up-scaled?

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<sup>43</sup> Those resources can be from multiple sources, such as the national budget, public and private sectors, development assistance etc.



27. **Catalytic role and replication.** The *catalytic role* of UNEP interventions is embodied in their approach of supporting the creation of an enabling environment and of investing in pilot activities which are innovative and showing how new approaches can work. UNEP also aims to support activities that upscale new approaches to a national, regional or global level, with a view to achieve sustainable global environmental benefits.

28. In this evaluation, special attention will be paid to pilot and demonstration projects of the Vietnam en.lighten project. The evaluation will assess the catalytic role played by this project, namely to what extent the project has<sup>44</sup>:

- (a) *catalyzed behavioural changes* of consumers and other relevant stakeholders by the means of developed capacities and raised awareness (especially under component 3);
- (b) provided *incentives* (social, economic, market or competence based) to contribute to catalyzing changes in stakeholder behaviour in Vietnam in terms of energy efficient lighting technologies;
- (c) contributed to *institutional changes*, and *policy changes* (especially under component 2 and 4);
- (d) contributed to sustained follow-on financing (*catalytic financing*) from Government partners, additional donor, lighting companies or other private sector parties;
- (e) created/supported opportunities for particular individuals or institutions ("*champions*") to catalyze change (without which the project would not have achieved all of its results).

29. *Replication* is defined as lessons and experiences coming out of the project that are replicated (experiences are repeated and lessons applied in different geographic areas) or scaled up (experiences are repeated and lessons applied in the same geographic area but on a much larger scale and funded by other sources). The evaluation will assess to what extent the pilots and demonstration projects promoted replication effect of EEL in Vietnam and other countries and determine to what extent actual replication has already occurred, or is likely to occur in the near future. The evaluation will also assess what has been the replication effect of the Vietnam project in the overall en.lighten network and what are the key factors influencing on effective replication of the lessons concerning EEL technologies.

#### E. Efficiency

30. The evaluation will assess the cost-effectiveness and timeliness of project execution. It will describe any cost- or time-saving measures put in place in attempting to bring the project as far as possible in achieving its results within its budget and time. It will also analyse how delays, if any, have affected project execution, costs and effectiveness. Wherever possible, costs and time over results ratios of the project will be compared with that of other similar interventions.

31. The evaluation will give special attention to efforts by the project teams to make use of/build upon pre-existing institutions, agreements and partnerships in Vietnam and in the regional and global context. It will also assess to what extent previous experiences of similar GEF projects were utilized in project design and implementation. The key issue to assess is to what extent the global and regional en.lighten networks (and similar initiatives) increased the efficiency of the project through shared data sources, information, experts and other synergies.

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<sup>44</sup> Cross-referring to other relevant sections is recommended

## F. Factors and processes affecting project performance

32. **Preparation and readiness.** This criterion focusses on the quality of project design and preparation. Were project stakeholders<sup>45</sup> adequately identified and were they sufficiently involved in project development and ground truthing e.g. of proposed timeframe and budget? Were the project's objectives and components clear, practicable and feasible within its timeframe? Are potentially negative environmental, economic and social impacts of projects identified? Were the capacities of executing agencies properly considered when the project was designed? Was the project document clear and realistic to enable effective and efficient implementation? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project implementation? Were counterpart resources (funding, staff, and facilities) and enabling legislation assured? Were adequate project management arrangements in place? Were lessons from other relevant projects properly incorporated in the project design? What factors influenced the quality-at-entry of the project design, choice of partners, allocation of financial resources etc.? Were any design weaknesses mentioned in the Project Review Committee minutes at the time of project approval adequately addressed?

33. **Project implementation and management.** This includes an analysis of implementation approaches and arrangements used by the project, its management framework, the project's adaptation to changing conditions and responses to changing risks including safeguard issues (adaptive management), the performance of the implementation arrangements and partnerships, relevance of changes in project design, and overall performance of project management. The evaluation will:

- (a) Ascertain to what extent the project implementation mechanisms outlined in the project document have been followed and were effective in delivering project milestones, outputs and outcomes.
- (b) Evaluate the effectiveness and efficiency of project management. The evaluation will also assess to what extent the organisation changes in the course of project implementation were taken into account and how well the management was able to adapt to these changes during the life of the project.
- (c) Assess the role and performance of the teams and working groups established and the project execution arrangements at all levels.
- (d) Assess the extent to which project management responded to direction and guidance provided by the UNEP Task Manager and project Steering Committee.
- (e) Identify operational and political / institutional problems and constraints that influenced the effective implementation of the project, and how the project tried to overcome these problems.

34. **Stakeholder participation, cooperation and partnerships.** The Evaluation will assess the effectiveness of mechanisms for information sharing and cooperation with other UNEP projects/programmes/units and especially the global and regional en.lighten initiatives (and involved external stakeholders and partners).

35. The term stakeholder should be considered in the broadest sense, encompassing both project partners and target users (such as consumers and private sector actors). The TOC and stakeholder analysis should assist the evaluators in identifying the key stakeholders and their respective roles, capabilities and motivations in each step of the causal pathways from activities to achievement of outputs, outcomes and intermediate states towards impact. The assessment will look at three related and often overlapping processes: (1) information dissemination to and between stakeholders, (2) consultation with and between stakeholders,

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<sup>45</sup> Stakeholders are the individuals, groups, institutions, or other bodies that have an interest or 'stake' in the outcome of the project. The term also applies to those potentially adversely affected by the project.



and (3) active engagement of stakeholders in project decision making and activities. The evaluation will specifically assess:

- (a) the approach(es) and mechanisms used to identify and engage stakeholders (within and outside UNEP) in project design and at critical stages of project implementation. What were the strengths and weaknesses of these approaches with respect to the project's objectives and the stakeholders' motivations and capacities?
- (b) How was the overall collaboration between different functional units of UNEP involved in the project? What coordination mechanisms were in place? Were the incentives for internal collaboration in UNEP adequate?
- (c) Was the level of involvement of the HQ, Regional, and out-posted Offices in project design, planning, decision-making and implementation of activities appropriate?
- (d) Has the project made full use of opportunities for collaboration with other projects/programmes/organizations including opportunities not mentioned in the Project Document<sup>46</sup>? Have complementarities been sought, synergies been optimized and duplications avoided?
- (e) What was the achieved degree and effectiveness of collaboration and interactions between the various project partners and stakeholders during design and implementation of the project? This should be disaggregated for the main stakeholder groups identified in the inception report.
- (f) To what extent has the project been able to take up opportunities for joint activities, pooling of resources and mutual learning with other organizations and networks? In particular, how useful are en.lighten partnership mechanisms and initiatives to build stronger coherence and collaboration between participating organisations?
- (g) How did the relationship between the project and the collaborating partners (institutions and individual experts) develop? Which benefits stemmed from their involvement for project performance, for UNEP and for the stakeholders and partners themselves? Do the results of the project (strategic programmes and plans, monitoring and management systems, sub-regional agreements etc.) promote participation of stakeholders, including users, in environmental decision making?

36. **Communication and public awareness**<sup>47</sup>. The evaluation will assess the effectiveness of any public awareness activities that were undertaken during the course of implementation of the project to communicate the project's objective, progress, outcomes and lessons. This should be disaggregated for the main stakeholder groups identified in the inception report. Did the project identify and make use of existing communication channels and networks used by key stakeholders? Did the project provide feedback channels?

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<sup>46</sup> Including UNEP Global Mercury Partnership, Secretariat of the Basel, Convention, "Global Market Transformation for Efficient Lighting" project), UNDP, WB, IEA, National lighting associations operating in the various geographic zones, The Renewable Energy & Energy Efficiency Partnership's (REEEP), The International Partnership for Energy Efficiency Cooperation, The Alliance to Save Energy, The Collaborative Labelling Appliance Standards Programme (CLASP), International and regional harmonization institutes and organisations such as IEC, and the Pan-American Standards Commission (COPANT), Bilateral donors involved in lighting and their specific projects such as USAID for Asia and GTZ for India.

<sup>47</sup> This section overlaps with the assessment of activities/outputs under outcome 3, cross-referencing is recommended

37. **Country ownership and driven-ness.** The evaluation will assess the degree and effectiveness of involvement of government / public sector agencies in the project, in particular those involved in project execution and those participating in Steering Committee:

- (a) To what extent have Government of Vietnam assumed responsibility for the project and provided adequate support to project execution, including the degree of cooperation received from the various public institutions involved in the project?
- (b) How and how well did the project stimulate country ownership of project outputs and outcomes?
- (c) How well the project managed to engage key country partners to the project implementation and to sustainability of the project results?

38. **Financial planning and management.** Evaluation of financial planning requires assessment of the quality and effectiveness of financial planning and control of financial resources throughout the project's lifetime. The assessment will look at actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co-financing. The evaluation will:

- (a) Verify the application of proper standards (clarity, transparency, audit etc.) and timeliness of financial planning, management and reporting to ensure that sufficient and timely financial resources were available to the project and its partners;
- (b) Assess other administrative processes such as recruitment of staff, procurement of goods and services (including consultants), preparation and negotiation of cooperation agreements etc. to the extent that these might have influenced project performance;
- (c) Present the extent to which co-financing has materialized as expected at project approval (see Table 1). Report country co-financing to the project overall, and to support project activities at the national level in particular. The evaluation will provide a breakdown of final actual costs and co-financing for the different project components (see tables in Annex 4).
- (d) Describe the resources the project has leveraged since inception and indicate how these resources are contributing to the project's ultimate objective. Leveraged resources are additional resources—beyond those committed to the project itself at the time of approval—that are mobilized later as a direct result of the project. Leveraged resources can be financial or in-kind and they may be from other donors, NGO's, foundations, governments, communities or the private sector.

39. Analyse the effects on project performance of any irregularities in procurement, use of financial resources and human resource management, and the measures taken UNEP to prevent such irregularities in the future. Determine whether the measures taken were adequate.

40. **Supervision, guidance and technical backstopping.** The purpose of supervision is to verify the quality and timeliness of project execution in terms of finances, administration and achievement of outputs and outcomes, in order to identify and recommend ways to deal with problems which arise during project execution. Such problems may be related to project management but may also involve technical/institutional substantive issues in which UNEP has a major contribution to make.

41. The evaluators should assess the effectiveness of supervision, guidance and technical support provided by the different supervising/supporting bodies including:

- (a) The adequacy of project supervision plans, inputs and processes;
- (b) The realism and candour of project reporting and the emphasis given to outcome monitoring (results-based project management);
- (c) How well did the different guidance and backstopping bodies play their role and how well did the guidance and backstopping mechanisms work? What were the strengths in guidance and backstopping and what were the limiting factors?

42. **Monitoring and evaluation.** The evaluation will include an assessment of the quality, application and effectiveness of project monitoring and evaluation plans and tools, including an assessment of risk management based on the assumptions and risks identified in the project document. The evaluation will assess how information generated by the M&E system during project implementation was used to adapt and improve project execution, achievement of outcomes and ensuring sustainability. M&E is assessed on three levels:

- (a) *M&E Design.* The evaluators should use the following questions to help assess the M&E design aspects:
  - Arrangements for monitoring: Did the project have a sound M&E plan to monitor results and track progress towards achieving project objectives? Have the responsibilities for M&E activities been clearly defined? Were the data sources and data collection instruments appropriate? Was the time frame for various M&E activities specified? Was the frequency of various monitoring activities specified and adequate?
  - How well was the project logical framework (original and possible updates) designed as a planning and monitoring instrument?
  - SMART-ness of indicators: Are there specific indicators in the logframe for each of the project objectives? Are the indicators measurable, attainable (realistic) and relevant to the objectives? Are the indicators time-bound?
  - Adequacy of baseline information: To what extent has baseline information on performance indicators been collected and presented in a clear manner? Was the methodology for the baseline data collection explicit and reliable? For instance, was there adequate baseline information on pre-existing accessible information on global and regional environmental status and trends, and on the costs and benefits of different policy options for the different target audiences? Was there sufficient information about the assessment capacity of collaborating institutions and experts etc. to determine their training and technical support needs?
  - To what extent did the project engage key stakeholders in the design and implementation of monitoring? Which stakeholders (from groups identified in the inception report) were involved? If any stakeholders were excluded, what was the reason for this? Was sufficient information collected on specific indicators to measure progress on HR and GE (including sex-disaggregated data)?
  - Did the project appropriately plan to monitor risks associated with Environmental Economic and Social Safeguards?
  - Arrangements for evaluation: Have specific targets been specified for project outputs? Has the desired level of achievement been specified for all indicators of objectives and outcomes? Were there adequate provisions in the legal instruments binding project partners to fully collaborate in evaluations?
  - Budgeting and funding for M&E activities: Determine whether support for M&E was budgeted adequately and was funded in a timely fashion during implementation.

- (b) *M&E Plan Implementation*. The evaluation will verify that:
- the M&E system was operational and facilitated timely tracking of results and progress towards projects objectives throughout the project implementation period;
  - PIR reports were prepared (the realism of the Task Manager’s assessments will be reviewed)
  - Half-yearly Progress & Financial Reports were complete and accurate;
  - Risk monitoring (including safeguard issues) was regularly documented
  - the information provided by the M&E system was used during the project to improve project performance and to adapt to changing needs.

### G. The Consultants’ Team

43. For this evaluation, the evaluation team will consist of two consultants – of an international evaluation consultant and a national support consultant. Details about the specific roles and responsibilities of the team members are presented in Annex 1 of these TORs. The lead consultant should have sufficient technical and evaluation experience, including experience of evaluation large national/regional programmes and using a Theory of Change approach; and a broad understanding of large-scale, consultative assessment processes. The support consultant should have a solid energy related professional background and strong regional and country specific experience.

44. The consultants are responsible for data collection and analysis, and the preparation of the evaluation report. They will ensure that all evaluation criteria and questions are adequately covered.

45. *By undersigning the service contract with UNEP/UNON, the consultants certify that they have not been associated with the design and implementation of the project in any way which may jeopardize their independence and impartiality towards project achievements and project partner performance. In addition, they will not have any future interests (within six months after completion of the contract) with the project’s executing or implementing units.*

### H. Evaluation Deliverables and Review Procedures

46. The evaluation consultants will prepare an **inception report** (see Annex 2(a) of TORs for Inception Report outline) containing a review of the project context, project design quality, a draft reconstructed Theory of Change of the project, the evaluation framework and a tentative evaluation schedule.

47. It is expected that a large portion of the desk review will be conducted during the inception phase. It will be important to acquire a good understanding of the project context, design and process at this stage. The review of design quality will cover the strengths and weaknesses of the project design considering the following aspects (see Annex 7 for the detailed project design assessment matrix<sup>48</sup>):

- Strategic relevance of the project
- Preparation and readiness;
- Financial planning;
- M&E design;
- Complementarity with UNEP strategies and programmes;
- Sustainability considerations and measures planned to promote replication and up-scaling.

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<sup>48</sup>This matrix will assist the consultant in the project design review but it is not a mandatory part of the inception or the evaluation report

48. The inception report will present a draft, desk-based reconstructed Theory of Change of the project. It is vital to reconstruct the ToC *before* most of the data collection (review of progress reports, in-depth interviews, surveys etc.) is done, because the ToC will define which direct outcomes, drivers and assumptions of the project need to be assessed and measured – based on which indicators – to allow adequate data collection for the evaluation of project effectiveness, likelihood of impact and sustainability.
49. The inception report will also include a stakeholder analysis identifying key stakeholders, networks and channels of communication. This information should be gathered from the Project document and discussion with the project team. See annex 2 for template.
50. The evaluation framework will present in further detail the overall evaluation approach. It will specify relevant evaluation questions, criteria, respective indicator/measures and data sources. The evaluation framework should summarize the information available from project documentation against each of the main evaluation parameters. Any gaps in information should be identified and methods for additional data collection, verification and analysis should be specified. Evaluations/reviews of other large assessments can provide ideas about the most appropriate evaluation methods to be used.
51. Effective communication strategies help stakeholders understand the results and use the information for organisational learning and improvement. While the evaluation is expected to result in a comprehensive document, content is not always best shared in a long and detailed report; this is best presented in a synthesised form using any of a variety of creative and innovative methods. The evaluator is encouraged to make use of multimedia formats in the gathering of information eg. video, photos, sound recordings. Together with the full report, the evaluator will be expected to produce a 2-page summary of key findings and lessons. A template for this has been provided in Annex?.
52. The inception report will also present a tentative schedule for the overall evaluation process, including a draft programme for the country visit and tentative list of people/institutions to be interviewed.
53. The inception report will be submitted for review and approval by the Evaluation Office before the further evaluation missions, data collection or analysis is undertaken.
54. [Optional] When data collection and analysis has almost been completed, the evaluation team will prepare a short **note on preliminary findings and recommendations (or other similar presentation)** for discussion with the project team and the Evaluation Reference Group. The purpose of the note is to allow the evaluation team to receive guidance on the relevance and validity of the main findings emerging from the evaluation. Alternatively, the preliminary findings can be shared and discussed in a conference call with key project stakeholders (task manager and project team).
55. **The main evaluation report** should be brief (recommended to be no longer than 40 pages – excluding the executive summary and annexes), to the point and written in plain English. The report will follow the annotated Table of Contents outlined in Annex 2. It must explain the purpose of the evaluation, exactly what was evaluated and the methods used (with their limitations). The report will present evidence-based and balanced findings, consequent conclusions, lessons and recommendations, which will be cross-referenced to each other. The report should be presented in a way that makes the information accessible and comprehensible. Any dissident views in response to evaluation findings will be appended in footnote or annex as appropriate. To avoid repetitions in the report, the authors will use numbered paragraphs and make cross-references where possible.
56. **Review of the draft evaluation report.** The evaluation team will submit a zero draft report to the UNEP EO and revise the draft following the comments and suggestions made

by the EO. Once a draft of adequate quality has been accepted, the EO will share this first draft report with the Task Manager, who will alert the EO in case the report would contain any blatant factual errors. The Evaluation Office will then forward the first draft report to the other project stakeholders, in particular executing partners in Vietnam for their review and comments. Stakeholders may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. It is also very important that stakeholders provide feedback on the proposed recommendations and lessons. Comments would be expected within two weeks after the draft report has been shared. Any comments or responses to the draft report will be sent to the UNEP EO for collation. The EO will provide the comments to the evaluation team for consideration in preparing the final draft report, along with its own views.

57. The evaluation team will submit the final draft report no later than 2 weeks after reception of stakeholder comments. The team will prepare a **response to comments**, listing those comments not or only partially accepted by them that could therefore not or only partially be accommodated in the final report. They will explain why those comments have not or only partially been accepted, providing evidence as required. This response to comments will be shared by the EO with the interested stakeholders to ensure full transparency.

58. **Submission of the final evaluation report.** The final report shall be submitted by Email to the Head of the Evaluation Office. The Evaluation Office will finalize the report and share it with the interested Divisions and Sub-programme Coordinators in UNEP. The final evaluation report will be published on the UNEP Evaluation Office web-site [www.unep.org/eou](http://www.unep.org/eou).

59. As per usual practice, the UNEP EO will prepare a **quality assessment** of the zero draft and final draft report, which is a tool for providing structured feedback to the evaluation consultants. The quality of the report will be assessed and rated against the criteria specified in Annex 3.

60. The UNEP Evaluation Office will assess the ratings in the final evaluation report based on a careful review of the evidence collated by the evaluation consultants and the internal consistency of the report. Where there are differences of opinion between the evaluator and UNEP Evaluation Office on project ratings, both viewpoints will be clearly presented in the final report. The UNEP Evaluation Office ratings will be considered the final ratings for the project.

61. At the end of the evaluation process, the Evaluation Office will prepare a Recommendations Implementation Plan in the format of a table to be completed and updated at regular intervals by the Task Manager. After reception of the Recommendations Implementation Plan, the Task Manager is expected to complete it and return it to the EO within one month. (S)he is expected to update the plan every six month until the end of the tracking period. As this is a Terminal Evaluation, the tracking period for implementation of recommendations will be 18 months, unless it is agreed to make this period shorter or longer as required for realistic implementation of all evaluation recommendations. Tracking points will be every six months after completion of the implementation plan.

#### **I. Logistical arrangements**

62. This Terminal Evaluation will be undertaken by an independent evaluation consultant contracted by the UNEP Evaluation Office. The consultant will work under the overall responsibility of the UNEP Evaluation Office and will consult with the EO on any procedural and methodological matters related to the evaluation. It is, however, the consultant's individual responsibility to arrange for their travel, visa, obtain documentary evidence, plan meetings with stakeholders, organize online surveys, and any other logistical matters related to the assignment. The UNEP Task Manager and project team will, where possible, provide

logistical support (introductions, meetings etc.) allowing the consultants to conduct the evaluation as efficiently and independently as possible.

#### J. Schedule of the evaluation

63. Table 7 below presents the tentative schedule for the evaluation.

**Table 7. Tentative schedule for the evaluation**

<b>Milestone</b>	<b>Deadline</b>
Selection of the consultant	October 10
Contracting procedures	October 28
Inception phase - desk review and initial interviews	October 28 – November 30
Inception Report	December 10
Additional desk review and preparations for the evaluation mission (interview protocols, etc.)	January 10 (2017)
Evaluation Mission – approx. 1 week (Hanoi, Vietnam)	January 20
Telephone interviews, surveys, other data collection	January 31
Note on preliminary findings and recommendations	February 10
Zero draft report	February 28
Draft Report shared with UNEP Task Manager	March 15
Draft Report shared with project team/key stakeholders	March 30
Draft Report shared with stakeholder	April 15
Final Report	April 30



ANNEX 2. EVALUATION PROGRAM

Date	Time	Location	Name	Position	Organization
Mon, 21 Nov 2016	15:00 – 16:00	Skype	Saila Toikka	Evaluation Officer	UNEP Evaluation Office
			Conrado Heruela	Task Manager	Climate Change Mitigation Unit, UNEP DTIE
Wed, 30 Nov	09:00 – 11:00	UNEP ROAP	Conrado Heruela	Task Manager	Climate Change Mitigation Unit, UNEP DTIE
			Parimita Mohanty	Coordinator for Asia Pacific	Climate Technology Centre and Network (CTCN), UNEP
			Julia Stanfield	Consultant	Climate Change Programme, UNEP ROAP
Thu, 12 Jan 2017	10:00 – 11:30	VAST	Bac Kinh	Project Coordinator	UNDP-GEF LED Lighting Project for Vietnam
	15:00 – 16:30	ISPONRE	Nguyen Trung Thang	Project Director	UNEP-GEF ESL Project for Vietnam
			Hoang Hong Hang	Project Manager	
			Truong Thuy Mai	Project Assistant	
Tue, 7 Feb 2017	06:30	Arrival in Bangkok			
	13:30 – 16:30	UNEP ROAP	Conrado Heruela	Task Manager	Climate Change Mitigation Unit, UNEP DTIE
			Sudhir Sharma	Programme Officer	Climate Change Programme, UNEP ROAP
Wed, 8 Feb 2017	09:30	Arrival in Ho Chi Minh City, Vietnam			
	14:00 – 16:00	Dien Quang Office	Nguyen Thi Kim Vinh	Deputy General Manager	Dien Quang Lamp Joint Stock Company

Date	Time	Location	Name	Position	Organization
			Vo Minh Hoang	General Director Assistant	
	16:30 – 17:30	Osram Office	Bui Thieu Quoc	Marketing Executive (OEM)	Osram Pte. Ltd. Representative Office in Vietnam
Thu, 9 Feb 2017	08:30	Arrival in Dong Nai by road from Ho Chi Minh City			
	09:00 – 11:30	Quatest 3 Testing House, Dong Nai	Truong Thanh Son	Vice Director	Quality Assurance and Testing Center 3 (Quatest 3), Testing House, Dong Nai
			Nguyen Tan Tung	Head of Electrical Testing Lab	
			Luong Trong Si	Head of EMC Testing Lab.	
			Nguyen Thanh Trung	Deputy Quality Manager for Training	
			Nguyễn Hoài Nam	Manager	
	16:00	Arrival in Binh Thuan by road from Dong Nai			
Fri, 10 Feb 2017	08:30 – 10:30	Binh Thuan Dragon Fruit Association Office	Dao Thi Kim Dung	Director	R&D Center for Dragon Fruit Association
			Trần Phú Đức	Head	Dragon Fruit Marketing Information Department
	11:00 – 12:30	Office of Binh Thuan Sub-Dept of Fisheries	Huynh Quang Huy	Director	Binh Thuan Sub-Department of Fisheries
				Fisherman	
	14:00 – 16:30	Dragon Fruit Farm	Lê Hồng Sơn	Farmer	Dragon fruit farm
			Trần Phú Đức	Head	Dragon Fruit Marketing Information Department
	20:00	Arrival in Dalat by road from Binh Thuan			
Sat,	08:30 – 10:00	Du Parc Hotel	Trinh Duong Minh	Former Employee	Dalat Flower Association

Date	Time	Location	Name	Position	Organization
11 Feb 2017			Nguyen Thi Sang	Assistant to the Chairman	
	10:30 – 12:00	Flower farm	Nguyen Dinh Hiep	Farmer	Flower Farm
	13:30 – 14:30	Flower farm	Le Van Sy Le Thi Kim Phung	Farmers	Flower Farm
	15:00 – 16:30	Langbiang Farm Office	Tran Huy Duong	Director (former Chairman of Dalat Flower Association)	Langbiang Farm Co. Ltd.
Sun, 12 Feb 2017	11:40 – 13:30	Flight from Dalat to Hanoi			
Mon, 13 Feb 2017	08:30 – 12:00	ISPONRE PMO	Nguyen The Chin	Director General	UNEP-GEF ESL Project for Vietnam
			Nguyen Trung Thang	Project Director	
			Hoang Hong Hang	Project Manager	
			Truong Thuy Mai	Project Assistant	
				Project Consultant	
			Phan Thi Ha	Project Accountant	
	14:00 – 15:30	VEA Office	Nguyen Van Tai	Administrator	Vietnam Environment Administration, MONRE
			Pham Anh Huyen	Official, Vietnam Green Label	
	16:00 – 17:00	MOIT	Đặng Hải Dũng	Senior Expert, Energy Efficiency	Ministry of Industry and Trade (MOIT)
			Pham Mai Hoa	Head of Legal Services	
N T Giang			Staff of Legal Services		
17:30 – 18:00	Restaurant	Duc Song Nguyen	Project consultant	Institute of Energy	

Date	Time	Location	Name	Position	Organization
Tue, 14 Feb 2017	09:00 – 10:00	Vietnam Standards and Quality Institute	Doan Thi Thanh Van	Head, Electrical and Electronic Division	Directorate for Standards, Metrology and Quality (TCVN)
	10:00 – 11:30	Quatest 1	Dang Thanh Tung	Manager, Electrical Testing Lab.	Quatest 1
			Bui Anh Tuan	Testing Officer, Electric and Energy Efficiency Testing Lab.	
	13:00 – 15:00	Rang Dong Showroom	Nguyen Hong Thu	Deputy Director, Lighting Rsearch and Development Center	Rang Dong Light Source and Vacuum Flask JSC.
	16:00 – 16:30	ISPONRE	Vũ Minh Mão	Retired Professional (Consultant)	Vietnam Lighting Association
Wed, 15 Feb 2017	10:00 – 11:30	EVN	Tran Viet Nguyen	Deputy Director, Business Development	Vietnam Electricity (EVN)
			Nguyen Ngoc Giap	Senior Officer, Business Development	
	14:00 – 17:00	ISPONRE PMO	Debriefing meeting with key stakeholders of the project		
Thu, 16 Feb 2017	09:20 – 11:20	Flight from Hanoi to Bangkok			
	13:00 – 16:00	IIEC Office	Somma Phon- Amnuaisuk	Senior Technical Adviser	International Institute for Energy Conservation
			Samat Sukenaliev	Consultant	
	22:25	Departure from Bangkok			
Sat, 25 Feb 2017	19:30 – 22:00	Skype	Rajiv Garg	Former Project Manager	UNEP-GEF ESL Project for Vietnam

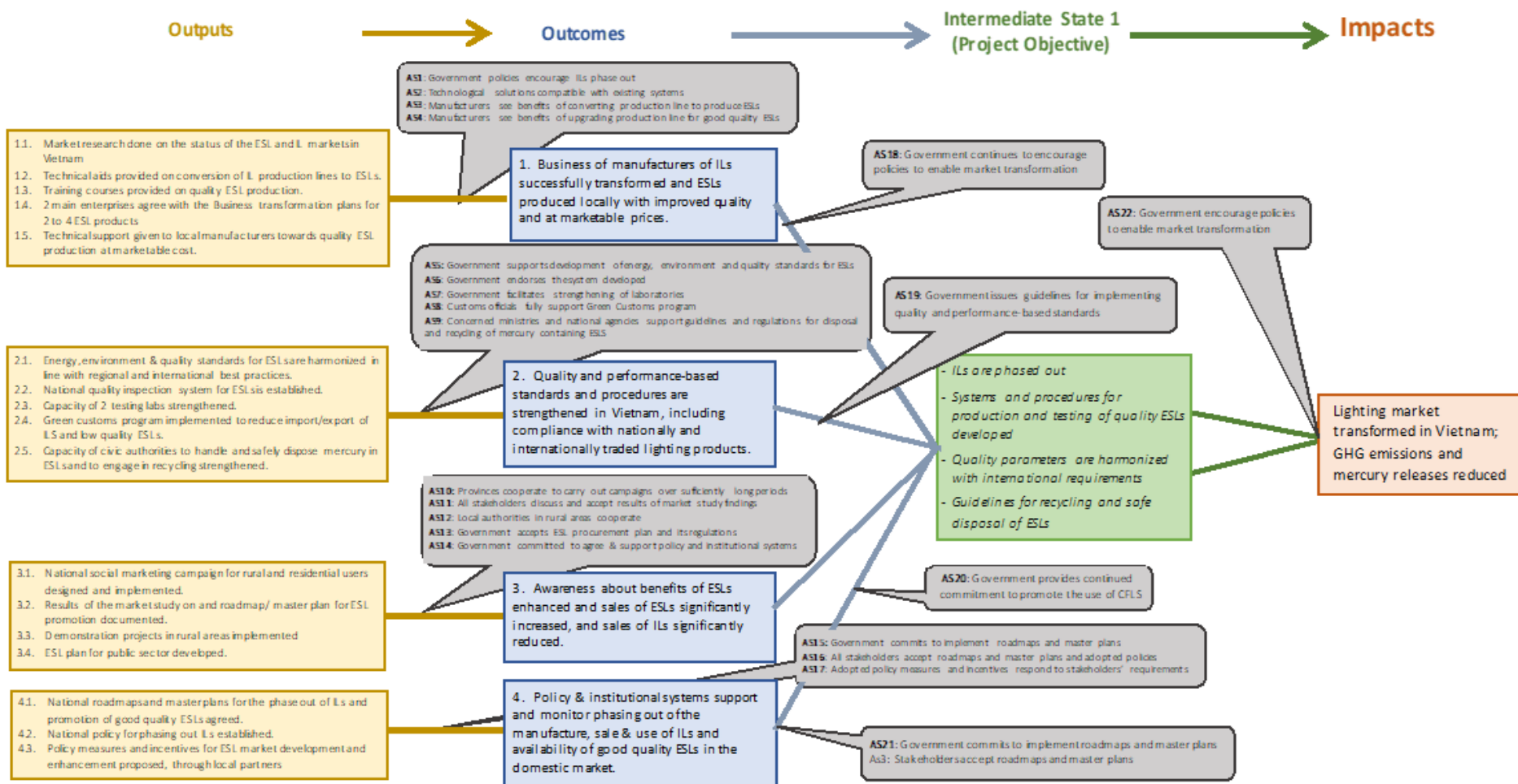
### ANNEX 3. BIBLIOGRAPHY

- UNEP, Status Report on Lighting Monitoring, Verification and Enforcement Activities and Programmes in Cambodia, Indonesia, Lao PDR, the Philippines, Thailand and Viet Nam, 2014
- IIEC, Monitoring and Evaluation Consultancy Services for EVN's DSM Phase 2 Program, Monitoring and Evaluation Report, Prepared for Electricity of Vietnam, December 2007
- Bureau Veritas Certification, Validation of the 1 million Compact Fluorescent Lamps (EVN-2010) Project in Vietnam, November 2011
- Electricity of Vietnam, Project Design Document submitted to GEF: 1 million Compact Fluorescent Lamps (EVN-2010) Project in Viet Nam, April 2012
- USAID report on "Phasing in Quality- Harmonization of CFLs to help Asia address climate change", March 2009
- Office of Solid Waste and U.S. Environmental Protection Agency, Final Report on "Mercury Emissions from the Disposal of Fluorescent Lamps", February 2008
- Australian Department of Industry, Innovation and Science, Review of Vietnamese Compact Fluorescent Lamp Standard TCVN 7896:2008, A report for the Vietnamese Government's Energy Efficiency Program, August 2014
- Australian Department of Industry, Innovation and Science, Fluorescent Lighting Standards in Vietnam, A report for the Vietnamese Government's Energy Efficiency Program, September 2013
- Australian Government Department of Climate Change and Energy Efficiency, Vietnam Energy Efficiency Standards and Labelling Program: Australian Government support project, Inception Report, January 2012
- UNEP/GEF, Mid-Term Evaluation of the UNEP/GEF Project "Phasing Out Incandescent Lamps through Lighting Market Transformation in Vietnam", February 2015
- Progress Information Review (PIR) Reports for 2013, 2014, 2015 and 2016
- Half-yearly Progress Reports (2/2012, 1&2/2013, 1&2/2014, 1&2/2015, and 1/2016)
  - Annual Progress Reports (2012 and 2013)
  - UNEP/GEF ESL project in Vietnam:
    - Half-yearly progress reports and financial reports
    - Annual work plans
    - Annual Project Reports (APRs)
    - Terminal Project Report (TPR)
    - Unified half-yearly "Progress & Financial Report"
    - Annual Project Implementation Reviews (PIRs)
    - Tripartite Project Reviews (TPRs)
    - Inception Reports (IRs)
    - Field Visit Reports

- Mid-term evaluation report
- Specific Thematic Reports (?)
- Quarterly progress report
- Baseline market survey report
- Mission reports of consultants
- Report on support for testing facilities
- Testing laboratory capacity assessment report
- Implementation reports on demonstration projects
- Project implementation report on recycling incentives
- Documentation on potential incentives for ESL market development
- Training session reports

ANNEX 4. THE “FAITHFUL” TOC DIAGRAM THAT PRESENTS THE INTERVENTION LOGIC EXPLAINED IN THE PRODOC AND ITS PRF

### Incandescent lamps phased out through lighting market transformation in Vietnam





ANNEX 5. PROJECT COSTS AND CO-FINANCING INFORMATION

**Project Costs**

Component/sub-component/output	Estimated cost at design (million US\$)		Actual Cost*	Expenditure ratio (actual/planned)
	GEF Financing	Co-financing		
1. Local lighting industry capacity enhancement program	0.600	12.417	N.A.	
2. Improved QA/QC framework	0.600	6.500	N.A.	
3. ESL market transformation and consumer education and awareness	0.915	1.745	N.A.	
4. National policy and institutional support program towards phasing out of ILs and promotion of ESLs	0.350	1.000	N.A.	
5. Project performance & National Impact M&E System	0.175	0.150	N.A.	
6. Project management	0.300	0.400	N.A.	

\* Actual costs of components/sub-components/outputs are not available (N.A.)

**Co-financing**

Co financing (Type/Source)	UNEP own Financing (US\$1,000)		Government (US\$1,000)		Other* (US\$1,000)		Total (US\$1,000)		Total Disbursed (US\$1,000)
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	
Grants	-	-	30	N.A.	1,940	N.A.	1,970	N.A.	N.A.
Loans									
Credits									
Equity investments									
In-kind support	-	-	8,615	N.A.	11,627	N.A.	20,242	N.A.	N.A.
Other (*)									
-									
-									
<b>Totals</b>	-	-	8,645	N.A.	13,567	<b>N.A.</b>	22,212	N.A.	N.A.

\* This refers to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.

ANNEX 6. FINANCIAL MANAGEMENT ASSESSMENT <sup>49</sup>

Financial management components	Rating	Evidence/Comments
Contact/communication between the FMO and task manager and responsiveness to addressing and resolving financial issues	MU	<p>Communications between PM and FMO were mostly through the Task Manager. UN Environment funds were managed by focal points in Bangkok and Nairobi offices. Reportedly most finance related communication took place during revisions, submission of expenditure reports by ISPONRE, cash advance requests from ISPONRE and PIR reporting period.</p> <p>Based on the finance stakeholders at UN Environment Nairobi Office, financial request from ISPONRE or UNEP Regional office were always responded. It was highlighted that communications within the implementing agency took place particularly during the revisions and cash advance submission but also on need-basis.</p> <p>Knowledge of project stakeholders of project financials was reportedly good. However, evaluation found that further efforts to improve the financial performance in terms of delivery would have been needed. Four official revisions were made during 2012-2015. A 5th revision was discussed in 2016 but not formalized. Expenditures were made in the last year of the project without formal financial revision (reportedly “extensive discussion” were hold).</p>
Availability of project financial reports (including audits)	MS	<p>Following the evaluation TOR requirements most required reports were made available to the evaluation team, including audit reports of ISPONRE.</p> <p>Project specific audits were not conducted on UN Environment managed expenditures (it is not a requirement for internally executed projects).</p> <p>According to one finance stakeholder, no financial issues were raised during the project implementation.</p> <p>As discussed above, no official revisions were available for 2016 and 2017 periods (However, reportedly extensive</p>

<sup>49</sup> This table has been adapted from the original Evaluation TOR requirements. This table reflects the revised Evaluation Office guidelines (as of 2017)

		<p>discussions were held with the portfolio manager on project commitments).</p> <p>Some variances were observed in reporting concerning the annual expenditure figures of the UN Environment managed portion (as per the ICA UNEP could accept variations not exceeding 20% per budget line). Variances were observed between the annual summary reports and the final expenditure report provided for the evaluation team. These variances could be explained with different times of finance report generation from the system.</p> <p>The co-finance reports submitted by the executing agency to the implementing agency were available to the evaluation team. However, the evaluation team notes that no sufficient procedures appear to exist to confirm the accuracy of the co-finance reporting. The shared co-financing table does not appear to reflect the ground reality; the evaluators view is that the co-finance reporting does not report the actual contribution of the organizations who had made co-financing commitment.</p>
<b>Overall rating</b>	<b>MS</b>	

## ANNEX 7. EVALUATION FINDINGS AND LESSONS

### **UN Environment/GEF Project “Phasing Out Incandescent Lamps through Lighting Market Transformation in Vietnam”**

#### **Results and Lessons Learned**

##### **About the Project**

The main objectives of the project “Phasing out incandescent lamps through lighting market transformation in Vietnam” were to enhance the capacity of the lighting industry; harmonize quality standards of energy saving lamps (ESLs) to comply with international standards; educate and raise awareness of consumers; and strengthen policy and institutional framework for supporting, encouraging and monitoring ESL production, sales and use in the domestic market of Vietnam. The project was implemented during the period March 2012 - December 2016. UN Environment/DTIE served as the official executing agency for the project under the “climate change” sub-programme, in collaboration with the Institute of Strategy and Policy and Natural Resources and Environment (ISPONRE), under the Ministry of Natural Resources and Environment (MONRE). The project was under the “climate change” sub-programme, covering Vietnam. The

planned project budget at approval was US\$25,152,000, with an allocation of US\$2,940,000 from GEF Trust Fund. The terminal evaluation was initiated in December 2016.

The link to the project document on UN Environment website/repository:

### **Relevance**

A market shift from inefficient incandescent lamps (ILs) to energy efficient alternatives has the potential to cut the world's electricity demand by 18% and avoid 470 Mt of CO<sub>2</sub> emissions by 2030. Many Asian countries are actively promoting efficient lighting through market transformation. The Government of Vietnam (GoV) has adopted energy conservation and environmental protection as fundamental policies in response to climate change. The energy efficient lighting initiative is consistent with the GEF climate change strategy and its Strategic Program of Promoting Energy Efficiency in Buildings and Appliances; it is also in line with UN Environment's mandates and favours South-South cooperation.

### **Performance**

The project delivered a large number of outputs aimed at addressing barriers to the promotion of ESLs and the proper disposal of lamps at the end of their lives. The project achieved reasonable success in enhancing the ability of the manufacturers to produce improved quality ESLs locally, and in creating consumer awareness about the benefits of ESLs. But it was less effective in engaging institutional stakeholders in matters related to developing policy and promotional mechanisms to phase out inefficient lamps. There was a shortfall in achieving the expected outcomes due to partial or poor delivery of several outputs, particularly those related to policy and institutional support. In the absence of any structured coordination among the stakeholders and no commitment for resources, the project's contribution to progress towards the intended impact is limited. However, the country is likely to achieve the intended impacts thanks to the strong support of GOV to energy efficiency and the rapid evolution of the lighting market.

### **Factors Effecting Performance**

The project could have made more judicious selection of partners and ensured better consultation among the key stakeholders. After a delayed start, considerable efforts were made to implement a large number of outputs in a limited time frame; this is reflected by the inadequacies in some reports, especially in the last couple of years. The project was unable ensure sufficient support from some of the key stakeholders and build on experiences and lessons learned from international initiatives. The project strived for good communication and public awareness regarding the benefits of ESLs but not on issues related to safe disposal of mercury and recycling of waste lighting products.

### **Key lessons learned**

1. The project results framework should be consistent with the project document.
2. The quality of a project's outputs/outcomes depend a lot on the choice of project partners in terms of competence, experience and mandate.
3. Stakeholders' consultation is important to ensure that they comprehend the project objective and commit to its achievement.

4. The project implementation agency has the onus of designing and implementing a robust M&E plan and ensure its implementation.
5. If the baseline conditions change considerably between the project's formulation and its implementation, end-of-project targets and indicators should be revised to reflect the changing circumstances.
6. GEF projects should mobilize highly qualified experts and facilitate exchanges and communication at the global level to strengthen national capacities and create greater awareness.
7. A project team geared towards delivering outputs should not lose focus on sustainability beyond the project life.
8. Financial performance monitoring is crucial to manage the project within time and budget without compromising on the quality of outputs/outcomes.

**Brahmanand Mohanty**, the lead consultant for this terminal evaluation, is an independent energy and resource management expert with three decades of international experience in the areas of rational use of energy, alternative energy resources, energy efficiency financing, access to energy, energy efficiency policies and strategies, urban energy, optimization of energy systems, project evaluation, etc. He has worked on energy-related projects for bilateral and multilateral development agencies during the last three decades in many countries, especially in Asia but also in the Middle East, Africa and the Mediterranean countries.

He is associated with the School of Environment, Resources and Development of the Asian Institute of Technology (Bangkok) since 1986 as a visiting faculty member of the Department of Energy, Environment and Climate Change. He has also been serving the French Environment and Energy Management Agency (ADEME) as its regional advisor for Asia since 1991.

He obtained his doctorate in energy from the Institut National Polytechnique (Toulouse, France) in 1985.

**Tiet Phuc Vinh**, the supporting consultant, is an energy expert with a decade of professional experience as senior engineer, R&D manager and business development manager in a well reputed energy conservation research and development center in Vietnam. He is a certified energy engineer and energy manager under the Vietnamese Ministry of Industry and Trade (MOIT). He has shared his expertise of energy audit and management with many industrial and commercial establishments of Vietnam, mainly under MOIT's national energy conservation and management program. He has also participated as lead and supporting expert for several international projects supported by multilateral development agencies.

He obtained his bachelors degree in power engineering from Ho Chi Minh City University of Technology. He has undergone several bilateral and international training and certification programs related to energy.

## ANNEX 9. QUALITY ASSESSMENT OF THE EVALUATION REPORT

Evaluation Title:

**Terminal Evaluation of the Global Environment Facility - UN Environment Project “Phasing out incandescent lamps through lighting market transformation in Vietnam”**

All UN Environment evaluations are subject to a quality assessment by the Evaluation Office. This is an assessment of the quality of the evaluation product (i.e. evaluation report) and is dependent on more than just the consultant’s efforts and skills. Nevertheless, the quality assessment is used as a tool for providing structured feedback to the evaluation consultants, especially at draft report stage. This guidance is provided to support consistency in assessment across different Evaluation Managers and to make the assessment process as transparent as possible.<sup>50</sup>

	UNEP Evaluation Office Comments	Final Report Rating
<b>Substantive report quality criteria</b>		
<b>A. Quality of the Executive Summary:</b> Does the executive summary present the main findings of the report for each evaluation criterion and a good summary of recommendations and lessons learned? (Executive Summary not required for zero draft)	<b>Draft report:</b> n/a  <b>Final report:</b>	5
<b>B. Project context and project description:</b> Does the report present an up-to-date description of the socio-economic, political, institutional and environmental context of the project, including the issues that the project is trying to address, their root causes and consequences on the environment and human well-being? Are any changes since the time of project design highlighted? Is all essential information about the project clearly presented in the report (objectives, target groups, institutional arrangements, budget, changes in design since approval etc.)?	<b>Draft report:</b> Some specification required on evaluation approaches and some project details. Evaluation limitations to be further elaborated.  <b>Final report:</b>	6

<sup>50</sup> Assessment based on the quality assessment table in the Evaluation TORs developed in 2016.



<p>C. <b>Strategic relevance:</b> Does the report present a well-reasoned, complete and evidence-based assessment of strategic relevance of the intervention in terms of relevance of the project to global, regional and national environmental issues and needs, and UNEP strategies and programmes?</p>	<p>Draft report:</p> <p>Final report:</p>	6
<p>D. <b>Achievement of outputs:</b> Does the report present a well-reasoned, complete and evidence-based assessment of outputs delivered by the intervention (including their quality)?</p>	<p>Draft report: Further details on indicator achievements to be added.</p> <p>Final report: Comments addressed.</p>	5
<p>E. <b>Presentation of Theory of Change:</b> Is the Theory of Change of the intervention clearly presented? Are causal pathways logical and complete (including drivers, assumptions and key actors)?</p>	<p>Draft report:</p> <p>Final report:</p>	6
<p>F. <b>Effectiveness - Attainment of project objectives and results:</b> Does the report present a well-reasoned, complete and evidence-based assessment of the achievement of the relevant outcomes and project objectives?</p>	<p>Draft report: Specific comments provided on the clarity of the presentation.</p> <p>Final report: Comments addressed.</p>	6
<p>G. <b>Sustainability and replication:</b> Does the report present a well-reasoned and evidence-based assessment of sustainability of outcomes and replication / catalytic effects?</p>	<p>Draft report: Some specification needed.</p> <p>Final report: Comments addressed.</p>	6
<p>H. <b>Efficiency:</b> Does the report present a well-reasoned, complete and evidence-based assessment of efficiency? Does the report present any comparison with similar interventions?</p>	<p>Draft report:</p> <p>Final report:</p>	6
<p>I. <b>Factors affecting project performance:</b> Does the report present a well-reasoned, complete and evidence-based assessment of all factors affecting project performance? In particular, does the report include the actual project costs (total and per activity) and</p>	<p>Draft report:</p> <p>The coverage of financial management is not according to the TOR requirements. Specifications to some sections requested.</p>	5

	actual co-financing used; and an assessment of the quality of the project M&E system and its use for project management?	Final report:	
J.	<b>Quality of the conclusions:</b> Do the conclusions highlight the main strengths and weaknesses of the project, and connect those in a compelling story line?	Draft report:  Final report:	6
K.	<b>Quality and utility of the recommendations:</b> Are recommendations based on explicit evaluation findings? Do recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'what?' 'where?' 'when?'). Can they be implemented?	Draft report:  Final report:	6
L.	<b>Quality and utility of the lessons:</b> Are lessons based on explicit evaluation findings? Do they suggest prescriptive action? Do they specify in which contexts they are applicable?	Draft report:  Final report:	6
<b>Report structure quality criteria</b>			
M.	<b>Structure and clarity of the report:</b> Does the report structure follow EO guidelines? Are all requested Annexes included?	Draft report:  Final report:	5
N.	<b>Evaluation methods and information sources:</b> Are evaluation methods and information sources clearly described? Are data collection methods, the triangulation / verification approach, details of stakeholder consultations provided? Are the limitations of evaluation methods and information sources described?	Draft report: Specifications requested.  Final report: Comments addressed.	5
O.	<b>Quality of writing:</b> Was the report well written? (clear English language and grammar)	Draft report:  Final report:	6
P.	<b>Report formatting:</b> Does the report follow EO guidelines using headings, numbered paragraphs etc.	Draft report:  Final report:	6
<b>OVERALL REPORT QUALITY RATING</b>			

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A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1. The overall quality of the evaluation report is calculated by taking the mean score of all rated quality criteria.