

**Barrier Removal to the Cost-Effective Development and
Implementation of Energy Efficiency Standards and Labeling Project
(BRESL)**

TERMINAL EVALUATION

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Barrier Removal to the Cost-Effective Development and Implementation of Energy Efficiency Standards and Labeling Project (BRESL)

Terminal Evaluation

Project Title:	Barrier Removal to the Cost-Effective Development and Implementation of Energy Efficiency Standards and Labeling Project (BRESL)			
GEF Project ID:	3327		At Endorsement (Million US\$)	At Completion (Million US\$)
UNDP Project ID:	00058669	GEF Financing:	US\$ 7,800,000	
Country¹:	Bangladesh China Indonesia Pakistan Thailand Viet Nam		1,000,000 2,000,000 1,800,000 1,000,000 1,000,000 1,000,000	
Region:	Asia	Government:	27,000,000	
Focal Area:	Climate Change Mitigation	Private Sector: Others:	40,000,000 3,000,000	
FA Objectives, (OP/SP):	5: Removal of barriers to energy efficiency and energy conservation	Total co-financing:	70,000,000	
Executing Agency:	NDRC	Total Project Cost:	US\$ 84,000,000	
Other Partners involved:	BSTI CNIS DGNRE-EC ENERCON TGO MOIT	ProDoc Signature (date project began):		February 3, 2009
		(Operational) Closing Date:	Proposed: February 2014	Actual: December 2014

¹ Each Participating Country (PC) has its individual national level Project Document stating respective resource inputs, outputs/outcomes, targets and organization.

Evaluation Time Frame	December 2014 to February 2014	Date of Evaluation Report	16 February, 2015
Evaluation Team Members	<ol style="list-style-type: none"> 1. Ms. Umm e Zia 2. Mr. Gao Peijung 3. Ms. Munazza Zia 		

Acknowledgements

This Terminal Evaluation report sets out findings, conclusions, lessons learnt and recommendations for the **Barrier Removal to the Cost-Effective Development and Implementation of Energy Efficiency Standards and Labeling Project (BRESL)**. The report is developed in compliance with the terms of reference for the assignment. The conclusions and recommendations set out in the following pages are solely those of the evaluators and are not binding on the project management and sponsors.

The authors would like to thank all who assisted in the Terminal Evaluation, particularly the RPMU and UNDP China for providing technical and logistic support, and all the stakeholders who consented to be interviewed.

Acronyms and Abbreviations

AC	Air conditioner (AC)
APEC	Asia-Pacific Economic Cooperation
BRESL	Barrier Removal to the Cost-Effective Development and Implementation of Energy Efficiency Standards and Labeling
BSTI	Bangladesh Standards & Testing Institute
CFL	Compact Fluorescent Lamps
CLASP	Collaborative Labeling and Appliance Standard Program
CNIS	China National Institute for Standardization
CQM	China Quality Mark Certification Group
CSC,	China Standard Certification Center
CT	Country Team
CTA	Chief Technical Advisor
EE	Energy Efficiency
ENERCON	Energy Conservation Centre
ES&L	Energy-Efficiency Standards and Labels
ESIS	Energy Standards Information System
GEF	Global Environment Facility
GHG	Greenhouse Gas
IC	International Consultant
ICA	International Copper Association
KII	Key Informant Interview
M&E	Monitoring and Evaluation
MOI	Ministry of Industry
MOUs	Memorandum of Understanding
MRAs	Mutual Recognition Agreements
NDRC	National Development & Reform Commission
PC	Participating Country
PMU	Project Management Unit
REESLN	Regional Energy Efficiency Standards and Labeling Network
RPC	Regional Project Coordinator
RPD	Regional Project Director
RPMU	Regional Project Management Unit
RPSC	Regional Project Steering Committee
SAC	Standards Administration of China
SCs	Sub Contracts

SMART	Specific, Measurable, Achievable, Realistic and Time-bound
TA	Technical Advisor
TE	Terminal Evaluation
TNA	Training Needs Assessment
TOR	Terms of Reference
TWG	Technical Working Groups
UNDP	United Nations Development Program
UNDP-COs	UNDP Country Offices

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Executive Summary

At the time of its design BRESL was the first regional ES&L project in Asia. The project design provided a comprehensive range of activities, covering all stakeholders and essential ES&L determinants, including policy, capacity building, manufacturer support, regional cooperation, and country-level pilot projects. However, the baseline undertaken for project design did not take into consideration the variation between PCs on understanding of ES&L and the range of limited technical capacity. Moreover, the distribution of the modest fund of USD 7.8 million among six countries and regional activities spread the project funds too thin. Considering these issues, the project design was ambitious in setting some goals to be achieved during the project duration, including signing of MRAs and assisting product manufacturers in the PCs.

During its first half, project implementation faced numerous challenges that resulted in a sluggish pace of planned activities. Major problems included little understanding and technical knowhow among the PCs, lack of trained technical manpower in the region, limited RPMU budget, and difference in priorities among the PCs that led to difficulty in activity coordination. To address these issues, the RPSC approved the RPMU's focus on three major activities that were cross-cutting across the project logical framework, namely training, TWGs, and REESLN. This concentration of focus and continued efforts at improved coordination resulted in accelerating the progress of activities.

Major project outcomes include development of ES&L legislation in the PCs, establishment of testing protocols for the target products, signing of Mutual Recognition Agreements between four countries, improved understanding of ES&L among government policy makers and technical experts, and the establishment of a regional ES&L network. BRESL has also had a significant impact on energy savings and GHG reductions, with cumulative energy savings of 175,000 Gigawatt-hours (Gwh) equivalent to 55.9 million tons of CO₂.

The focus on policy, capacity building, information exchange and knowledge transfer are measures that are likely to ensure the sustainability of project outcomes. However, major risks to sustainability include potential lack of funding to continue and build on BRESL activities, government inability to implement policy measures and developed standards, capacity of private manufacturers to produce EE products, and consumer awareness and purchasing power.

Key lessons learnt from the project design and implementation have been the effectiveness of south-south cooperation, awareness and education leading to keen interest shown by all stakeholders in promoting ES&L, and the possibility of application of established ES&L regimes to other similar products.

Based on the assessment of project design, implementation, and achievements, the recommendations provided by the terminal evaluation team include the design and funding of a follow up BRESL project to build on the momentum established by the existing project; engagement of legislators to promote legal adoption of policy measures; enhanced reach out to private sector stakeholders; expanding the range of target products to cover a wider spectrum; the sustainability of RESSLN through ongoing support; the use of alternate information mechanisms for cost effective regional coordination; and the provision of a larger and diverse pool of experts to the RPMU and PMUs.

Evaluation Rating Table

EVALUATION RATINGS			
1. Monitoring and Evaluation	Rating	2. IA& EA Execution	Rating
M&E design at entry	S	Quality of UNDP Implementation	S
M&E Plan Implementation	S	Quality of Execution - Executing Agency	S
Overall quality of M&E	S	Overall quality of Implementation / Execution	MS
3. Assessment of Outcomes	Rating	4. Sustainability	Rating
Relevance	R	Financial resources:	LS
Effectiveness	S	Socio-political:	LS
Efficiency	MS	Institutional framework and governance:	LS
Overall Project Outcome Rating	S	Environmental :	LS
		Overall likelihood of sustainability	LS

1. INTRODUCTION

1.1. Purpose of the Evaluation

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP supported- GEF financed projects are required to undergo a terminal evaluation upon completion of implementation.

The purpose of this Terminal Evaluation (TE) is to examine the performance of all activities undertaken in the **Barrier Removal to the Cost-Effective Development and Implementation of Energy Efficiency Standards and Labeling (BRESL)**, or also referred herein as the **Project**. The Terms of Reference (TOR) for this TE is seen as Annex 1.

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

The TE assessed the Project implementation taking into account the status of the project activities, outputs and the resource disbursements made up to December 31, 2014.

1.2. Scope and Methodology

In line with the TORs, the TE was conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects. The scope of this TE covers the entire UNDP/GEF-funded project and its components as well as the co-financed inputs and resources to the Project at the regional and national levels.

The evaluator team was composed of a lead international consultant (IC), a National Consultant in China, and a National consultant (NC) for each of the 6 PCs. This is also referred to as the TE Team. The TE Team followed a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal points, UNDP Country Office, project team, UNDP GEF Regional Technical Adviser based in Bangkok and the key stakeholders. The NCs hired for the PCs conducted national evaluation from December 2014 to February 2015 in Dhaka, Bangladesh; Beijing, China; Jakarta, Indonesia; Islamabad, Pakistan; Bangkok, Thailand and Hanoi, Vietnam. The NCs undertook a thorough data gathering and analysis of performance and progress in achieving outputs and outcomes and submitted the country evaluation to the RPMU with a copy to the IC.

The TE Team carried out various activities to undertake the evaluation, including literature review, development of an inception report and evaluation tools, and meetings with project stakeholders. Details of these are provided below:

1.2.1. Development of Evaluation Tools

A detailed review of the related documents by the consultants facilitated the understanding of the various dynamics of this project. A complete list of documents reviewed by the TE Team for the review of the Regional component is provided in Annex 2. In addition, the list of documents reviewed by NCs for their respective country evaluations are annexed in the country evaluation reports. Based on this review, the programmatic and geographic scope of the evaluation activities as well as samples for interviews and visits was determined.

KII guide sheets developed by the consultants were utilized during the course of interviews with various stakeholders, partners, and sub-contractors, etc. In addition, FGDs/KIIs were conducted with the Project Managers and other relevant project staff. The draft KII and FGD guide sheets pertaining to the various project participants for the regional component are attached in Annex 3.

The proposed evaluation methodology, developed interview tools, and schedule of evaluation for the regional component were shared with the UNDP and PMO in the form of an Inception Report.

1.2.2. Undertaking Country Mission and Field Visits for the Regional Component

The International Evaluator visited China from 18 to 29 December 2014. During this time, the assigned National Evaluator and the International Evaluator worked together to undertake further document review, interviews, site visits, and analysis. The detailed mission schedule is presented in Annex 4.

The mission was kicked off with an introductory meeting and RPMU presentation on 19 December. Subsequently, during the in-country mission, interviews were held with key project stakeholders. Initially, to get an overview of the project's implementation mechanisms and associated challenges and opportunities at the regional level, detailed meetings were held with the Regional Project Management Unit (RPMU) staff responsible for overseeing the various Program outputs and activities. After this, key project stakeholders including UNDP, NDRC, and Sub-contractors, etc. were interviewed using the developed KII sheets. Moreover, Skype interviews were also conducted with CT representatives of Bangladesh, China, Indonesia, and Pakistan. A list of the individuals met for the regional component is provided in Annex 5, whereas the respective country reports provide list of individuals met by the NCs.

1.2.3. Debriefing Presentation

At the end of the mission in China, to present the findings of the TE, a de-briefing presentation was conducted by the Evaluation team on December 26 2014. The presentation was attended by the representatives of UNDP China and BRESL RPMU.

1.3. Structure of the Evaluation Report

This TE report is generally developed following the report outline provided in the TORs. This includes sections on:

1. Introduction
2. Project Description and Development Context
3. Findings (Project Design/Formulation, Project Implementation, Project Results)
4. Conclusions, Recommendations, and Lessons Learned
5. Annexes

2. PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

This section provides an overview of the project context, including duration, stakeholders, and expected results.

The design of BRESL project commenced as early as 2004, comprising a concept note, PDF A, regional survey, and regional stakeholder consultation workshop. The project was endorsed by the GEF CEO Secretariat in 2008 and signed by representatives of participating governments in February 2009. Korea opted not to participate in the project though it was involved in the consultations and development of BRESL Project Document and also included in the Project Framework. Of the remaining six Project Countries, China, Indonesia, Thailand, and Vietnam started implementation in mid to late 2009, while Bangladesh and Pakistan started implementation in 2010.

The **Goal** of the project is the reduction of GHG emissions from thermal power generation in selected Asian countries.

The **Objective** of the project is to Removal of barriers to the successful implementation of energy standards and labeling policies and programs in Asia.

In order to achieve the project Objective, the project consists of **five outcomes**, which is mutually supportive from each other.

Outcome 1: Establishment of legal and regulatory basis for removing lowest technologies from the market and promoting high-efficiency technologies.

Outcome 2: Building of institutional and individual capacity to secure on-the-ground implementation of regulatory frameworks, as well as actual standards and labeling programs.

Outcome 3: Provision of information and technical assistance to manufacturers of covered products

Outcome 4: Regional cooperation and information sharing on-going and helps to maximize impacts

Outcome 5: Demonstration of various aspects of the development and implementation of ES&L programs

Led by China, six Asian countries, namely Bangladesh, China, Indonesia, Pakistan, Thailand, and Vietnam participated in the project. Seven commonly used or produced products were selected as a focus of ES&L. These products were: 1) Room Air Conditioners; 2) Refrigerators; 3) Fans; 4) Rice cookers; 5) Motors; 6) Compact Fluorescent Lamps (CFL); and Electronic Ballast for fluorescent lamps.

BRESL was planned to be implemented for five years. As activities started in mid to late 2009, the project midterm evaluation was conducted in mid-2012 and a Terminal Evaluation was conducted in December 2014. Some project closure activities such as a wrap up Regional meeting and operational closure was planned to occur in Q1 of 2015. Figure 1 below gives an overview of the project timeline until the Terminal Evaluation.

2008	2009				2010				2011				2012				2013				2014			
BASELINE	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Year 1				Year 2				Year 3				Year 4				Year 5							
	Start-up									MTR														TE

Figure 1: BRESL Project Timeline

2.1. Main Stakeholders

An overview of the project management structure and arrangements is provided in Figure 2.

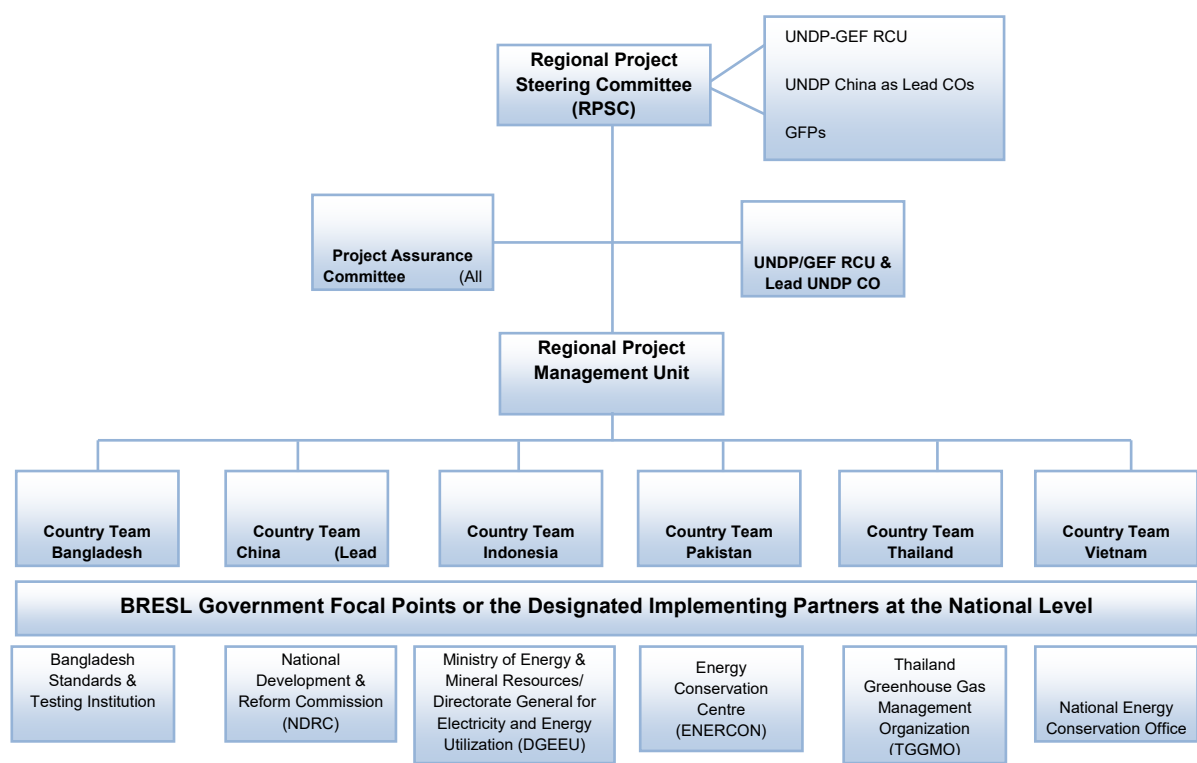


Figure 2: Project Management Structure

A list of Key Partners and national level key stakeholders is presented in Annex 6.

2.2.Expected Results

The Project is aimed at rapidly accelerating the adoption and implementation of ES&L in Asia, and in so doing bring about energy savings from the use of energy efficient appliances/equipment. It also facilitates harmonization of test procedures, standards and labeling programs among the countries in Asia, when appropriate. It is expected to cost-effectively deliver an average 10% reduction in total residential and commercial energy use in partner countries at the time of peak impact by the year 2030 compared to a baseline scenario, thereby contributing to more environmentally sustainable and economically efficient development.

As stated in the ProDoc, the Project aimed at reducing GHG emissions by 24.8 MMT CO₂/yr by end of project at Year 5, including Korea. Deducting the projected contribution of Korea of 3.9 MMT CO₂/yr because it is not a BRESL Participating Country, the project is expected therefore to reduce GHG emissions by 20.8 MMT CO₂/yr.

After Year 5, when the Project should have facilitated the establishment/expansion (as the case maybe in the participating countries) of the national ES&L policies and programs, energy savings will be sustained as existing equipment (i.e. the 7 BRESL Target products) are replaced by more efficient equipment. Towards the long term, GHG emissions reduction outcome is expected to reach by about 151.8 MMT CO₂/yr ten (10) years after Year 5 and by about 217.2 MMT CO₂/yr twenty (20) years after Year 5, excluding the contribution of Korea. The baseline year (Year 0) is 2008 which was formerly 2004 as anticipated during the project design. These targets did not change based on the Participating Countries' inception reports.

3. FINDINGS

The Terminal Evaluation Findings are categorized in three sections, namely:

- i) Project Design/Formulation;
- ii) Project Implementation; and
- iii) Project Results

3.1. Project Design / Formulation

This section provides an assessment of the project design, including participation of stakeholders in the design, project logical framework, management arrangements, replication approach, linkages with other interventions within the sector, assumptions and risks, and the UNDP's comparative advantage.

3.1.1. Stakeholder Participation in Project Design

The Project was conceptualized and designed by a project development team through a consultative and participative PDF A approach starting January 2006 using a Logical Framework Analysis (LFA). The project framework design was developed and identified specific project activities to address the common barriers to and concerns about ES&L by the participating countries and reviewed by UNDP/GEF with concurrence by the proposed participating governments in Asia.

The design of the BRESL project was founded on a regional survey conducted in May 2006 to identify ongoing and planned initiatives and to assess barriers to E&SL development, including policy/regulatory, institutional, technical, awareness, market, and financial barriers. Subsequently, a stakeholder consultation workshop was held in August 2006 to discuss these barriers, identify regional and country-level project activities, implementation modalities, and management arrangements, and develop a logical framework. In addition to the project document governing the overall regional component, a separate project document was designed for each participating country.

The Terminal Evaluation team concluded that as a result of the ground work and consultative measures, the project focused on important interventions necessary for the regional development and promotion of E&SL, including policy support, capacity development, and regional cooperation. Also, it was found that the country-level project documents directly correlated with the regional project document, thereby facilitating inter-regional linkages of activities.

On the other hand, it was ascertained that the limited resources available for project design (approximately USD 50,000) were insufficient to enable a comprehensive baseline assessment across the participating countries. Consequently, important underlying factors, including the availability of country-level technical capacity such as manpower and laboratories, and manufacturer's potential

involvement/support for E&SL were over estimated. As detailed in the section on 'Adaptive Management', this led to changes in project implementation strategy in 2011.

3.1.2. Logical Framework / Project Planning Matrix

The project's logical framework provides coherent major activities and sub-activities under each project component and expected outputs at the national and regional levels. The PPM was found to be very useful tool by the RPMU, CTs, UNDP, and other Key Stakeholders in understanding and implementing the project and also provided a basis in adaptive management towards meeting the project goals.

Moreover, the Project Logical Framework also provided SMART (specific, measurable, achievable, realistic and time-bound) indicators. The quantification of performance levels or target values, primarily the GWhrs of energy savings, the million metric tons of CO₂ as GHG (MMT CO₂), and other indicators has been calculated in detail from baseline to annual targets. The energy savings and GHG figures were presented in different classifications: yearly, by product and by country in order to provide good basis for monitoring and evaluation.

3.1.3. Management Arrangements (Project Design)

The project document detailed management arrangements based on a partnership approach, with China being the lead country and accountability and responsibility shared among the BRESL project countries. Moreover, a stakeholder involvement plan of various agencies, including the UNDP, Country Governments, and other partners such as CLASP and ICA, etc. has also been presented in the project document.

The evaluation team found the role of each key management player at the regional and national levels to be well defined in the project document. While the project was designed to take overall direction from a Regional Project Steering Committee (RPSC) and a Regional Project Management Unit (RPMU) that is supported by the RPSC and Project Assurance Committee (PAC). The RPSC comprised of representatives from the UNDP-GEF RCU, UNDP China, participating country Government Focal Points, NDRC, and the Director of the RPMU. While the Energy Focal Points of UNDP Country Offices (UNDP-COs) in the BRESL countries were the members of the PAC.

At the country-level, a country team (CT) was assigned to each project country. Each CT implemented the project in collaboration with the UNDP Office and a Project Steering Committee (PSC) in the respective country.

3.1.4. Replication Approach and Linkages

The project design addressed important elements related to the establishment and strengthening of E&SL framework in the region, namely policy making, capacity building, and regional cooperation. Replication has been inherent in the project design through the inclusion of these measures. For instance, at the time of project design, a number of participating countries, including Pakistan, Bangladesh, Indonesia, and Vietnam had limited E&SL policy measures in place. The development and implementation of policies in this area is essential for encouraging manufacturers to make long-term investment in the production of complying products. Similarly, capacity building of technical experts and awareness-raising among the public are key to the establishment and promotion of E&SL for not only the targeted products but also other related products.

Moreover, the country-level pilot projects provided an opportunity to test E&SL approaches and assess the replication and up-scaling potential of target activities. Similarly, the focus on standards and labeling foster replication by design as these are among the most cost effective approaches to energy saving across the entire range of household electrical appliances.

At the regional-level, the design promoted south-south cooperation based on sharing and replication of country experiences, including learning from more E&SL advanced countries including China and Thailand as well as inter-country exchange among all the participating countries.

Also, it is worth noting that the PCs can readily use the experience from the project implementation to devise policy or harmonization guidelines and MRAs for other similar products either among themselves or for trade and linkages with non-PCs.

Moreover, the project was designed to build on the present capacity for ES&L programs in some of the leading Asian countries, including China, Korea, and Thailand. Similarly, some of the selected in-country Focal Points and Stakeholder organizations have mandates related to energy efficiency. Moreover, outputs and lessons learned from the implementation of previous and ongoing ES&L initiatives in the sub-region such as those initiated by APEC, SARI, and ASEAN were reviewed and fed into the project design.

In conclusion, the Terminal Evaluation team ascertained that the BRESL project design was built on linkages and lessons learned from other ES&L efforts in the region and participating countries. Moreover, the project was designed in a manner that can effectively lead to automatic replication at various activity and outcome levels.

3.1.5. Assumptions and Risks

The project design also identified the risks to be managed to ensure its success. Key risks considered were: i) sustainability of support by key stakeholders, ii) lack of interest from private sector, iii) ineffective coordination at national and/or regional levels, iv) performance failure of EE products, v) illegal trade of unreliable EE equipment/appliances, and vi) unwillingness of consumers to invest in EE products. The evaluation team determined that these risks were realistic and remained relevant during the project's lifetime. The project design also provided relevant practical mitigation measures for each of the listed key risks.

3.1.6. UNDP Comparative Advantage

UNDP, as a GEF's Implementing Agency, manifests a strong comparative advantage in the area of energy efficiency standards and labeling as it links BRESL effectively with other similar EE and climate change projects and interventions consistent with the participating countries' United Nations Development Assistance Framework (UNDAF) and Country Assistance Programs. The UNDP has been an implementing agency of various GEF funded EE projects in the region as well as in the lead country, China. In the process, UNDP has developed technical and management expertise related to EE projects and utilization of GEF funds.

Climate change is a key area of intervention in all of the country programs of UNDP within the target countries. Moreover, with longstanding regional presence as well as offices within each of the project countries and strong linkages with national governments and the private sector, the UNDP has the ability to directly coordinate and monitor the project activities.

The Terminal Evaluation team concluded that the project design was simple, appropriately flexible, responsive to the issues that the project sought to address, facilitated replication, and was cognizant of the key potential risks. The project's logical framework was detailed, cohesive, and remained relevant and applicable during the course of the project implementation². Moreover, the logframe indicators were SMART and the activities under the three different components were cost-effective, coherent, replicable, and sustainable. However, due to limited resources, some key elements of the project design were prescriptive as the design was unable to fully take into account the situation on availability and level of technical expertise within the target countries and the participation of private sector in E&SL issues.

² The only exception to this were Activity 2.5 – financing support. This is discussed in further detail in the section on Adaptive Management.

3.2. Project Implementation

This section provides the findings of the Terminal Evaluation Team regarding adaptive management, Monitoring and Evaluation, Project Finance, partnership arrangements, and coordination and operational Issues.

3.2.1. Adaptive Management

In order to respond to implementation realities the project has been subject to adaptive management. As mentioned in the section on Project Design, the baseline situation regarding the country-level technical knowledge was over-estimated in the project design. Consequently, the project made very little progress in the first two years of implementation (2009 - 2011) as there was little understanding of E&SL issues among the various stakeholders in the participating countries, including public sector technical agencies, policy makers, and private sector manufacturers. Also, limited technical capacity available in the region often led to prolonged search for technical experts and resultantly delayed implementation of activities. Similarly, in the absence of concrete and/or enforceable policy measures in the participating countries, there was little interest or motivation for the private sector to invest in the manufacture or trade of E&SL products. Therefore, gauging the interest of the private sector for participating in project activities required extra project measures and resources.

Another issue faced by the project was the limited or uncertain access to the APEC-ESIS³ database as the ownership of the database was constantly being transferred to different agencies/stakeholders during the BRESL project. Also, in view of the limited progress on E&SL in the participating BRESL participating countries, it was deemed that there was little to be contributed to or gained from the APEC-ESIS database.

To overcome these challenges and to expedite implementation, in mid-2011 the RPMU proposed for the project to adopt a synergistic strategy by focusing on three key areas, i.e. Training, Technical Working Groups, and Networking. Consequently, adjustments were made to *Components 2, 3, and 4* for the regional activities. However, to ensure that implementation was in line with the original project design, the activities within these priority areas were aligned with the five components in the project's logical framework.

In line with this proposed strategy, higher emphasis was placed on trainings of related stakeholder staff such as technical agencies, testing laboratories, etc. Also, seven TWGs were established, one for each target product, to provide technical guidance to E&SL activities under the project. Moreover, as an

³The web-based Energy Standards Information System (ESIS – www.apec-esis.org) developed in 2002 is a user-friendly, web-based database that provides regularly updated, comprehensive information on technical standards for energy-using equipment in the 21 APEC economies.

alternative to developing linkages with the APEC-ESIS database, it was decided to develop a regional network, titled Regional Energy Efficiency Standards and Labeling Network (REESLN).

The adjustments were justified, discussed, and approved in the 3rd RPSC meeting. The updated PPM is shown in Annex 7.

In addition, Korea opted not to participate in the project though it was involved in the consultations and development of BRESL Project Document and was also included in the Project Framework. In light of this change, the RPMU adjusted the logframe goals and activities accordingly.

3.2.2. Monitoring and Evaluation

The project's Monitoring and Evaluation (M&E) was designed in accordance with UNDP and GEF established procedures. The design provides a clear M&E plan and budget, including annual outcome level targets and a detailed M&E plan, a monitoring plan together with concise targets, a simple logical framework with SMART indicators, and a budget for M&E activities.

Key components of the M&E plan included an Inception Workshop and Report, QPRs, APR/PIRs, project mid-term and final evaluations. Individual CTs were responsible for compiling and disseminating M&E reports to the RPMU. In turn, the RPMU was responsible for collating country-level and regional-level information to develop M&E reports according to the Monitoring Plan provided in the project design and submitting to UNDP for review and approval.

The project's M&E has been carried out as devised in the monitoring framework provided in the Project Operations Manual and have been in line with the GEF-UNDP project guidelines. Moreover, the M&E activities are aligned with the 3 key result areas of TWGs, Training, and Networking. E.g. participant feedback mechanisms are incorporated into all training activities; the work of TWGs is monitored according to the TORs established by the RPMU; the work of sub-contractors is monitored according to the BRESL Operations Manual designed by the RPMU and approved by the RPSC; and the outputs of TWGs were monitored according to the TORs of the group members, and guidelines have been established for implementation of the REESLN.

However, from time to time the M&E has suffered late reporting due to the delay in receiving information from the different participating countries. These delays have lessened over time as the coordination between RPMU and participating countries have continually improved. Nevertheless, there is still need for improvement in coordination and timeliness of reporting, e.g. for incorporation into this T.E, only the final evaluation report of Indonesia was provided on time, while reports by 3 PCs (China,

Pakistan, and Vietnam) were submitted with some delay, and the reports for Thailand and Bangladesh were not provided during the period of evaluation⁴.

The M&E in project design also stipulated surveys to be carried out during project implementation to assess project impact. However, the project has not been able to assess comprehensive impact due to delays in implementation during the first two years and the country-wise approach to impact assessment. Further details of this are presented in the section on Impact.

The Terminal Evaluation team ascertained that the project has followed the M&E plan as provided in the project document and detailed in the Project Operations Manual. However, to ensure timely and comprehensive reporting and assessments, there is a need for stronger collaboration between the RPMU and PCs. Overall, the Terminal Evaluation team found the M&E of the BRESL project to be **Satisfactory**.

3.2.3. Project Finance

The BRESL Project was designed to be funded by various sources, including USD 7.80 million from GEF (which is herein referred to also as GEF Grant Funds) and about US\$ 28.08 million from the participating government agencies and other Partners which are sourced out from the committed cash and existing resources (or also referred to as Co-Financing Inputs). The allocated distribution of financial resources is shown in Table 1 below:

Table 1: Allocated Resources of the BRESL Project (in USD)⁵

Committed Sources	Type	Amount (US\$)	Percentage (%)
GRANT FUND			
GEF	Cash	7,800,000	21.7
CO-FINANCING INPUTS			
<i>Participating Governments</i>			
Bangladesh Government	Cash & In-kind	2,000,000	5.6
China Government	Cash	10,068,000	28.1
	In-Kind	932,000	2.6
Indonesia Government	Cash & In-kind	2,908,900	8.1
Pakistan Government	Cash & In-kind	726,000	2.0
Thailand Government	Cash & In-kind	4,478,000	12.5
Vietnam Government	Cash & In-kind	3,085,000	8.6
Subtotal Participating Govt.		24,197,900	67.4

⁴ No final evaluation report submitted for Thailand for inclusion in the Terminal Evaluation, whereas due to the late project start, Bangladesh will be carrying out final evaluation in June of 2015.

⁵ As provided in project document

Other Partners			
China Energy Foundation	Cash	600,000	1.7
International Copper Association (ICA)	In-Kind	2,900,000	8.1
CFL Harmonization Initiative	Cash	100,000	0.3
Australian Greenhouse Office	Cash	50,000	0.1
	In-Kind	50,000	0.1
CLASP	Cash	5,000	0.01
KEMCO (in place of Korea)	Cash	78,000	0.2
Subtotal Other Partners		3,883,000	10.8
Subtotal Co-financing Inputs		28,080,900	78.3
Total Allocated Resources		35,880,900	100.00

a. GEF Grant Funds

The GEF funds are further divided between regional and country activities. A distribution of the respective allocations is shown in Table 2.

Table 2: Division of GEF Funds

Regional/Country	Activities (USD)	Project Management (USD)	Total (USD)
Regional	1,950,000	780,000	2,730,000
Bangladesh	650,000	-	650,000
China	1,300,000	-	1,300,000
Indonesia	1,170,000	-	1,170,000
Pakistan	650,000	-	650,000
Thailand	650,000	-	650,000
Vietnam	650,000	-	650,000
TOTAL			7,800,000

Table 3 below provides an overview of component-wise expenditure of GEF funds by the RPMU.

Table 3: An Overview of Component-Wise Expenditure of GEF Funds by the RPMU⁶

Component	Total ProDoc Budget Allocated	Total Spent (As of Dec 2014)	Overall % Spent/ ProDoc Budget Allocated
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⁶ Source: RPMU Presentation in the Project Closure Meeting held in early February 2015

Component 1: Policy Making	<i>National Level</i>		
Component 2: Capacity Building	1,174,870	1,101,366.7	
Component 3. Manufacturer Support	271,030	284,738.88	
Component 4: Regional Cooperation	504,100	490,862.59	
Component 5: Pilot Project	<i>National Level</i>		
Project Management	780,000	818,721.60	
Total	2,730,000	2,695,689.74	98.74%

By December 2014, the RPMU had utilized 98.74% of the GEF funds. The remaining 1.26% funds were planned to be spent on project closure activities.

Moreover, Table 4 provides an overview of the total GEF fund utilization by the six Participating Countries.

Table 4: An Overview of the Total GEF Fund Utilization by the Six Participating Countries.

Countries	Total ProDoc Budget Allocated	Total Spent (As of Dec 2014)	Overall % Spent/ ProDoc Budget Allocated
Bangladesh	650,000	598,000	92.00%
China	1,300,000	1,274,438.00	98.0%
Indonesia	1,170,000	1,165,014	99.6%
Pakistan	650,000	632,201	97.26%
Thailand	650,000	622,074.97	96.29%
Vietnam	650,000	625,864	96.28%
Regional	2,730,000	2,695,689.74	98.74%
Overall	7,800,000	7,613,281.71	97.61%

Overall, the 6 PCs have spent 97.61% of the budget. The lowest spending in Bangladesh (92%) is reflective of the late start of activities and the fund is planned to be fully utilized by project closure in Bangladesh in June 2015. Also, the remaining five countries plan to utilize the remaining funds by the time of administrative closure of the project.

Overall, interviews with the PCs and RPMU highlighted the view that the financial allocations for project were rather limited in comparison to the numerous activities planned in the project document. For instance, the RPMU spent most of the GEF fund for holding regional events such as RPSC meetings and regional trainings, etc. This left the RPMU with limited funds for office management. Similarly, PCs reported that the allocated funds were limited for the national ES&L scope of the project. This restricted

the PCs from reaching out to a large number of stakeholders, including manufacturers, consumers, and testing facilities, etc.

b. Co-Financing

The regional component received co-financing from various different sources, including the Government of China, development partners such as the Energy Foundation, ICA, and CLASP, etc. The details of committed vs. actual co-financing are provided in Table 5 below:

Table 5: Co-Financing for Regional Component (Committed vs. Actual)

Organization	Amount	Kind	Subtotal	Actual	Percent of Actual	Details
NDRC	14,000,000	In Cash	12,500,000	803,700,000	5,740 %	Research and development of standards and labeling programme, testing laboratory capacity building and promotion activities in regard to improving energy efficiency and promoting efficient products
		In Kind	1,500,000			Mainly staff time from NDRC, SAC and other project partners
EF	600,000	In Cash	400,000	4,293,000	715.5%	Staffing for test laboratories for Refrigerators, Room air conditioners, Electric motors, Ballasts for FTLs, Electric fan, CFL and Rice cookers, and study on energy efficiency standards, and label development of above mentioned appliance.
		In Kind	200,000			Study on these energy efficiency standards and labels implementation.
CLASP	5,000	In Cash	5,000	5,000	100%	Implementation for BRESL Project

ICA	2,900,000	In Cash	2,900,000	3,925,000	135%	The activities supported by ICA involve development of MEPS and labeling schemes, market awareness and education, and technical assistance to manufacturers
KEMCO	78,000	In Kind	78,000			Expense for the participation at the related workshops and valuable advice for successful workshops
AGO	50,000	In Kind	50,000	AGO does not exist anymore		Implementation of testing of CFLs; Provision of experts to provide training and technical support on CFL standards and label development and harmonization; and to support events related to these topic.
EPA	100,000	In Kind	100,000	No		Training and technical support for energy efficiency harmonization work in the areas of lighting, HVAC/refrigeration, electronics and motors between participating countries of Asia Pacific Partnership, including China and South Korea.
CFLi	200,000	In Cash	100,000	Relevant outputs of CFLi project have been		Implementation of testing of CFLs to new technical specifications and performance level;
		In Kind	100,000			

				involved in BRESL project		development of regional and international technical performance specification; development and support of regional compliance and data sharing protocols for resulting regional or international standards; and associated events and training.
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The NDRC, Energy Foundation, and ICA have been the most active co-contributors to the project. The Energy Foundation (China) provided support in the form of staffing for test labs, studies on EE standards, and label development. As part of its commitment to energy efficiency, the NDRC under the Government of China, has spent R&D, equipping testing laboratories, and promotion of energy efficiency products. ICA provided assistance in the development of MEPS, market awareness, and TA to manufacturers.

The co-financing at country-level mostly comprised of contributions from the respective country governments. Details are provided in the country final evaluation reports.

3.2.4. Partnership Arrangements

Over the course of implementation, the RPMU partnered with 7 stakeholder organizations in the Chinese E&SL industry. These include government agencies, certification bodies, and research institutions, etc. Major partnership activities included training and information seminars, research and testing, and development of REESLN. The list of these organizations is presented in Annex 8.

These partners were engaged using a sub-contracting modality, with the project having issued 08 sub-contracts (SCs) during its implementation. The Sub-contracts were implemented between December 2011 and January 2014 and had a cumulative value of USD 1.13 million.

It is to be noted that some of the key sub-contractors were also project stakeholders, e.g. CSC, CQM, and CNIS. This was a positive measure as BRESL objectives and plans coincide and are in-line with their own institution's mandate and therefore provide firm motivation and project ownership in effectively accomplishing the tasks.

The SCs were hired and monitored using the sub-contracting guidelines provided in the Project's Operations Manual. Accordingly, a Committee reviews and evaluates the performance of the services provided by all consultants and subcontractors to the Project, consistent with the guidelines set by the

UNDP-COs. By providing support to trainings, testing, and research, the SCs have contributed significantly to implementation and achievement of BRESL goals and objectives.

Moreover, the RPMU partnered with a number of relevant public and private sector agencies, including the International Cooper Association (ICA), Energy Foundation (China), CLASP, International CFL Harmonization Institute, etc. These organizations provided guidance and co-financing support to the various program aspects relevant to their own mandates. Of these partners, notable support was provided by the ICA and the Energy Foundation (China). In addition to the co-financing support provided (details in section on Finance), the ICA representatives participated in RPSC meetings, led the TWGs on room air conditioners and electric motors to provide assistance with harmonization, and provided guidance on developing, conducting, and evaluating training programs. Similarly, the Energy Foundation provided staffing for test laboratories of all seven target products, conducted studies on energy efficiency standard and label developments of these products.

The RPMU coordinated the input and activities of these partner organizations and reported their progress and contributions in the standard M&E reports.

3.2.5. UNDP and Implementing Partner Implementation/Execution (*) Coordination, and Operational Issues

The various stakeholders engaged in coordinated management of BRESL project included the Regional Project Steering Committee (RPSC), the Project Assurance Committee (PAC), NDRC, CSC (2009 to 2010), CNIS-CQM (2010 to 2014), CICETE (2009-2010)/NECC (2010-2014)⁷, and the respective PMUs in the six Project Countries. Details of the proposed Management Structure are provided in the section on 'Project Description and Development Context'. The observations of the Terminal Evaluation team regarding the actual implementation of the project structure, roles and responsibilities of the project stakeholders, and associated coordination and operational issues are presented below:

a. UNDP and Implementing Partner Implementation/Execution

- **National Development and Reform Commission (NDRC):** The NDRC as the Executing Agency for the Project is responsible for achieving the Project results. Being the Lead Agency to oversee the national energy policy and legal/regulatory framework for ES&L in China, NDRC has extensive policy and technical experience to share among other project stakeholders. The NDRC provides the project with policy direction by placing its personnel in key project management positions. In this regard, the RPSC Chairman, the Regional Project Director (RPD), and Regional Project Coordinator (RPC) are all employees of the NDRC. Moreover, the NDRC assisted first the CSC and later the CNIS to establish an

⁷ CICETE/NECC provided financial management services to the project

RPMU and appoint a senior staff of the respective agency as the RPMU Director. Also, NECC, the agency responsible for providing financial services to BRESL RPMU, is an agency under the administration of the NDRC.

- **UNDP:**UNDP-China acts as the project Implementing Agency on behalf of UNDP/GEF. While exercising its oversight role for BRESL, UNDP China provides effective and rational coordination to ensure that GEF policies and requirements regarding project activities, progress, and reporting are met in the implementation and monitoring processes. UNDP China also acts as Lead UNDP CO for the Project in coordination with the other UNDP COs under the PAC (also discussed below).

In addition, the UNDP-Regional Coordination Unit (RCU) in Bangkok provides valuable support to UNDP-China and the RPSC with recommendations on resolutions of issues, reminders on project direction to be aligned with agreed project goals and objectives, and guidance on the monitoring and evaluation of the overall implementation performance and achievement of outputs/outcomes of the Project at the national and regional levels. Due to its regional position and experience of overseeing other similar UNDP-GEF Energy Efficiency and Climate Change projects, the RCU has played a critical role in keeping the project on track.

- **Regional Project Steering Committee (RPSC):**RPSC members included the staff from UNDP-RCU, UNDP-China, 6 CT Coordinators, NDRC RPD, RPMU Director, and representatives from Co-financing Organizations. Since the inception of the BRESL project, RPSC meetings have been regularly held once a year. As the primary management body for project implementation, the RPSC has provided overall policy and direction to the Project at the regional level. The members of the PRSC are often practitioners themselves, providing technical and policy advice for the project. In this way, the committee has been a sounding board for owners and drivers of the project for issues, resolutions and directions to keep the project implementation on track and according to agreed quality performance standards.
- **Regional Project Management Unit (RPMU):**The RPMU has been staffed by four individuals, including the RPMU Director, International CTA (part-time), a Finance Assistant, and an Administrative Assistant. This team has been responsible for carrying out the day-to-day administrative and operations management of the Project. As part of its responsibilities, the RPMU has been responsible for coordinating activities between the six different PCs, arranging regional-level technical support, monitoring regional-level activities, and developing and providing M&E reports to the UNDP. The RPMU was initially hosted by the CSC. However, after the agency's dissolution in 2010, the RPMU has been hosted by CNIS-CQM on behalf of the NCRD.
- **Country Teams (CTs):**The CTs implement the national level activities and are supported by the RPMU, country-level PSC, a National Project Director (NPD), and UNDP COs in each BRESL country. The

Government Focal Points or DIPs at the national level act as implementing partners and work closely with the UNDP-COs in the country and the respective CTs. The strength of the GFPs/DIPs lies on the capabilities of the agencies themselves being the primary national ES&L agency of the participating country.

Despite the initial hurdles related to capacity and coordination in the first half of the project, the CTs have performed satisfactorily later on in the project. This is evident from the information provided in the section on 'Results' which gives a summary of achievements of each PC against the project logframe. However, issues of high turnover in some countries, e.g. Pakistan, Vietnam, etc. for high-level stakeholders such as the NPDs or DIPs led to problems of coordination, continuity, and delays.

b. Coordination and Operational Issues

As explained above, the various key stakeholder organizations worked diligently to assure the project's compliance with UNDP-GEF guidelines and for attainment of project results. However, during the process of implementation, some coordination and operational issues surfaced that affected the project's progress.

To begin with, due to country-level issues, the Pakistan and Bangladesh country programs did not start until 2010, a year after the start of the regional initiative. Moreover, due to limited understanding of E&SL in the various PCs as well as the difference in priorities among the PCs, the project had a slow start with limited activities having been implemented in the first two years. These issues have also led to delays related to activities such as regular monitoring reports, official invitations of delegates to project training, submission of completed outputs and studies, etc.

Another issue faced by the project was the turnover in key CT representatives such as the Government Focal Points in different countries, as this would lead to discontinuation of dialogue on some key issues. Also, sometimes the restricted level of implementation authority held by a CT or GFP in their respective country led to limited implementation of the RPSC recommendations.

However, as a result of continued efforts and ongoing interaction through platforms such as the RPSC and TWGs and by aligning the project focus on three key activities of Training, TWGs, and Network, the RPMU has been able to improve the coordination between the PCs. Consequently, after mid-2011, the project made significant progress towards its objectives. However, the issues of coordination between the RPMU and CT are still not completely resolved, e.g. not all the CTs have been able to provide the RPMU with timely financial reporting for the purpose of this Terminal Evaluation.

Another major issue was the late hiring of a part-time international CTA. Although, the CTA's position was specified in the project document, the prolonged discussions among stakeholders regarding the CTA's role and contract led to the individual's formal recruitment in 2011.

Moreover, as a result of the project's move from the CSC to CNIS, the project faced some operational delays. The Terminal Evaluation team also noted that the Project Operation Manual that was developed in 2009 has not been reviewed/modified to reflect major changes, such the replacement of CSC by CNIS as the project's Implementing Agency. Additionally, in terms of financial management, due to an absence of any financial disbursement authority provided to the RPMU, the project activities were at times delayed due to the absence of any one of the multiple signatories.

Based on the above findings, the Terminal Evaluation team determined that the project implementation/execution, coordination and operations were ***Moderately Satisfactory***.

3.3. Project Results

This section provides an overview of the overall project results and assessment of the relevance, effectiveness and efficiency, country ownership, mainstreaming, sustainability, and impact of the BRESL project. Moreover, evaluation ratings for overall results, effectiveness & efficiency, and sustainability are also provided.

3.3.1. Overall Results (Attainment of Objectives)

To achieve its objectives, the activities carried out under the BRESL project were related to the following five components:

- i. **Component 1: *ES&L Policy-Making Program***
- ii. **Component 2: *ES&L Capacity Building Program***
- iii. **Component 3: *ES&L Manufacturer Support Program***
- iv. **Component 4: *ES&L Regional Cooperation Program***
- v. **Component 5: *ES&L Pilot Projects***

It is noted that the structure of outcomes, activities and progress indicators as given in the Project Planning Matrix (PPM) has been maintained by the Project except for some clarification of specific outputs and targets. This Terminal Evaluation makes reference to the original PPM in the Project Document and uses the updated list of key activities, targets and outputs with details as adjusted in 2010 and shown in Annex 9.

This section first provides an overview of the results and achievements made by the RPMU. This is followed by a detailed assessment of the performance of the six project countries⁸. While component-wise results are provided in this section, details of accomplishments against the activities outlined in the logical framework for each of the five components are provided in Annex 10.

3.3.2. Progress Made by RPMU

As detailed in the section on Adaptive Management, after approval from the RPSC and UNDP the project outputs were categorized into the following three main activities that are in line with the five components:

- i. Training
- ii. Technical Working Groups (TWGs)
- iii. Regional Energy Efficiency Standards and Labeling Network (REESLN)

The Terminal Evaluation team's assessment of accomplishments under the three main activities is presented as follows:

a. Training

Training and capacity building was a cross-cutting theme across the five project components. In particular, Outcome 2 was related to building individual and institutional capacity to secure on-the-ground implementation of regulatory frameworks and Outcome 3 was aimed at Provision of information and technical assistance to manufacturers. The urgent need for technical training and capacity building for technical and policy experts was further highlighted during the first two years of the program implementation.

Consequently, the RPMU with the help of an International Training Expert developed a Training Roadmap that was presented to the RPSC in April 2011. The framework proposed a step by step approach to the issue of capacity building, including: 1) Updating information gathered during the baseline survey in 2006, 2) Conducting a training needs assessment (TNA), 3) Development of training material in a modular way to reflect specific needs of target groups, 4) Conducting trainings, and 5) Evaluating training impact.

The implementation of the roadmap was based on the TNA results which provided a prioritized list of training activities, the need for practical training, promotion of cross learning among the PCs, and targeting government officials.

⁸ Further details of country-level performance are provided in Final Evaluation Reports undertaken by each PC

Due to its comparative longstanding expertise in E&SL CNIS was hired as a sub-contractor to develop training materials. To date, seven training workshops have been held for approximately 350 participants. All the workshops were held in China by different technical agencies and trainees included participants appointed by the respective six PCs. Details of the trainings are presented in Annex11.

The Terminal Evaluation team ascertained that the trainings were conducted in line with the needs of the respective countries and were based on practical exchange of ideas and experiences in the region. However, due to the limited project budgets available, the trainings were geared only towards the urgent capacity building needs of the government staff while excluding representatives from the private sector to a large extent. Considering the widespread gap in ES&L knowledge in the PCs, it is recommended that future trainings include a broader range of stakeholders across the E&SL sector.

b. Technical Working Groups (TWG)

Under Activity 2.2, the project was designed to establish six TWGs in order to facilitated capacity enhancement in the development and implementation of standards and labeling for the Targeted Products. The intent behind the TWG establishment was to develop a body of common information and approaches each country can use to set standards and labels that will also consider ES&L policies and programs that are in place in countries such the USA and Japan. This would make adoption easier in individual countries and also bring a degree of harmonization to standards & labels in the region, thereby laying the groundwork for regional harmonization.

Accordingly, the project established seven TWGs, one for each of the target products. It was agreed that the Lead Country for each of the seven BRESL products will coordinate and manage the TWG roadmap and work plan development, implement TWG activities after the approval of the roadmap and work plan by the RPMU and six CTs, monitor the TWG experts' performance, and submit quarterly, semi-annual and annual progress reports on the deliverables and performance of the TWGs to RPMU.

Since the inception of TWGs in November 2010, six TWG meetings have been held with a focus on the seven targeted products. Details of the meetings are provided in Annex 12.

The seven products were further divided into three categories of appliances (refrigerators, room air conditioners, electric fans, and rice cookers), industry (motor), and lighting (CFLs and ballasts). Key TWG results include complete feasibility studies of the seven target products and development of harmonized BRESL specifications. A complete list of the developed testing protocols and performance specifications is presented in Annex 13.

The development and adoption of specifications and standards had led to the signing of seven Mutual Recognition Agreements (MRAs) between four Project Countries at the technical level. Details of this are

provided in Table 6. It is to be noted that further work is now required to facilitate the official signing of the MRAs between the respective governments.

Table 6: List of MRAs Signed among Project Countries

S. No.	MRAs	Countries
1	Testing protocol for Fans	Bangladesh, China, Indonesia and Pakistan
2	Testing protocol for CFLs	Bangladesh, China, Indonesia and Pakistan
3	Testing protocol for Rice cookers	China and Indonesia
4	Testing protocol for ACs	China and Indonesia
5	EE performance specification for Fans	Bangladesh, China, Indonesia and Pakistan
6	EE performance specification for CFLs	Bangladesh, China and Pakistan
7	EE performance specification for Rice cookers	China and Indonesia

Moreover, to assess comparability of testing between the project countries, Round Robin tests have been conducted for three target products with the participation of various labs from the concerned PCs. Details of the tests are provided in Table 7 below:

Table 7: Details of the Tests

Product	No. of Testing Labs Involved
Fans	12 labs
Motors	13 labs
Rice Cookers	21 labs

The limited infrastructure, equipment, and technical knowhow across testing labs in a number of PCs proved to be a challenge in conducting the Round Robin Tests.

The Terminal Evaluation concluded that the TWGs facilitated successful south-south cooperation and made significant contributions to the potential of E&SL trade and exchange among the Partner Countries in the form of testing protocols, performance specifications, and product testing that has led to harmonization among PCs. Also, seven Mutual Recognition Agreements (MRAs) have been signed among four countries as a result of the BRESL project.

c. Regional Energy Efficiency Standards and Labeling Network (REESLN)

As an activity under component 4- ES&L Regional Cooperation, it was planned to establish a regional ES&L network. The intended main purpose of this network was facilitate dialogue and action towards

increasing the capacity and political will of Asian countries to develop, implement, and finance ES&L programs. By design, this activity would also respond to Component 2 – ES&L Capacity Building. The project design recommended REESLN to be built on the start-up work funded by APEC, including a regional energy network and a web portal called APEC Energy Standards Information System (ESIS).

Considering its wide-reaching implications for south-south cooperation and information exchange, the RPMU prioritized REESLN as one of the three main focus activities. REESLN has been designed to be a non-profit and business-oriented foundation with CQM in China acting as the Regional Host Center. The CQM was hired as a sub-contractor from December 2011 to December 2013 for the establishment of REESLN through establishing ES&L partnerships among ES&L laboratories, institutions, certification bodies, target network members and participating government agencies. As a result, the Network was launched in the third quarter of 2013. Accordingly, an organizational structure of the network was developed and bylaws and business plan were drawn. The phased strategy for REESLN development is presented in Annex 14.

As of December 2014, intention letters from over 35 potential members have been received. A list of these organizations is provided in Annex 15. The MOUs with these agencies were not signed at the time of Terminal Evaluation but were expected to be finalized by project end on 31 December 2014.

A key challenge in the development of REESLN was linking the network to the existing APEC-ESIS portal. As the ownership of the portal changed hands a number of times during the BRESL implementation period, the ESIS was not directly accessible to the BRESL stakeholders and required considerable efforts to develop any linkages. Moreover, due to the nascent stage of ES&L in many of the PCs, the consensus was that the PCs would benefit more from a network that is specifically designed in accordance with the needs of the PCs. Consequently, it was decided to establish the REESLN with the initial participation of only the six PCs. The organizational structure of REESLN is presented in Annex 16.

The Terminal Evaluation team determined that REESLN has been established using a systematic and progressive approach. To ensure the sustainability and independence of the Network, the REESLN Strategic Plan presents a proposed roadmap and plan for program implementation in the following three years (2014-2016). The designed services and components of REESLN are also in line with all the five project outcomes. Key services include information sharing, technical assistance, training, and facilitation of harmonization initiatives. Interviews with some of the PC representatives revealed that REESLN has been received as a welcome cooperation initiative by the stakeholders in these PCs. However, the establishment of the network took longer than expected due to the problems related to linkages with ESIS, the particular needs of the PCs, and other problems that led to delayed startup of numerous project activities in general. This late start has pushed the Network's operational phase beyond the project timeline. Therefore, for REESLN to be sustainable, it will require some initial funding to start its implementation phase. The REESLN strategic plan has estimated this budget to be USD

130,000 (USD 67,000 in-kind and USD 63,000 in-cash). Moreover, the REESLN strategic plan needs to provide a detailed plan for the dissemination of the Network to a larger audience in order to ensure reach out to the broader ES&L stakeholder base in the PCs and in the region.

3.3.3. Progress Made by the Six Participating Countries

a. Component 1: ES&L Policy-Making Program

According to the project design, it is expected several activities to put in place new laws and regulations enabling and establishing equipment standards and labels. The evaluation team ascertained that all the six participating countries have made considerable progress on ES&L legal framework. Activities of this component are only carried out by the CTs. The cross-country collaboration and assistance from the RPMU have provided critical support to the policy making initiatives of the PCs.

The reported major outputs and ongoing activities of Component 1 by the CTs are as follows:

Table 8: Major Outputs and Ongoing Activities of Component 1 by the CTs

Component 1: ES&L Policy-Making Program. Establishment of legal and regulatory basis for removing lowest EE technologies from the market and promoting high-efficiency technologies.	
Activity 1.1: Strengthening of policy context for ES&L actions	
Activity 1.2: Adoption and implementation of ES&L regulations	
Countries	Output and Progress
Bangladesh	<ul style="list-style-type: none"> Energy Standards developed for 6 BRESL products (Air conditioners, Refrigerators, Motors, Ballasts, Fans, and CFLs) Testing Standards developed for CFL (BDS-IEC 1734, 1735, & 1761) Voluntary labels (Star Labels) developed for 3 BRESL products (CFL, Ballasts, Fans) Draft rules developed for the Sustainable and Renewable Energy Development Authority (SEDRA)
China	<ul style="list-style-type: none"> Energy Label developed for 7 target products New implementing rules for labeling of 7 target products have been adopted in the past 5 years: GB12021.3-2010: The minimum allowable values of the energy efficiency and energy efficiency grades for room air conditioner, GB 21455-2013: The minimum allowable values of the energy efficiency and energy efficiency grades for variable speed room air conditioners

	<ul style="list-style-type: none"> • GB 17896-2012: Minimum allowable values of energy efficiency and energy efficiency grades for ballasts for tubular fluorescent lamps • GB 18613-2012: Minimum allowable values of energy efficiency and energy efficiency grades for small and medium three-phase asynchronous motors • Minimum allowable values of energy efficiency and energy efficiency grades for CFL (GB 19044-2013) • 1 regulation upgraded, 4 new implementation regulations adopted for motor, fixed-speed AC, variable-speed AC, and refrigerators between 2009-2014
Indonesia	<ul style="list-style-type: none"> • Ministerial Regulation for CFL EE labeling has been implemented. • Regulation drafts of home air conditioner (AC) and refrigerator were submitted in 2012 and are still under the final examination of the legal division of MEMR. • Draft of Ministerial Decree of Ballast, Electric motor, rice cooker and electric fan are being examined by the implementing partner. The draft of regulation will be issued after the AC and Refrigeration regulation are implemented. • Official government accreditation program for appliance testing laboratories is established in the existing manufacturing plants, the state own and private company laboratories, and in the government laboratories. • Energy Efficiency Standards developed for 6 BRESL products (Room Air Conditioner, Refrigerator, Ballast Electronics, 3 phase Electric Motor, Rice Cookers, & CFL)
Pakistan	<ul style="list-style-type: none"> • Two drafts developed and submitted for Cabinet approval: <ul style="list-style-type: none"> ▪ Draft Pakistan Energy Efficiency& Conservation (PEEC) Bill; and ▪ ES&L Summary • Procedure for implementation of Energy Efficiency Standards and Labels in Pakistan has been adopted • MEPS & Label (PS-1/2010,Anx-A) for electric fans implemented and manufacturers have started registering their products for energy labeling • MEPS for motors revised & approved • MEPS(Anx-A,PS-IEC:60969) and Testing Protocol (PS-IEC 60969 & 90968) for CFL have been approved & notified • VoluntaryStar Labeling scheme implemented for 3 BRESL products (fans ,CFL & motors) on voluntary basis

Thailand	<ul style="list-style-type: none"> • Energy Conservation Promotion Act, National Energy Policy Council Act, Industrial Product Standards Act B.E.2511 (1968), Energy Conservation Program, Demand Side Management Program • MEPS for Air Conditioner and Refrigerators developed • Testing protocol for CFLs developed
Vietnam	<ul style="list-style-type: none"> • Full policy framework on ES&L issued (Law, Decree, Circular, PM Decision): <ol style="list-style-type: none"> 1) Law on Energy conservation and efficient use; 2) Decree 21/2011/ND-CP: Decrees on regulation and measures to implement the Law on Energy conservation and efficient use 3) Decree 134/2013/ND-CP: Decree on sanctions against administrative violation in the field of electricity, safety of hydroelectric dam, energy efficiency and conservation; 4) Decision 51/2011/QD-TTg and Decision 03/2013/QD-TTg: Decisions on list of equipment subject to energy labeling and application of MEPS and roadmap and on state procurement regulation on energy efficient labeling products; • National standard on EE Performance for AC, Electromagnetic Ballast, Motor issued • Draft National standards on testing protocol for CFL (in process not officially issued) • Mandatory Labels for 7 target products

The details in the achievements of outputs at the activity level by CTs and RPMU under Component 1 are provided in Annex 17.

In summary, the Terminal Evaluation team concluded the following for the progress under Component 1:

1. **Activity 1.1 Strengthening of the Policy Context for Energy Standards and Labels:** While some countries already had some degree of legal and institutional structure (e.g. China). In accordance with the goal set in the logical framework, BRESL now has four (4) countries including China, Indonesia, Thailand and Vietnam that have adopted new laws and regulations on ES&L. Also, Bangladesh and Pakistan have developed draft policies that have been presented to the highest authorities and are pending approval.
2. **Activity 1.2 Adoption and Implementation of Energy Standards and Labeling Regulations-**New Energy standards have been developed for all the seven products across the six PCs. Moreover,

against the logframe target of ‘labels to be in use for at least two products in five countries’, five countries including China and Vietnam that have developed compulsory labels, and Bangladesh, Pakistan, and Indonesia that have developed voluntary labeling schemes.

The Terminal Evaluation team concluded that the support provided by the RPMU, the information and guidance provided by China as the lead country, and the cross exchange among the PCs has accelerated the development of ES&L policy framework in all the six PCs. This support complimented by the political will of the PCs has provided further impetus to the development of ES&L policies, standards, labels, and guidelines.

b. Component 2: ES&L Capacity-Building Program

This component is one of the core parts of the project design. It includes several key activities to build capacity for developing and implementing energy standards and codes including staff training, establishment of product-specific working groups, provision for adequate testing facilities, establishment of regular data collection and reporting processes, and facilitation of mutual recognition agreements so that equipment tested and certified in one country does not need to be retested and recertified in other BRESL countries. This component is carried out both at the regional level and the national level.

The reported major outputs and ongoing activities of Component 2 by CTs and RPMU are as follows:

Table 9: Major Outputs and Ongoing Activities of Component 2 by CTs and RPMU

Component 2: ES&L Capacity-Building Program. <i>Building of institutional and individual capacity to secure on-the-ground implementation of regulatory frameworks, as well as actual standards and labeling programs.</i>	
Activity 2.1: Training to strengthen and enable public institutions to support development and implementation of EE standards and labeling	
Activity 2.2: Capacity enhancement in the development and implementation of standards and labeling for the 6 targeted products	
Activity 2.3: Strengthening of national and regional testing and certification infrastructure	
Activity 2.4: Strengthening of data collection and reporting procedures on equipment availability and sales by efficiency level in participating countries	
Countries	Output, Progress and Status

Bangladesh	<ul style="list-style-type: none"> • Testing standards for five products (CFL, EB, Refrigerator, AC, Motor) are in place. • Four MRAs signed with China, Indonesia, and Pakistan • Development of Testing facility is in progress • Certified equipment information disseminated through www.breslbd.org • Data collection and reporting procedure on EE equipment availability and sales is under development
China	<ul style="list-style-type: none"> • 9 training materials developed; 500 local ES&L officials trained • 1 implementation scheme for Top-Runner program (officially issued) • 7 ESs revised and adopted for single-cap lamps, double-cap fluorescent lamps, general motors, ballasts, CFLs, fix-speed ACs and Variable-speed ACs; • 2 ESs developed and adopted for high-voltage motors and rare earth permanent magnetic motors • Totally 900 labs for 28 end-use products are improved in testing facilities through onsite inspection in about 400 labs (51 labs under GEF fund, and remaining under co-financing) and round robin testing in about 700 labs (30 labs under GEF fund, and remaining under co-financing); • Testing and certification procedures established for all the 29 end-use products covered by CEL; • 5 large-scale round robin tests carried out for 25 products, covering more than 1000 labs; • 07 MRAs on testing and ES signed at technical level for CFL, fan, rice cooker and ballast; • Certified equipment information disseminated through www.energylabel.gov.cn & www.cnis.gov.cn • Procedure for data collection and reporting on EE equipment availability and sales is in place for the past ten years
Indonesia	<ul style="list-style-type: none"> • 60 Government officials trained in ES&L testing and development • Testing Protocol in place for the seven products and several testing facilities are present • 06 MRA signed at technical level with Bangladesh, China, and Pakistan • 8 labs for 5 BRESL products have been accredited. • Certified equipment information disseminated through www.bresl.or.id (21 CFL brands of 13 companies' product data is being recorded) • 382 CFL models posted as of July 2014 by DGNREEC

	<ul style="list-style-type: none"> - Data collection and reporting procedure on EE equipment availability and sales is in place. 16 brands reported (192 models of CFL) representing $\pm 30\%$ market share
Pakistan	<ul style="list-style-type: none"> • 20 EE personnel trained • 04 MRAs signed with Bangladesh, China, and Indonesia • 02 Testing labs upgraded • 4 new testing standards for Fan, CFL and Motor are in place. • 04 MRAs signed at technical level Certified equipment information disseminated through www.bresl.net.pk, www.enercon.gov.pk • Data collection and reporting procedure on EE equipment availability and sales is Under development
Thailand	<ul style="list-style-type: none"> • Testing protocol for CFL in place, at least xx testing facilities • Certified equipment information disseminated through www.bresl.tgo.or.th • Data collection and reporting procedure on EE equipment availability and sales is in place
Vietnam	<ul style="list-style-type: none"> • 3 draft new testing standards for Fan, CFL and Rice cooker are in place. With 5 testing facilities. • Certified equipment information disseminated through www://nhannangluong.com • Data collection and reporting procedure on EE equipment availability and sales is in place

In summary, the Terminal Evaluation team concluded the following PC for the progress under Component 2:

1. **Activity 2.1: Training to strengthen and enable public institutions to support development and implementation of EE standards and labeling:** Trainings have been conducted by all the PCs as well as the RPMU. Training participants were staff of government technical agencies and the trainings were based on TNA exercises.
2. **Activity 2.2: Capacity enhancement in the development and implementation of standards and labeling for the 6 targeted products:** The seven Technical Working Groups (TWGs) established by the project have led to harmonization through the development of standards and protocols for the seven target products. Representatives from all the six PCs actively participated in the TWGs. As a result of the TWG outputs, seven MRAs have been signed between four countries. This is higher than the logical framework target of 'at least 3 participating countries sign MRAs'. However, the MRAs have only been signed at the technical level and still need to be signed formally by the respective country governments.

3. **Activity 2.3: Strengthening of national and regional testing and certification infrastructure:** Inspection of different testing labs were conducted in CTs towards capacity development. Moreover, Round Robin Testing for three products (fans, motors, and rice cookers) was conducted with the participation of 46 labs across the six PCs. These tests were conducted in a record time and are an important measure of testing capacity building and regional harmonization. Moreover, by the project end, 6 MRAs were signed among four PCs.

In comparison to the logframe target of ‘at least one new testing standards and testing facilities in place and operational for the targeted products in at least 3 countries’, testing standards across the six PCs have been adopted for all of the seven target products. Also, at least four countries (China, Indonesia, Pakistan, and Vietnam) have set up or improved their testing facilities, while Bangladesh is in the process of upgrading one testing facility⁹.

4. **Activity 2.4: Strengthening of data collection and reporting procedures on equipment availability and sales by efficiency level in participating countries:** Data collection and reporting procedure on EE equipment availability and sales is in place in four countries (China, Indonesia, Thailand, and Vietnam). In the meantime, data collection systems are still under development in Bangladesh and Pakistan.

c. Component 3: ES&L Manufacturer Support Program

The manufacturer-related barrier is generic across the region, but must be dealt with in the context of each national economic and cultural setting. Therefore, the activities are designed to be carried out separately within each country, but with the sharing of lessons learned at the regular regional BRESL meetings being an important part of the component design. The activities under this component include the provision of information to manufacturers on ways to improve product efficiency at modest cost; training on ways to use ES&L programs to increase profitability; and technical assistance to individual local manufacturers on these issues. It is expected at least 5 manufacturers develop new efficient products, 25 new efficient products are developed by Year 4 and 50 by the end of the Project.

The reported major outputs and ongoing activities of Component 3 by CTs are as follows:

⁹ Information for Thailand not available

Table 10: Major Outputs and Ongoing Activities of Component 3 by CTs

Component 3: ES&L Manufacturer Support Program. Provision of information and technical assistance to manufacturers of covered products	
Activity 3.1: Analysis and preparation of technical reports on each of the 6 covered products; reports cover techniques for improving product efficiency and the costs involved.	
Activity 3.2: Educational workshops for manufacturers on impacts of standards on manufacturers and ways to work with standards to increase profitability.	
Activity 3.3: Limited technical assistance that addresses technical and marketing/financial barriers to increasing EE in the manufacturing of equipment and appliances for local manufacturers on techniques for increasing efficiency of their products.	
Countries	Output, Progress and Status
Bangladesh	<ul style="list-style-type: none"> 9 manufacturers manufacturing EE equipment (2 for CFL, 7 for Fans, and 2 for Ballast) 115 high efficiency models produced (35 for Fan, 29 –CFL, 14 – Ballast, 7 – A/C, 14 – Motor, 16 Ref) 1% of EE Fans, and 18.8% for CFL sold More than 50% manufacturers participating in the project agree that ES&L can improve profitability
China	<ul style="list-style-type: none"> 6,000 manufacturers registered in China Energy Label Center for about 28 end-use products About 50,000 high efficiency models produced 32% EE variable speed room AC; 70% EE room AC; 25% EE refrigerator; 18% EE CFL; and 52% EE Motors Sold More than 50% manufacturers participating in the project agree that ES&L can improve profitability 51 manufacturer labs were inspected under GEF fund, and over 300 labs are inspected under co-financing between 2009-2014, their testing facilities were improved after adopting the technical assistance recommendations given by experts.
Indonesia	<ul style="list-style-type: none"> 13 manufacturers manufacturing (2 for CFL, 1 – AC, 1 – Ref, 1 – Ballast, 8 – Rice cooker) 8 models (1 for ballast, 3 for AC, 4 for Ref) high efficiency models produced 30% CFLs sold More than 50% manufacturers participating in the project agree that ES&L can improve profitability 18 manufacturers are adopting TA and 100% receiving TA are received
Pakistan	<ul style="list-style-type: none"> 6 manufacturers producing EE products 2series model of high efficiency fans produced

	<ul style="list-style-type: none"> • 0.5% EE AC and refrigerator; 0.1% EE Motor; 0.2% EE fan, and 1.5% EE CFL sold • More than 60% supported manufacturers agree that ES&L can improve profitability • Technical assistance on improving energy efficiency provided to 6 fan and motor manufacturers
Thailand	<ul style="list-style-type: none"> • 12 manufactures supported • 12% high efficiency products sold
Vietnam	<ul style="list-style-type: none"> • 2 manufactures producing EE products • Several EE models being produced

In summary, all the 6 CTs provided support to manufacturers for production of EE products. The support included trainings, limited technical assistance. Against a logical framework goal of ‘at least 5 local manufacturers producing EE equipment’, a higher number of manufacturers are now involved in EE production in each of the six PCs. Overall, 50% to 60% of the participating manufacturers believe that production of EE products can be profitable. The Terminal Evaluation team that only half of the manufacturers believing EE products to be profitable is low and further activities, including policy development, financial and market linkages, etc. are required to encourage the private sector.

a. Component 4: ES&L Regional Cooperation Program

This component consists of regional cooperation activities to aid individual countries with development and implementation of their ES&L programs and enable them to make progress towards regional harmonization of standards and labels. The project document stipulated for PCs to learn from one another so they can emulate successful efforts and avoid repeating mistakes that others have made. To ensure that regional cooperation and progress and standards can continue, an activity to plan for follow-up activities when GEF funding ends was planned to be developed.

The reported major outputs and ongoing activities of Component 4 by CTs are as follows:

Table 11: Major Outputs and Ongoing Activities of Component 4 by CTs

<p>Component 4: ES&L Regional Cooperation Program. <i>Regional cooperation and information sharing on-going and helps to maximize impacts</i></p> <p>Activity 4.1: Project web site with regional information developed and maintained; provides umbrella for websites referenced in other components.</p> <p>Activity 4.2: Lessons learned are assessed, documented and disseminated.</p> <p>Activity 4.3: Regional work group on labeling and standards (cutting across products)</p>

Activity 4.4: Preparation of a plan for regional activities and coordination after the GEF-funded project ends

b. Component 5: ES&L Pilot Projects

Component 5 involves pilot project activities implemented on a demonstration basis by individual countries, or groupings of countries, showcasing various aspects of the design, facilitation and implementation of ES&L programs, including support activities that build on the regional foundation provided by BRESL. This included a number of activities implemented at the national level, with coordination across the region, including initial work on regional harmonization led by China. The expected outcomes in the designed document include a) countries implementing government procurement schemes for EE products; and b) countries with EE products databases and countries with EE consumer education schemes.

The reported major outputs and ongoing activities of Component 5 by CTs are as follows:

Table 12: Major Outputs and Ongoing Activities of Component 5 by CTs

COMPONENT 5: ES&L Pilot projects – <i>Demonstration of various aspects of the development and implementation of ES&L programs</i>	
Activity 5.1: Government procurement	
Activity 5.2: On-line databases of efficient equipment	
Activity 5.3: Consumer education	
Countries	Output, Progress and Status
Bangladesh	<ul style="list-style-type: none"> • No government procurement schemes of EE products in place • EE Products Database is under development • Different kinds of consumer educational campaign were held (76 workshops)
China	<ul style="list-style-type: none"> • Government procurement scheme for EE products in place; China's government procurement program has covered 51 high-efficiency end-use products (AC, CFL and ballast are included among the 7 target products) • 1 database about label registration has been established before BRESL and maintained through 2009-2013; Database used by approximately 9000 manufacturers • Promotional activities carried out in 10 cities

Indonesia	<ul style="list-style-type: none"> • Pilot Government Procurement Scheme for EE products in place and focuses on 6 BRESL products • EE Products database available • Different kinds of consumer educational campaign were held through advertisement at 3 national TV Campaign to student, women, teachers, and manufacturers • Two financing concepts developed (based on Rebate, and Revolving Fund)
Pakistan	<ul style="list-style-type: none"> • No government procurement schemes of EE products in place • Paper-based EE product database available, online data-base for EE products under development • 5 Consumer education program launched 2 in print media 2 in electronic media and 1 through academia
Thailand	<ul style="list-style-type: none"> • Government purchasing guideline for high-efficiency equipment inclusive of the BRESL products was submitted to Thai Green Label Sub-committee • EE product database under development • 115 consumer education activities such as exhibitions, lectures and EE demonstrations were held with more than 900,000 consumers were educated through promotional materials
Vietnam	<ul style="list-style-type: none"> • Government procurement scheme for EE products in place • EE product database available • Marketing strategy and campaigns for CFL and Fan were prepared and implemented. Campaign in all 63 provinces

At the start of the project, only China had a Government procurement schemes of EE products and the project set a target for two PCs to have implementing government procurement schemes for EE products. In comparison, by the end of BRESL, three countries (China, Indonesia, and Vietnam) have made progress on this, with China and Vietnam having a government procurement scheme in place while a pilot procurement scheme being implemented in Indonesia.

There was also some progress on the availability of online EE databases in the PCs. According to the BRESL baseline, only Korea had such a database at the start of the project. By the end of BRESL project, as opposed to the logframe goal of two countries, four PCs (China, Indonesia, Pakistan, and Vietnam) had some form of database available, while Bangladesh and Thailand are working towards developing such a database.

In addition, all BRESL countries have carried out extensive consumer campaigns to improve awareness of ES&L and the benefits of EE.

3.4. Relevance

The Terminal Evaluation team determined that BRESL project has been highly relevant to the development context of the six participating countries.

At the time of design, BRESL was the first regional project of its kind, focusing on ES&L, a primary contributor to energy savings and resultant decline in GHG reductions. The project activities have remained relevant throughout its implementation period as all the participating countries have had fast growing unfulfilled energy needs while most of the countries had a nascent ES&L regulatory and policy environment. Moreover, a number of the countries are leaders/specialists in the manufacture, trade, and/or utilization of the target products. E.g. Pakistan is a large manufacturer of fans and exports the product to a number of countries in the region, including Bangladesh; China is a lead international manufacturer of CFLs and other BRESL projects; and China, Thailand, Vietnam and Indonesia have large consumer base for rice cookers, etc.

Moreover, the project outputs have been able to contribute to the realization of the Millennium Development Goals (MDGs), particularly MDGs 1, 7, and 8, whereby the project has potentially contributed to the improved environmental sustainability of a participating country's and/or the region's development path.

3.5. Effectiveness and Efficiency

The BRESL project has been highly effective in promoting south-south cooperation. In particular, improving understanding of ES&L and providing support to the ES&L policy and regulatory environment have been major areas of effectiveness. The outcomes of trainings, outputs of TWGs, and general information exchange among the PCs proved to be invaluable. Moreover, the regional training activities have led to an improved understanding of ES&L within the respective government technical departments and staff. This in turn has facilitated country-level activities aimed at engaging the interest of manufacturers and traders, as well as awareness raising among the local public about the importance and efficacy of ES&L products. A significant project outcome has been the signing of seven MRAs among four Project Countries.

Such effective collaboration has led to financial and resource efficiency, as sharing of workloads and information exchange has resulted in reduction in amount of time and financial expenditure required for ES&L development and harmonization in the individual participating countries.

In terms of efficiency, during the initial half, the project suffered major progress setbacks due to issues of ES&L awareness across the PCs, lack of suitable ES&L experts in the region, and limited coordination between the PCs. However, since mid 2011, using the adaptive management approach, the RPMU has

focused on three main activities, including training, TWGs, and REESLN. This concentrated focus has led to accelerated achievement of results, including implementation of Round Robin Test for 3 products, development of testing protocols and performance standards, and establishment of a regional network in the form of REESLN, etc.

However, the delay in activities has affected outreach and effectiveness of the regional activities. For instance, only 300 government staff have been trained. Alternatively, if the training activity had picked up earlier in the project, there was a potential to not only train more government staff but representatives from other relevant stakeholders such as manufacturers and private sector researchers could also have been trained either at the regional or country-level. Also, the establishment of REESLN was accomplished only at the project end, i.e. December 2014. Had this goal been met earlier, the network could have been operationalized during the implementation frame of the BRESL project.

Another area of concern has been the project's inability to have leveraged its activities by establishing linkages or collaborating with other lead ES&L sources, such as the various resources available in IEA countries, i.e. Australia, Canada, Japan, Korea, New Zealand and the U.S, etc.

Based on this assessment, the Terminal Evaluation team concluded that the project's Effectiveness has been ***Satisfactory***, while its Efficiency has been ***Marginally Satisfactory***.

3.6. Country Ownership

Due to its comparatively advanced ES&L status, China was assigned as the lead country for the BRESL project and the NDRC was assigned as the Lead Implementing Agency. The country ownership of the Lead country (China) is demonstrated by the following aspects:

Senior project staff, including the Regional Project Director (RPD), Regional Project Coordinator (RPC), and the Director of the RPMU are the staff of the NDRC. Moreover, key staff such as the Director of RPMU has been involved with BRESL since its design and has continually been contributing to the project as either Director RPMU or National CTA.

Moreover, the Government of China has facilitated information exchange as the trainings provided under the RPMU were delivered by leading Chinese ES&L institutions, including CNIS and CQM. Similarly, CQM has been designated as the regional office for the REESLN. These trainings materials and information on standards developed by Chinese sub-contractor organizations, e.g. CQM have become the foundation of E&SL policy and knowledge for the lesser developed countries, including Pakistan, Bangladesh, and Indonesia. China has also been the venue of several project trainings and some TWG meetings.

In addition to this, UNDP China has provided continuous oversight and guidance to project implementation.

Similarly, the governments of the 6 PCs demonstrated their ownership by providing key operational resources in the form of co-financing, developing laws and regulations, and signing MRAs¹⁰.

Based on these observations, the Terminal Evaluation team ascertained Country Ownership to be **Satisfactory**.

3.7. Mainstreaming and Sustainability

Mainstreaming and sustainability have been inherent in the BRESL project design. In this regard, the support to ES&L legal and regulatory framework across the six countries is noteworthy. Thus far, testing protocols have been established for six products and adopted by all the PCs. Also, performance specifications have been developed for three products, including fans, rice cookers, and CFLs, and seven MRAs have been signed among four PCs.

A brief synopsis of the policy progress in the PCs has shown that all the six PCs have made some progress as a result of participation in BRESL. In summary, by early 2015, China will issue ‘implementation rule for the labeling’ of each of the 6 products; Indonesia, Thailand, and Taiwan will pass E&SL regulations/laws/decrees, etc.; and Bangladesh and Pakistan will finalize and/or submit draft regulations and procedures to respective policy making bodies. Similarly, each of the six PCs has revised/issued EE specifications related to the different target products. If implemented effectively, this focus on policy and regulation will ensure manufacturer and trader compliance and lead to proliferation of ES&L products in the long term.

Moreover, as a result of realizing the effectiveness of ES&L through BRESL implementation, almost all of the six PCs now have started investing in ES&L national projects and activities. For instance, as part of its new energy policy approved in 2014, the Government of Indonesia wants to include upto 15 products for ES&L development; the Government of Bangladesh plans to convert the BRESL PMU into an Energy Efficiency Cell after the project closure; while the Government of Pakistan intends to set up a national ES&L center of excellence. In addition, a number of PCs have accessed additional donor resources for promotion of ES&L, including JICA providing ES&L support to Bangladesh, Vietnam, and Indonesia. Other active donors include the AusAid and USAID.

¹⁰ Seven MRAs have been signed at the technical level among four countries

Moreover, at the regional level, the RPMU is already working on the development of a BRESL follow up project concept for submission to GEF. If approved, the project will work with a number of ASEAN countries as well as Bangladesh and Pakistan.

In conclusion, the relevance of ES&L to the current energy situation in the region, uptake by respective governments in the form of policy measures, follow up projects and signing of MRAs, and the interest shown by the private sector and consumers is **Likely** to ensure sustainability of the project. However, the success of these measures will be highly dependent on the will and ability to implement laws and standards, continual dissemination of ES&L benefits, and the availability of financial resources to implement planned endeavors. In other words, the possibility of lack of funding for further E&SL development and/or failure to implement policies and standards by respective country governments are the major potential threats to sustainability.

3.8. Impact

Some of the key impact areas for BRESL have included reduction in GHG emissions and energy saving, technical capacity development, policy making, and south-south cooperation.

At the end of the BRESL project, the expected impacts, viz. energy savings have reached cumulatively over 175,000 Gigawatt-hours (Gwh) against a logical framework target of 27,799 GWh/yr (138,995 MMT cumulative) and reduction of GHG emissions equivalent to 55.9 million tons of CO₂ against a target of 24.8 MMT¹¹, in the six countries respectively¹².

However, calculating exact impact on the project level goals has not been possible for various reasons. Key reasons for this include differences in country-level approach and late pick up of the project activities.

The individual approach of the participating countries to impact on energy savings and GHG reductions has varied based on its respective capacity, including technical expertise, operational environment, and E&SL priorities. Consequently, the goal-level impact assessment methodology shared by the RPMU has not been uniformly and/or timely implemented across the participating countries.

Also, the project has not been able to assess comprehensive impact mainly due to the very slow start with most activities picking up after mid-2011. As a result, significant impact for most of the activities is not likely to manifest for another two to five years. This realization was incorporated in the Monitoring

¹¹ Most of this impact was contributed from the activities in China. This is a natural consequence of the fact that China already had a comparatively advanced ES&L framework in place and is also a leading manufacturer and user of most of the target products

¹² BRESL Brochure – developed by BRESL RPMU

Plan presented in the project design, as it calls for starting measurement impact of various key project activities only starting year 3, including impact on GHG reductions, electricity savings, reduction in product energy use, number of manufacturers producing efficient products, number of new and efficient products produced, government procurement schemes, consumer education schemes, etc.

The project has also contributed significantly to the ES&L knowledge. At the time of BRESL design, ES&L was given little attention to the extent that local technical knowledge and capacity in most PCs was almost negligible and little or no policy or regulation existed to enforce ES&L. The BRESL focus on training and awareness-raising attempted to overcome this knowledge gap and resulted in high degree of government buy in for ES&L across the six PCs. This has in turn resulted in the development and/or enforcement of legislation, government intention to invest more in ES&L programs, and increased interest from the private sector including manufacturers and traders.

The effectiveness of south-south cooperation has been another important project outcome and has led to confidence-building in the region. Despite facing numerous hurdles in the first half, BRESL successfully overcame many challenges of coordination. China being the lead country has assisted other PCs with &SL knowledge enhancement, policy making, establishment of testing protocols, and standards development. In addition, the various TWGs have been led by different PCs, including China, Indonesia, Pakistan, and Thailand, thereby providing four of the six member countries the opportunity to share their experiences on a prioritized product. Similarly, once operational, it is expected that REESLN will promote further cooperation and even foster enhanced linkages among the PCs.

Finally, the signing of seven MRAs at the technical level among four PCs is another significant impact that was a result of project activities related to capacity building, barrier removal, and harmonization. Further work is now required to facilitate the official signing of the MRAs between the respective governments.

In brief, the Terminal Evaluation team concludes tangible achievements and impact have been realized as a result of effective south-south cooperation among the six PCs.

4. CONCLUSIONS, RECOMMENDATIONS & LESSONS

This section provides the conclusions of the Terminal Evaluation team on the project's design, implementation, and achievements. This is followed by outlining the key lessons learnt from the project design and implementation. Finally, recommendations are provided for the design of any future ES&L initiatives.

4.1. Conclusion

At the time of its design BRESL was the first regional ES&L project in Asia. The project design provided a comprehensive range of activities, covering all stakeholders and essential ES&L determinants, including policy, capacity building, manufacturer support, regional cooperation, and country-level pilot projects. However, the baseline undertaken for project design did not take into consideration the variation between PCs on understanding of ES&L and the range of limited technical capacity. Moreover, the distribution of the modest fund of USD 7.8 million among six countries and regional activities spread the project funds too thin. Considering these issues, the project design was ambitious in setting some goals to be achieved during the project duration, including signing of MRAs and assisting product manufacturers in the PCs.

During its first half, project implementation faced numerous challenges that resulted in a sluggish pace of planned activities. Major problems included little understanding and technical knowhow among the PCs, lack of trained technical manpower in the region, limited RPMU budget, and difference in priorities among the PCs that led to difficulty in activity coordination. To address these issues, the RPSC approved the RPMU's focus on three major activities that were cross-cutting across the project logical framework, namely training, TWGs, and REESLN. This concentration of focus and continued efforts at improved coordination resulted in accelerating the progress of activities.

Major project outcomes include development of ES&L legislation in the PCs, establishment of testing protocols for the target products, signing of Mutual Recognition Agreements between four countries, improved understanding of ES&L among government policy makers and technical experts, and the establishment of a regional ES&L network. BRESL has also had a significant impact on energy savings and GHG reductions, with cumulative energy savings of 175,000 Gigawatt-hours (Gwh) equivalent to 55.9 million tons of CO₂.

The focus on policy, capacity building, information exchange and knowledge transfer are measures that are likely to ensure the sustainability of project outcomes. However, major risks to sustainability include potential lack of funding to continue and build on BRESL activities, government inability to implement policy measures and developed standards, capacity of private manufacturers to produce EE products, and consumer awareness and purchasing power.

4.2. Lessons Learnt

Key lessons learnt from the project design and implementation have been as follows:

- South-south cooperation is an effective way for improving the E&SL programs of countries in the region;
- The experiences regarding the seven BRESL targeted products can be effectively applied to establishing ES&L regimes for other products in the PCs as well as non-participating countries.
- After improvement in understanding E&SL concepts, countries in the region (including public and private sector) are more supportive of the E&SL programs; and
- Future project design needs to be based on detailed baseline information regarding all stakeholders and their respective capacities and needs.

4.3. Recommendations for Regional Component

Based on the assessment of project design, implementation, and achievements, the terminal evaluation team provides the following recommendations for future ES&L projects:

- 1. Follow up BRESL project:** Due to the various reasons described above, most of the project activities did not gain momentum until mid-2011. However, the project is now on track and has started making significant contribution to the ES&L in the region. In fact, the targets have been over achieved for some significant activities such as the signing of MRAs, development of standards, etc. Moreover, encouraged by the implementation experience of BRESL, the participating countries are now enthusiastic to carry this work forward through replication and upscaling. However, the lack of funding to ensure appropriate technical support and knowledge transfer is likely to pose a substantial threat to the continuation of key activities such as official signing of MRAs, operationalization of REESLN, enactment of the various drafted policies, upgradation of testing facilities, higher participation of the manufacturers, public awareness, and enhancement of knowledge for stakeholders in both public and private sectors, etc.

It is therefore recommended that the newly designed BRESL project is presented to interested donor organizations such as GEF, JICA, USAID, World Bank, and ADB, etc. who have existing relevant technical capacities and interest in climate change and energy efficiency. The REESLN Secretariat in coordination with the PC DIPs can play a key role towards the development and materialization of a follow up project(s) or program(s).

Similarly, active partners such as the ICA and Energy Foundation should be provided important roles in future projects for working in BRESL and non-BRESL countries.

2. **Engagement of Policy Makers:** Public sector stakeholders mostly included technical agencies and their representatives. However, to push the process of legislation, it is highly recommended that the future BRESL project maintains direct linkages with legislators in the PCs through awareness and technical support activities.
3. **Private Sector Participation:** Despite some collaboration with the private sector, the primary focus of the BRESL project's capacity building activities has been on government policy makers and technical experts. To enhance ownership by the private sector future ES&L projects and activities should make efforts to enhance private sector participation. Some likely activities include inclusion of private sector in activities such as training, higher co-financing by the private sector, and help in overcoming of financial barriers through alternative financial mechanisms such as matching grants, tax breaks, and loans, etc.
4. **Capacity on Labeling Schemes:** Labeling schemes for the target products in most of the PCs are still either nonexistent or voluntary. By building on the positive project outcomes, it is recommended that the country-level capacity of labeling schemes for the target products are enhanced through training, information exchange, and implementation guidance.
5. **Baseline Scenarios:** Following the lessons learned from BRESL, it is recommended that future ES&L projects should be based on the existing technical capacity and infrastructure such as expert knowledge, laboratory capacity, etc. This assessment would ensure that proposed activities are in line with a country's existing capacity and measures can be advised for improvement of this capacity.
6. **Range of Targeted Products:** BRESL focused on the harmonization of selected products that are widely used across the PCs. However, the positive experience from working with these seven products has led CTs to the realization that any similar future project should focus on a larger number and variety of products. It is therefore recommended that a larger range of products are included in any future projects.
7. **REESLN:** Although REESLN has been established during the project's lifetime, it is expected to operationalize after the expiration of BRESL project. To ensure that the network becomes operational and achieves its planned objectives it will be necessary to provide future funding and technical support to this initiative¹³. Otherwise, the fate of REESLN will be the same as numerous other similar initiatives that have fizzled out after the expiration of funding and technical support. Moreover, the long term financial sustainability of the network should be ensured through different initiatives, e.g. fee based membership, charging for high demand services, etc.

¹³ The REESLN strategic framework has calculated these initial costs at USD 120,000 of in-kind and cash support

Also, once operational, REESLN should also be widely disseminated to concerned stakeholders in the public and private sectors in the region. Currently, only a limited number of public sector agencies are mostly aware of the presence of the network. Moreover, in the medium to long term, REESLN needs to be linked to other large scale international and regional initiatives of its kind.

- 8. Regional Reviews:** Following the UNDP-GEF guidelines, BRESL has been subject to regular internal reviews as well as a mid-term and terminal evaluation. However, based on interviews with RPMU and CTs, it is recommended that owing to its regional nature, a similar project would also benefit from additional annual external reviews so that country-level issues can be identified and corrected in time. The classification of such issues will also clarify understanding and enhance coordination between the regional and country offices.
- 9. Alternate Information Exchange Mechanisms:** The BRESL project primarily relied on face to face communication primarily comprising of the annual RPSC meetings and TWG meetings, and email communication. However, considering the complex nature of the regional project encompassing six countries, these occasional meetings are insufficient to address the project's ongoing concerns of developing a mutual understanding and improving coordination issues. Considering the resource limitations, it is recommended that alternative economical forms of ongoing communication are utilized by the RPMU, such as the establishment of quarterly video-conferencing meetings, ongoing discussion platforms, etc. The REESLN itself can be used as a starting point / platform for such interaction.
- 10. Provision of a larger and diverse pool of experts to the RPMU and PMUs:** Comprising of four individuals, including technical and support staff, the RPMU staffing structure is minimal. Consequently, the unit has to rely on consultants, partners, and sub-contractors for technical support and implementation. However, the range of expertise and pool of experts available to the RPMU has been somewhat limited in comparison to the diverse needs of the PCs. Similarly, the PMUs have had limited experience in issues such as legislation, marketing, etc. It is therefore recommended that a wider list of expertise is made available to the RPMU through activities such as signing of MOUs with public and private sector entities, developing a roster of regional consultants, etc. This expansion in the expert pool will have to be complimented with higher budgets as the required ES&L expertise is expected to be spread across the Asia and Pacific region.

Annexes

INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP support GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of the **Barrier Removal to the Cost-effective Development and Implementation of Energy Efficiency Standards and Labeling Project (BRESL)** (PIMS 3327) at the national and regional levels. This TOR is issued for the International Consultant and the National Consultant. The essentials of the BRESL Project at the national and regional level to be evaluated are as follows:

PROJECT SUMMARY TABLE

Project Title:	Barrier Removal to the Cost-effective Development and Implementation of Energy Efficiency Standards and Labeling Project (BRESL)			
GEF Project ID:	3327		<u>at endorsement</u> <u>(Million US\$)</u>	<u>at completion</u> <u>(Million US\$)</u>
UNDP Project ID:	00058669	GEF financing:	US\$ 7,800,000	
Country ¹⁴ :	Bangladesh China Indonesia Pakistan Thailand Viet Nam		1,000,000 2,000,000 1,800,000 1,000,000 1,000,000 1,000,000	
Region:	Asia	Government:	27,000,000	
Focal Area:	Climate Change Mitigation	Private Sector: Others:	40,000,000 3,000,000	
FA Objectives, (OP/SP):	5: Removal of barriers to energy efficiency and energy conservation	Total co-financing:	70,000,000	
Executing Agency:	NDRC	Total Project Cost:	US\$ 84,000,000	
Other Partners involved:	BSTI CNIS DGNRE-EC ENERCON TGO MOIT	ProDoc Signature (date project began):		February 3, 2009
		(Operational) Closing Date:	Proposed: February 2014	Actual: December 2014

¹⁴ Each Participating Country (PC) has its individual national level Project Document stating respective resource inputs, outputs/outcomes, targets and organization.

OBJECTIVE AND SCOPE

BRESL as a regional project is aimed at rapidly accelerating the adoption and implementation of energy standards and labels (ES&L) in Asia, and in so doing bring about energy savings from the use of energy efficient appliances/equipment. The project also facilitates harmonization of test procedures, standards and labels among developing countries in Asia, when appropriate, starting with the six countries, Bangladesh, China, Indonesia, Pakistan, Thailand and Vietnam as BRESL Participating Countries (PCs). The scope of the whole evaluation is at the national and regional level.

The **Goal** of the project is the reduction of GHG emissions from thermal power generation in selected Asian countries.

The **Objective** of the project is to Removal of barriers to the successful implementation of energy standards and labeling policies and programs in Asia.

In order to achieve the project Objective, the project consists of **five outcomes**, which is mutually supportive from each other.

Outcome 1: Establishment of legal and regulatory basis for removing lowest technologies from the market and promoting high-efficiency technologies.

Outcome 2: Building of institutional and individual capacity to secure on-the-ground implementation of regulatory frameworks, as well as actual standards and labeling programs.

Outcome 3: Provision of information and technical assistance to manufacturers of covered products

Outcome 4: Regional cooperation and information sharing on-going and helps to maximize impacts

Outcome 5: Demonstration of various aspects of the development and implementation of ES&L programs

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects.

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

EVALUATION APPROACH AND METHOD

The overall approach and method¹⁵ for conducting project terminal evaluations of UNDP supported GEF financed projects have developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact**, as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed

¹⁵ For additional information on methods, see the [Handbook on Planning, Monitoring and Evaluating for Development Results](#), Chapter 7, pg. 163

Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR as seen in **Annex A**. The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator team is composed of a lead international consultant (IC) and a national consultant (NC) for each of the 6 PCs. This is also referred to as the TE Team. The TE Team is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Regional Technical Adviser based in Bangkok and the key stakeholders. The NCs hired for the PCs are expected to conduct national evaluation in Dhaka, Bangladesh; Beijing, China; Jakarta, Indonesia; Islamabad, Pakistan; Bangkok, Thailand and Hanoi, Vietnam. The NCs will undertake a thorough data gathering and analysis of performance and progress in achieving outputs and outcomes and submit the result of their evaluation to the IC with a copy to RPMU. The IC in coordination with RPMU will determine which PCs will be visited by the IC based on the existence of implementation issues and adequacy of data and information to make a proper TE. Interviews will be held with the following organizations and individuals and their respective key national partners/stakeholders at a minimum:

- China National Development and Reform Commission (NDRC)
- Bangladesh Standards and Testing Institute (BSTI)
- China National Institute of Standardization (CNIS)
- Indonesia DG of New and Renewable Energy and Energy Conservation (DGNRE-EC)
- Pakistan National Energy Conservation Center (ENERCON)/ Ministry of Water & Power
- Thailand Greenhouse Gas Management Organization (TGO)
- Ministry of Industry, Vietnam (MOIT)

The TE Team will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, midterm review, progress reports, and GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in **Annex B** of this Terms of Reference.

EVALUATION CRITERIA & RATINGS

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see **Annex C**), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact**. Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in **Annex D**.

Evaluation Ratings:			
1. Monitoring and Evaluation	Rating	2. IA& EA Execution	Rating
M&E design at entry		Quality of UNDP Implementation	
M&E Plan Implementation		Quality of Execution - Executing Agency	
Overall quality of M&E		Overall quality of Implementation / Execution	
3. Assessment of Outcomes	Rating	4. Sustainability	Rating
Relevance		Financial resources:	
Effectiveness		Socio-political:	
Efficiency		Institutional framework and governance:	
Overall Project Outcome Rating		Environmental:	
		Overall likelihood of sustainability:	

PROJECT FINANCE / COFINANCE

The TE Team will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluators will receive assistance from the Country Offices (COs) in each PC and the Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

Co-financing (type/source)	UNDP own financing (mill. US\$)		Government (mill. US\$)		Partner Agency (mill. US\$)		Total (mill. US\$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Actual	Actual
Grants								
Loans/Concessions								
In-kind support								
Others*								
Totals								

* Others are referred to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.

MAINSTREAMING

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programs. The evaluation will assess the extent to which the project was successfully

mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

IMPACT

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.¹⁶

CONCLUSIONS, RECOMMENDATIONS & LESSONS

The evaluation report must include a chapter providing a set of **conclusions, recommendations** and **lessons**.

IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this evaluation resides with the UNDP CO in *(Bangladesh/China/Indonesia/Pakistan/Thailand/Vietnam)*. The respective UNDP CO in each Participating Country will contract the evaluators (in close coordination with the Country Team), ensure independence of the evaluation process and manage the timely submission of the expected deliverables and reports and the provision of per diems and travel arrangements within the country for the evaluation team. The Country Team will be responsible for liaising with the TE team to provide the necessary data/information inputs, set up stakeholder interviews, arrange field visits, coordinate with the Government, and other requirements that are necessary for the effective conduct of the evaluation.

In view of the regional scope of the BRESL Project, the UNDP CO in each of the Participating Country will be look after the overall conduct of the evaluation with UNDP CO in China acting as lead CO. The following is suggested to be the basic procedure in conducting the evaluation:

1. An International Consultant (IC) will be engaged to lead and conduct the TE process in close coordination with a National Consultant (NC) appointed by each Country Team (CT) in each of the 6 Participating Countries (PCs) following the M&E principles and procedures for UNDP/GEF-funded projects. The IC will be assisted by an NC-Regional to be hired by UNDP China. The IC, NC-Regional and the 6 NCs will form the TE Team. The TE Team will coordinate very closely with RPMU, CTs and UNDP COs.
2. At the national level, the NCs will complete document review, data gathering and analysis and submit report on initial findings, recommendations, lessons learned and best practices as well as summaries of financial evaluation and outcome (energy saving and GHG reduction) analysis and

¹⁶A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: [ROtI Handbook 2009](#)

results. At this stage, the NC report is referred to as the initial national level findings report based on the format issued by the IC for the purpose. The report will be submitted to the IC with copies to CT Head, UNDP CO in the PC and RPMU.

3. At the same time with Item #2, at the regional level, the IC and the NC-Regional will also conduct the TE of the regional activities, performance and achievement of targets as indicated in the PPM at the regional level in close coordination with the RPMU. The IC and the NC-Regional will complete document review, data gathering and analysis and submit report on initial findings, recommendations, lessons learned and best practices as well as summaries of financial evaluation and outcome (energy saving and GHG reduction) analysis and results. At this stage, the IC/NC-Regional report is referred to as the initial regional level findings report.
4. The IC will review the 6 initial national level findings reports prepared and submitted by the NCs prior to the IC Evaluation Mission to the PCs. Particularly, the IC should:
 - a) Check on the veracity of the info/data provided in the NC reports (maybe do a telecon/Skype/Viber call with the NC) on this.
 - b) Identify missing information/data and coordinate the data gathering on these prior to or during the IC's visit in the country. The Activities Inventory that were prepared for each PC will be useful for this purpose.
 - c) Check the consistency of the reported outputs and achievements based on the PC's BRESL ProDoc, and also on the documented agreed changes as reported to the RPMU and approved by the PC PSC, as well as consistency with the info reflected in the PIR reports.
 - d) Discuss with NC any issues that have to be addressed (including related to mission activities) and come up with solutions before conducting the mission.
 - e) Evaluate the rationale behind the CO₂ emission reductions that are being reported in each NC report. Discuss with the NC the actions to be taken to carry out the evaluation of the GHG emission reductions that are attributable to the national BRESL activities.

The IC/NC-Regional will also refer to the consolidated regional PIR 2014 and the 6 national PIRs 2014 submitted by the CTs to RPMU and other reports, documents and relevant references to support the performance and actual achievement of targets in connection with the BRESL Project Planning Matrix (PPM) at the national and regional levels. The IC will communicate with the NCs about his/her comments on the initial national level findings reports and advise them on how to complete the findings/recommendations and the data needed from the NCs through email communications as inputs to the Overall TE Report. In this connection, the IC/NC-Regional will prepare for and coordinate the completion of the data requirement for the Overall TE Report according to the agreed outline and contents described in the Terms of Reference (TOR) for this TE activity as approved by the UNDP RTA.

5. The IC, in coordination with RPMU, will determine which PCs will be visited by the IC based on the existence of implementation issues and adequacy/consistency of data and information to make a proper TE. The IC will then visit selected PCs (a) to validate the NC's initial national findings and recommendations reports, (b) check on completeness of all data required for TE Report, (c) interview key project officials, (d) visit pre-identified key project sites, (e) complete data gaps, (f) verify the proposed GHG emission reductions that are attributable to the BRESL national activities; (g) document evidences of the impacts of the BRESL national activities; and (h) respond to comments during the TE report review by UNDP and its finalization. The duration of the trip for each PC will be at least three (3) days each depending on extent of validation and data completion required to be coordinated by the UNDP CO and CT in the PC.
6. The IC will consolidate and prepare the overall TE Report based on the validated project accomplishments and progress in achieving the expected outcomes for the 6 PCs at the national level and the TE report of the regional activities using the agreed format in the TOR as approved by the UNDP RTA. Please see **Annex E** for the TE Report Outline. The draft of the overall TE Report shall be submitted by the IC on behalf of the TE Team to the UNDP RTA, the UNDP China CO (being the Lead CO) and BRESL CT Heads.
7. The UNDP RTA, the UNDP China CO through the Energy and Environment Group overseeing the BRESL Project and BRESL CT Heads shall provide comments on the draft overall TE Report.
8. The IC in close coordination with the NCs and CTs will document the responses to the comments, further clarification and final resolutions of issues raised and incorporate them in the TE Report to come up with the final overall TE Report to be submitted by the IC to UNDP China CO as lead CO for the project and then to the UNDP RTA for the final version of the TE Report.
9. The TE Report will be deemed finally accepted if there are no longer comments on the report by December 31 2014.

EVALUATION TIMEFRAME

The total equivalent work-days needed for the evaluation starting from the Notice of Hiring date of the IC and NCs will be 30 days and 20 days, respectively, according to the following plan for the evaluation period starting November to December, 2104:

Activity	Timing (Equivalent work-days)		Target Completion Date
	IC	NC*	
Preparation	3	3	December 1, 2014
Evaluation Mission	20	15	December 16, 2014
Draft Evaluation Report	5	2	December 31, 2014
Final Report	2		January 15, 2015
Total	30	20	

***NOTE:** The UNDP China will hire another NC (referred to herein as NC-Regional in addition to the NC for China), to assist the IC in regional project activities and consolidation of reports. All NCs will have 20 work-days.

EVALUATION DELIVERABLES

The evaluation team is expected to deliver the following:

Deliverable	Content	Timing	Responsibilities
Inception Report	IC/NC-regional and NCs provide clarifications on timing and method	No later than 1 week before the Evaluation Mission.	IC and NCs submit to Country Team, UNDP CO and RPMU
Presentation	Initial Findings	End of evaluation mission	To Country Team & UNDP CO
Draft Final Report	Full report, (per annexed template) with annexes	Within 1 week after the Evaluation Mission	Sent to Country Team & UNDP CO, reviewed by RTA, RPMU, UNDP China
Final Report*	Revised report	Within 1 week of receiving UNDP comments on draft	Sent to RPMU and UNDP China for final BRESL TE report.

*When submitting the Terminal Evaluation report, the TE Team is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the TE report.

TEAM COMPOSITION

The TE Team will be composed of one (1) International Consultant also acting as and Team Head and one (1) National Consultant each of the 6 Participating Countries. The consultants shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The TE Team will have the following key responsibilities:

International Consultant

The International Consultant shall be responsible for completing and delegating tasks as appropriate for the Terminal Evaluation to the National Counterpart. He/she will ensure the timely submission of

the first draft and the final version of the Terminal Evaluation Report with incorporated comments from UNDP and others.

National Consultants

The National Consultant will, jointly with, and under the supervision of the International Consultant, support the evaluation. He/she will be responsible to review documents, translate necessary documents and interpret interviews, meetings and other relevant events for the International Consultant. He/she will work as a liaison for stakeholders of the project and ensures all stakeholders of the project are aware of the purposes and methods of the evaluation and ensures all meetings and interviews take place in a timely and effective manner. The NC shall prepare the initial national level findings report based on the format issued by the IC for the purpose. The NC-Regional will assist the IC in regional project activities and consolidation of reports.

The Team members must satisfy the following qualifications:

International Consultant

- Post-Graduate in Engineering, Management or Business
- Minimum of ten years accumulated and recognized experience in energy efficiency and climate change projects
- At least 3 years technical experience in power generation and/or cogeneration engineering or operations.
- Technical experience in the application of microturbines in power generation and/or cogeneration and/or Microturbine Cogeneration Technology is advantageous as well as
- Minimum of five years of project evaluation and/or implementation experience in the result-based management framework, adaptive management and UNDP or GEF Monitoring and Evaluation Policy
- Demonstrated ability to assess complex situations, succinctly, distils critical issues, and draw forward-looking conclusions and recommendations.
- Ability and experience to lead multi-disciplinary and national teams, and deliver quality reports within the given time
- Familiar with developing countries context or regional situations relevant to that of the Participating Countries
- Experience with multilateral and bilateral supported EE and climate change projects
- Comprehensive knowledge of international Energy Efficiency (EE)/ Renewable Energy (RE) industry best practices
- Very good reports writing and presentation skills in English.

National Consultant

- Having a Master or Doctorate degree in engineering, economics or other scientific/technical field with relevance to energy efficiency;
- Minimum 5 years of working experience in energy efficiency area;

- Knowledge of UNDP and GEF
- Previous experience with results-based monitoring and evaluation methodologies;
- Excellent literature capability
- Outstanding speaking, reading and writing skills in English.

EVALUATOR ETHICS

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (**Annex E**) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the [UNEG 'Ethical Guidelines for Evaluations'](#)

PAYMENT MODALITIES AND SPECIFICATIONS

(This payment schedule is indicative, to be filled in by the Country Team or UNDP CO based on their standard procurement procedures)

%	Milestone
10%	At contract signing
40%	Following submission and approval of the 1ST draft terminal evaluation report
50%	Following submission and approval (UNDP-CO and RPMU) of the final terminal evaluation report of each country

APPLICATION PROCESS

Applicants are requested to apply online (indicate the site, such as <http://jobs.undp.org>, etc.) by October 10. Individual consultants are invited to submit applications together with their CV for these positions. The application should contain a current and complete C.V. in English with indication of the e-mail and phone contact. The candidates will be requested to submit a price offer indicating the total cost of the assignment (including daily fee, per diem and travel costs) following the prescribed format in **Annex F**.

UNDP applies a fair and transparent selection process that will take into account the competencies/skills of the applicants as well as their financial proposals. Qualified women and members of social minorities are encouraged to apply.

- i. Inception Report of GEF Regional Project, Project Title: PIMS 3327 Barrier Removal to Cost Effective Development and Implementation of Energy Efficiency Standards and Labeling (BRESL), Country: Bangladesh
- ii. Inception Report, Barrier Removal to Cost Effective Development and Implementation of Energy Efficiency Standards and Labeling (BRESL), China Activities
- iii. Inception Report, Barrier Removal to Cost Effective Development and Implementation of Energy Efficiency Standards and Labeling (BRESL), Indonesia Activities
- iv. UNDP Project Document, Government of Pakistan and United Nations Development Programme, Barrier Removal to Cost Effective Development and Implementation of Energy Efficiency Standards and Labeling (BRESL), Pakistan National Activities
- v. Inception Report, Barrier Removal to Cost Effective Development and Implementation of Energy Efficiency Standards and Labeling (BRESL), Thailand Activities
- vi. Detailed Project Outlines, Vietnam Ministry of Industry and Trade
- vii. Inception Report, Barrier Removal to Cost Effective Development and Implementation of Energy Efficiency Standards and Labeling (BRESL), Regional Activities
- viii. Summary of the 2014 TWG Resolutions
- ix. Final Approved ProDoc BRESL FSP
- x. KII Sheet with RPMU Staff
- xi. Objectively Verifiable Indicator (Draft 1)
- xii. Presentation on Project Introduction and Program Overview, Li Tienan, BRESL RPMU
- xiii. List of REESLN Members who have already Submitted Official Intention Letter to be the REESLN Members
- xiv. Schedule of Terminal Evaluation
- xv. Minutes for 1st BRESL RPSC Meeting, 6-7 August 2009, Beijing, China
- xvi. BRESL Project Operations Manual, 1 October 2009
- xvii. Project Annual Report, 12 February 2010
- xviii. Project Annual Report (Regional), 12 February 2010
- xix. Minutes for 2nd BRESL RPSC Meeting, 15-16 April 2010, Hanoi, Vietnam
- xx. Minutes for 3rd BRESL RPSC Meeting, 6-8 April 2011, Bali, Indonesia
- xxi. Annual Project Progress Report, January 2012
- xxii. Minutes for 4th BRESL RPSC Meeting, 26-28 March 2012, Phuket, Thailand
- xxiii. BRESL Mid Term Review Report, August 2012
- xxiv. Annual Project Progress Report, January 2013
- xxv. Minutes for 5th BRESL RPSC Meeting, 10-11 April 2013, Langkawi, Malaysia
- xxvi. Annual Project Progress Report (Consolidated), January 2014
- xxvii. Quarterly Project Progress Report BRESL, 21 April 2014
- xxviii. Minutes for 6th BRESL RPSC Meeting, 26-28 April 2014, Hanoi, Vietnam
- xxix. Quarterly Project Progress Report BRESL, 9 July 2014
- xxx. Quarterly Project Progress Report BRESL, 21 October 2014

KII with RPMU STAFF

Date:

Name(s) of Staff:

Position(s) in Project:

Contact Info:

Name of Interviewer:

I- PROJECT DESIGN

1. Who were the key stakeholders involved in the project design?
2. Is the project design relevant to the context of implementation?
3. What are the factors in the project design that have facilitated good/easy implementation?
4. What are the factors in the project design that have made implementation difficult?
5. Is the log-frame easy to implement and monitor?
6. Are the financial provisions in the project document sufficient for the various activities?

II- PROJECT IMPLEMENTATION**i. Implementation Arrangements**

1. Who are the key implementing stakeholders?
2. What has been the role of the different key stakeholders in project implementation, including UNDP, NDRC, RPMO, Country PMOs, RPSC, and sub-contractors, etc.?
3. How is RPMU organized? What are the key responsibilities of the RPMU?
4. What is the role of each individual in the project?
5. What problems has the RPMU staff faced in implementation? E.g. limited staffing to manage a widely spread project, slow response time from project countries, limited understanding of project goals and objectives among countries, availability of technical resources, etc.
6. How have these issues impacted project implementation?
7. Have some of these issues been resolved? If yes, how? If not, what are the problems with resolution?

ii. RPSC

1. How is the RPSC composed?
2. How often does the RPSC meet?
3. What is the role of the RPSC?
4. How has the RPSC assisted in successful implementation of project activities?
5. What have been some of the challenges faced by the RPSC?
6. How could the role of the RPSC have been further improved?

iii. Adaptive Management

1. Have there been any changes to the project document, e.g. planned project activities, budget, or logical framework, etc. during the implementation period?
2. What are these changes? Why were these made?
3. What was the process of making the changes? E.g. approvals from country offices, RPSC, UNDP, etc.
4. How have these changes been helpful in achieving the project's objectives?

iv. Coordination Among Stakeholders

1. What have been the different ways of communication and coordination with the different stakeholders, including country offices, UNDP, NDRC, RPSC, etc.
2. What were the important decisions/outcomes of this coordination?
3. How did this coordination help in achieving the project's objectives?
4. What were the major issues faced in coordination between different stakeholders, e.g. difference of understanding of project, difference in priorities, etc.
5. How were these issues resolved?

v. M&E

1. What are the key components of the project's M&E system?
2. How are the responsibilities of M&E divided between the RPMU and country PMU's?
3. Who at the RPMU is responsible for the Monitoring and Reporting of project activities?
4. What have been the various activities undertaken by the RPMU to monitor project progress?
5. Who designed the M&E system?
6. What have been some of advantages / positive attributes of the M&E system?
7. What have been the challenges of implementing the M&E system? E.g. activities are difficult to track, lack of coordination between country programs, insufficient staffing, etc.
8. How could these issues be resolved?
9. Has the project developed a system to assess impact? E.g. monitoring surveys recommended in the project design, impact assessment survey, etc.
10. If yes, what have been the key results for EACH project outcome?

11. If no, why has the project not been able to assess impact?

vi. Finance

1. Have the financial resources allocated for activities been sufficient?
2. If no, why not?
3. Have there been any changes made to financial allocations for any activities? If yes, what were these changes?
4. What has been the process of having these changes approved?
5. How is financial planning coordinated between the RPMU and project countries?
6. What have been some of the problems with financial planning or coordination? E.g. lack of agreement on activities or budgets, late release of funds by the UNDP, etc.
7. Who is responsible for financial planning at the RPMU level?
8. Who is responsible for financial management and reporting at the RPMU? Are the services of this agency satisfactory? If no, why not?
9. Have the stakeholders provided their committed co-financing? If no, what are the likely reason for this?
10. (Analysis of provided co-financing by partner governments and stakeholders, etc.)
11. Does the RPMU have an organized mechanism to track co-financing?
12. If no, why not? E.g. lack of human resources, complications due to a widespread project, etc.
13. Analysis of Annual Delivery rate of GEF Funds
14. Analysis of utilization of GEF-funds at outcome and activity levels
15. Analysis of co-financing at outcome and activity levels

vii. Planning

1. What is the reason for the project's extension from December 2013 to December 2014?
2. How did these problems affect project implementation?
3. Are any planned project activities outstanding? If yes, why?
4. Will these be completed before project end? If no, why not?
5. What does the follow-up project focus on? Which countries are included in the follow-up project?

viii. Sub-Contracts (SCs)

1. What is the process of awarding SCs?
2. How many activities were sub-contracted by the RPMU?
3. Is there any overlap between the SCs funded by the RPMU and different country programs? If yes, what is it?
4. Are any SCs outstanding? If yes, when are they likely to finish?

5. Who have been the main SCs at the regional level? How have they contributed to achieving the project outcomes?
6. What have been the benefits of implementation through the SCs? (e.g. leverage in capacity, capacity building, etc.)
7. What have been the challenges of implementing through the SCs? E.g. inadequate capacity, insufficient reporting, delayed or ineffective outputs, etc.
8. Analysis of SCs (Title, Date of Award, Implementing Agency, Value in USD, Countries Involved, Completion Status)

III. RESULTS

i. Achievement of Outcomes and Outputs

1. Has the project achieved its targets in the logical framework?
2. If no, which of the targets have been under-achieved? What has been the reason for that?
3. Have any targets been over-achieved? If yes, by what proportion? What factors have contributed to this over-achievement?
4. A summary of achievements against goal and each outcome at the RPMU level
5. What have been the major challenges faced in achieving the outcomes? E.g. lack of human resources, non-conducive country-level policy environment, stakeholder buy-in, etc. (A summary challenges under each outcome).

ii. Impact

1. What has been the major project impact at the regional level?
2. What has been the major project impact at the country level?
3. Has this impact been systematically assessed? If yes, how?
4. What has been the impact of project activities on achieving its goals?

iii. Sustainability

1. Which of the project outputs / outcomes are sustainable? Why?
2. What can be done to ensure further sustainability of these outputs/outcomes?
3. Which of the project outputs/outcomes are least sustainable or unsustainable? Why?
4. What measures can be undertaken to ensure the sustainability of these?

iv. Country Ownership

1. How is the ownership of the lead country Government, i.e. GOC demonstrated? E.g. co-financing, development of linkages, provision of high quality staff, resolution of problems faced by the project, etc.
2. How has this contributed to achievement of the project outcomes?

3. How has the private sector demonstrated ownership? E.g. taking up project activities, increase in market share, sharing of information, co-financing, etc.
4. How has the contribution of the private sector helped in achieving the project outcomes?
5. How have regional stakeholders showed their ownership of the project?
6. What have been the problems by ownership of any of the above stakeholders, e.g. lack of policy support, lack of funds, etc.
7. How has this limited the project from achieving its outcomes?

IV. LESSONS LEARNED

1. What are the key lessons learned from project design?
2. What are the overall key lessons learned from project implementation? E.g. collaboration with different country governments, implementation modalities, data management systems, etc.
3. What are the specific lessons learned from implementation of each outcome?

V. RECOMMENDATIONS

1. What are the RPMU's recommendations for future programming and implementation
2. What is required to implement these recommendations?

KII with Country PMU STAFF

Date:

Name(s) of Staff:

Position(s) in Project:

Contact Info:

Name of Interviewer:

I. PROJECT DESIGN

1. How was your country involved in project design?
2. Is the project design relevant to the context of implementation?
3. What are the factors in the project design that have facilitated good/easy implementation?
4. What are the factors in the project design that have made implementation difficult?
5. Is the log-frame easy to implement and monitor?
6. Are the financial provisions in the project document sufficient for the various activities?

II. PROJECT IMPLEMENTATION**i. Implementation Arrangements**

1. Who are the key implementing stakeholders at the country level?
2. What has been the role of the different key stakeholders in project implementation?
3. How is the Country PMU organized? What are the key responsibilities of the PMU?
4. What is the role of each individual PMU staff in the project?
5. What problems has the PMU staff faced in implementation? E.g. limited staffing to manage a widely spread project, slow response time from project countries, difficulty coordinating with RPMU, limited understanding of project goals and objectives among countries, availability of technical resources, etc.
6. How have these issues impacted project implementation at the country and regional levels?
7. Have some of these issues been resolved? If yes, how? If not, what are the problems with resolution?

ii. Adaptive Management

1. Have there been any changes to the project document related to country level activities, e.g. planned project activities, budget, or logical framework, etc. during the implementation period?

2. What are these changes? Why were these made?
3. What was the process of making the changes? E.g. approvals from country offices, RPSC, UNDP, etc.
4. How have these changes been helpful in achieving the project's objectives?

iii. Coordination Among Stakeholders

1. What support has the country PMU received from the UNDP country office and UNDP China?
2. What support has the country PMU received from the RPMU?
3. What support has the country PMU received from the RPSC?
4. Were there any issues faced in collaborating with UNDP, RPMU, or RPSC?
5. What have been the different ways of communication and coordination with the different stakeholders, including UNDP, RPSC, other country PMUs, etc.
6. What were the important decisions/outcomes of this coordination?
7. How did this coordination help in achieving the project's objectives?
8. What were the major issues faced in coordination between different stakeholders, e.g. difference of understanding of project, difference in priorities, limited staffing, etc.
9. How were these issues resolved?

iv. M&E

1. What are the key components of the project's M&E system at the country level?
2. Who at the country PMU is responsible for the Monitoring and Reporting of project activities?
3. What have been the various activities undertaken by the country PMU to monitor project progress?
4. Who designed the M&E system?
5. How does this M&E system feed into the overall project M&E?
6. What have been some of advantages / positive attributes of the M&E system?
7. What have been the challenges of implementing the M&E system? E.g. activities are difficult to track, lack of coordination between country programs or RPMU, insufficient staffing, etc.
8. How could these issues be resolved?
9. Has the project developed a system to assess impact? E.g. monitoring surveys recommended in the project design, impact assessment survey, etc.
10. If yes, what have been the key results for EACH project outcome?
11. If no, why has the project not been able to assess impact?

v. Finance

1. Have the financial resources allocated for activities been sufficient?
2. If no, why not?

3. Have there been any changes made to financial allocations for any activities? If yes, what were these changes?
4. What has been the process of having these changes approved?
5. How is financial planning coordinated between the project countries and RPMU?
6. What have been some of the problems with financial planning or coordination? E.g. lack of agreement on activities or budgets, late release of funds by the UNDP, etc.
7. Who is responsible for financial planning at the country PMU level? How does this financial planning feed into the regional planning?
8. Have the stakeholders provided their committed co-financing? If no, what are the likely reason for this?
9. (Analysis of provided co-financing by partner governments and stakeholders, etc.)
10. Does the PMU have an organized mechanism to track co-financing?
11. If no, why not? E.g. lack of human resources, complications due to a widespread project, etc.
12. Analysis of Annual Delivery rate of GEF Funds
13. Analysis of utilization of GEF-funds at outcome and activity levels
14. Analysis of co-financing at outcome and activity levels

vi. Planning

1. What was the planned and actual project start date in your country?
2. If delayed, what were the reasons for the delay?
3. How has this delay affected the project's activities?
6. How did the delay in project closure from 2013 to 2014 affect project implementation?
7. Are any planned project activities outstanding? If yes, why?
8. Will these be completed before project end? If no, why not?
9. Are there any follow up projects or activities planned in your country? If yes, please provide details

vii. Sub-Contracts (SCs)

1. What is the process of awarding SCs?
2. How many activities were sub-contracted by the Country PMU?
3. Is there any overlap between the SCs funded by the RPMU and different country programs? If yes, what is it?
4. Are any SCs outstanding? If yes, when are they likely to finish?
5. Who have been the main SCs at the country level? How have they contributed to achieving the project outcomes?
6. What have been the benefits of implementation through the SCs? (e.g. leverage in capacity, capacity building, etc.)

7. What have been the challenges of implementing through the SCs? E.g. inadequate capacity, insufficient reporting, delayed or ineffective outputs, etc.
8. Analysis of SCs (Title, Date of Award, Implementing Agency, Value in USD, Countries Involved, Completion Status)

III. RESULTS

i. Achievement of Outcomes and Outputs

1. Has the project achieved its targets in the logical framework (especially those assigned to your country PMU)?
2. If no, which of the targets have been under-achieved? What has been the reason for that?
3. Have any targets been over-achieved? If yes, by what proportion? What factors have contributed to this over-achievement?
4. A summary of achievements against goal and each outcome at the Country PMU level
5. What have been the major challenges faced in achieving the outcomes? E.g. lack of human resources, non-conducive country-level policy environment, stakeholder buy-in, etc. (A summary challenges under each outcome).

ii. Impact

1. What has been the major project impact at the country level?
2. Has this impact been systematically assessed? If yes, how?
3. What has been the impact of project activities on achieving its goals?

iii. Sustainability

5. Which of the project outputs / outcomes are sustainable? Why?
6. What can be done to ensure further sustainability of these outputs/outcomes?
7. Which of the project outputs/outcomes are least sustainable or unsustainable? Why?
8. What measures can be undertaken to ensure the sustainability of these?

iv. Country Ownership

1. How is the ownership of your country Government been demonstrated? E.g. co-financing, development of linkages, provision of high quality staff, resolution of problems faced by the project, etc.
2. How has this contributed to achievement of the project outcomes?
3. How has the private sector in your country demonstrated ownership? E.g. taking up project activities, increase in market share, sharing of information, co-financing, etc.
4. How has the contribution of the private sector helped in achieving the project outcomes?
5. How have other stakeholders in your country showed their ownership of the project?

6. What have been the problems by ownership of any of the above stakeholders, e.g. lack of policy support, lack of funds, etc.
7. How has this limited the project from achieving its outcomes?

IV. LESSONS LEARNED

1. What are the key lessons learned from project design?
2. What are the overall key lessons learned from project implementation? E.g. collaboration with different country governments, implementation modalities, data management systems, etc.
3. What are the specific lessons learned from implementation of each outcome?

V. RECOMMENDATIONS

1. What are the Country PMU's recommendations for future programming and implementation
2. What is required to implement these recommendations?

KII with Sub-Contractors

Date:

Name(s) of Staff:

Position(s) in Project:

Contact Info:

Name of Interviewer:

I. BACKGROUND

1. Since when has your organization been engaged with the project?
2. What project activities is your organization involved with?
3. How is the project related to the mandate of your organization?

II. PROJECT DESIGN

1. Has your organization been involved in the project design? If yes, how?
2. Is the project design relevant to the context of implementation?
3. What are the factors in the project design that have facilitated good/easy implementation?
4. What are the factors in the project design that have made implementation difficult? How could these have been improved?

III. PROJECT IMPLEMENTATION**i. Coordination Among Stakeholders**

1. What implementation support have you received from the RPMO/Country PMO?
2. How did this support help you in achieving your objectives?
3. What challenges did you face in receiving support from the PMO/RPMO? E.g. delayed funds, lack of direction, etc.
4. How could this support be further improved?
5. How does your organization collaborate with other project stakeholders, e.g. other SCs, country offices, etc?e.g. regular meetings, participation in RPSC, etc.
6. How has this collaboration contributed to the implementation of the project activities?
7. How can this collaboration have been further improved?

ii. M&E

1. What tools/methods have you used to track the progress and impact of the project activities implemented by you?
2. How has the PMU/RPMU helped your organization in monitoring the project activities?
3. How often do you report progress to the RPMU/PMU?
4. What problems have you faced in monitoring the activities? E.g. inadequate staffing, difficult to track outputs, etc.
5. How could these be resolved?
6. Has your organization undertaken activities to assess project impact? If yes, what has been the outcome of these activities?

iii. Finance

1. Have the financial resources allocated for activities been sufficient?
2. If no, why not?
3. Have there been any changes made to financial allocations for any activities undertaken by your organization? If yes, what were these changes and how did they affect the activities?
4. Has your organization provided its committed co-financing? If no, what are the likely reasons for this?
5. What is the process of tracking co-financing?

iv. Planning

1. How has any delay in project implementation affected the activities undertaken by your organization?
2. Are there any follow up projects or activities relevant to this project planned in your organization? If yes, please provide details

IV. RESULTS**i. Achievement of Outcomes and Outputs**

1. Has the project effectively achieved its planned targets?
2. What factors have contributed to these achievements?
3. If the project has failed to achieve key targets/outcomes, what are the likely reasons for this?
4. How could these issues have been avoided?

ii. Impact

1. What has been the major project impact at the country and regional levels?
2. How has the project contributed to the development of your organization? (e.g. training, technology transfer, etc.)

3. What are the likely medium and long term benefits of this capacity building for your organization?
4. What further activities/support are required for the sustainability of this impact?

iii. Sustainability

1. In your opinion, which of the project outputs / outcomes are sustainable? Why?
2. What can be done to ensure further sustainability of these outputs/outcomes?
3. Which of the project outputs/outcomes are least sustainable or unsustainable? Why?
4. What measures can be undertaken to ensure the sustainability of these?

V. LESSONS LEARNED

1. What are the key lessons learned from project design?
2. What are the overall key lessons learned from project implementation? E.g. collaboration with different country governments, implementation modalities, data management systems, etc.
3. What are the specific lessons learned from implementation of each outcome?

VI. RECOMMENDATIONS

1. What are your recommendations for future programming and implementation?
2. What is required to implement these recommendations?

KII with UNDP China/NDRC

Date:

Name(s) of Staff:

Position(s) in Project:

Contact Info:

Name of Interviewer:

I. PROJECT DESIGN

1. What is the background that led to the project design?
2. Is the project design relevant to the context of implementation?
3. What are the factors in the project design that have facilitated good/easy implementation?
4. What are the factors in the project design that have made implementation difficult?
5. Is the log-frame easy to implement and monitor?
6. Are the financial provisions in the project document sufficient for the various activities?

II. PROJECT IMPLEMENTATION**i. Implementation Arrangements**

1. What has been the role of the different key stakeholders in project implementation, including UNDP, NDRC, RPMO, Country PMOs, RPSC, and sub-contractors, etc.?
2. What were the key facilitating factors for the project to achieve its outcomes?
3. What have been the key challenges faced in implementing the project's activities?
4. How have these affected project implementation?
5. What measures have been taken to mitigate these challenges?

ii. RPSC

1. How has the RPSC assisted in successful implementation of project activities?
2. What have been some of the challenges faced by the RPSC?
3. How could the role of the RPSC have been further improved?

iii. Coordination Among Stakeholders

1. What have been the different ways of communication and coordination with the different stakeholders, including country offices, UNDP, NDRC, RPSC, etc.
2. What were the important decisions/outcomes of this coordination?
3. How did this coordination help in achieving the project's objectives?
4. What were the major issues faced in coordination between different stakeholders, e.g. difference of understanding of project, difference in priorities, etc.
5. How were these issues resolved?

iv. M&E

1. What have been the challenges of implementing the M&E system? E.g. delayed reporting, activities are difficult to track, lack of coordination between country programs, insufficient staffing, etc.
2. How were these issues resolved?

v. Finance

1. Have the financial resources allocated for activities been sufficient?
2. If no, why not?
3. Has the project faced any problems with financial planning or coordination? E.g. lack of agreement on activities or budgets, late release of funds by the UNDP, etc.
4. How were these issues resolved?
5. Have the stakeholders provided their committed co-financing? If no, what are the likely reason for this?

vi. Planning

1. What is the reason for the project's extension from December 2013 to December 2014?
2. How did these problems affect project implementation?
3. What does the follow-up project focus on? Which countries are included in the follow-up project?

III. RESULTS**i. Impact**

1. What has been the major project impact at the regional level?
2. What has been the major project impact at the country level?

ii. Sustainability

1. Which of the project outputs / outcomes are sustainable? Why?

2. What can be done to ensure further sustainability of these outputs/outcomes?
3. Which of the project outputs/outcomes are least sustainable or unsustainable? Why?
4. What measures can be undertaken to ensure the sustainability of these?

iii. Country Ownership

1. How is the ownership of the lead country Government, i.e. GOC demonstrated? E.g. co-financing, development of linkages, provision of high quality staff, resolution of problems faced by the project, etc.
2. How has the ownership of partner country governments been?
3. How has this contributed to achievement of the project outcomes?
4. How have regional stakeholders showed their ownership of the project?
5. What have been the problems by ownership of any of the above stakeholders, e.g. lack of policy support, lack of funds, etc.
6. How has this limited the project from achieving its outcomes?

IV. LESSONS LEARNED

1. What are the key lessons learned from project design?
2. What are the overall key lessons learned from project implementation? E.g. collaboration with different country governments, implementation modalities, data management systems, etc.
3. What are the specific lessons learned from implementation of each outcome?

V. RECOMMENDATIONS

1. What are the recommendations for future programming and implementation
2. What is required to implement these recom

NO	DATE	TIME	MAIN WORK CONTENT		
1	Dec. 19 (Friday)	10:00-11:00	Inception meeting with UNDP	UNDP	
		13:30-17:00	Internal Meeting between RPMU and TE team	RPMU	
2	Dec. 20 (Saturday)	9:00-17:00	Terminal Evaluation	RPMU	
3	Dec.21 (Sunday)	9:00-17:00	Terminal Evaluation		
4	Dec.22 (Monday)	10:30-11:30	Interview with RPMU	RPMU	
		13:00-15:00	Internal Meeting between RPMU and TE team		
5	Dec.23 (Tuesday)	11:00-12:00	Interview with Indonesia Country Team	Confirmed (Skype meeting)	Mr. AsepSuwarna Position:NPM of Indonesia CT Skype: asep.suwarna1
		13:00-14:00	Interview with Pakistan Country Team	Confirmed (Skype meeting)	Ms. TamanaBanori Position: NPC of Pakistan CT Suspending
		15:00-17:00	Interview with CTA	Confirmed (Skype meeting)	Mr.RogelioAldover Position: CTA of RPMU Skype: rogerzaldover
6	Dec.24 (Wednesday)	9:30-10:30	Interview of representative with key subcontractor (CSC)	Confirmed (Face-to-face meeting in CQM)	Representatives from CSC
		10:00-10:30	Interview with TWG expert	Confirmed (by cell phone)	Mr.Liu Wei Position: Team leader of Rice Cooker Working Group Cell: 139 1075 3387
		11:00-12:00	Interview with Bangladesh Country Team	Suspending	

		13:00-15:00	Interview with China Country Team	Confirmed (Face-to-face meeting in CQM)	Ms.XiaYujuan
7	Dec.25 (Thursday)	9:30-10:30	Terminal Evaluation	Suspending	
		10:30-11:30	Interview of representative with key co-financer (ICA)	Suspending	
		13:00-14:30	Visit to NDRC and interview with RPD/NPC	Suspending	
		15:00-16:00	Terminal Evaluation		
8	Dec.26 (Friday)	10:00-11:00	Terminal Evaluation		
		13:00-15:00	Internal Meeting between RPMU and TE team	RPMU/UNDP	
		15:00-17:00	Summary		
Completed					

Name	Designation	Organization
Ms. Shijun Liu	Project Manager	UNDP China
Ms. Teng Yue	Project Officer	UNDP China
Mr. Li Tienan	Director	RPMU
Ms. Ma Xiaoti	Project Manager	RPMU
Ms. Tamana Banori	Project Manager	Pakistan PMU
Mr. Shahjahan Chowdhury	Project Manager	Bangladesh PMU
Mr. Asep Suwarna	Project Manager	Indonesia PMU
Mr. Rogelio Aldover	Chief Technical Advisor	RPMU
Mr. Liu Wei	Expert	TWG (Rice Cooker)
Ms. Xia Yujuan		China PMU
Ms. Yi Tian	Technical Specialist	RPMU
Mr.		CSC Representative

OTHER KEY PARTNERS OF BRESL	
PARTNER	ROLE
International Copper Association (ICA)	Provide support for development of MEPS and labeling schemes, market awareness and education, and technical assistance to manufacturers on three of the core BRESL products: air conditioners, electric motors, and fluorescent lamp ballasts. ICA's in-kind contribution to BRESL (US\$ 2.90 million)
ELI Quality Certification Institute	Manages international certification and labeling program for high-quality compact fluorescent lamps (CFLs). Can be key strategic partner with BRESL program. Institute is under management of China Standardization Center.
International CFL Harmonization Institute	Provide technical support including round-robin testing, conduct of international events, linkage to an international web site (www.apec-esis.org/cfl), consulting input and analysis and participation by the CFL industry. The MTR noted that arrangement with the APEC/ESIS will no longer be pursued. Committed cost-sharing activities of US\$ 200,000 will therefore not be available to the project.
Australian Greenhouse Office	Provide funding support for regional harmonization activities that will be carried out by the Project, along with its current work with APEC. AGO is contributing US\$ 100,000 as co-financing input.
Energy Foundation in China	Provide support for activities focusing on ES&L policy making and capacity building, appliance/equipment manufacturer support and regional cooperation activities on ES&L. It has committed to provide co-financing of US\$ 600,000.
Collaborative Labeling and Appliance Standard Program (CLASP), USA.	Provide technical assistance support for the ES&L policymaking and regional cooperation programs of the BRESL project. It has committed also to contribute US\$ 5,000 as co-financing input.
Korea Energy Management Corporation (KEMCO)	Provide technical assistance including the man-days contributed by two Korean experts at each of the 5 Technical Working Group meetings each year. It also includes an estimated US\$ 2,600 per year of S&L-related program costs (formerly the commitment of the Korean Government).

MAIN STAKEHOLDERS AT THE NATIONAL LEVEL	
INSTITUTIONS	ROLE IN ES&L
Bangladesh	
Bangladesh Standards & Testing Institute (BSTI)	Lead agency for development of MEPS and also for establishing processes and institutions for energy performance testing.
Center for Energy Studies, Bangladesh University of Engineering & Technology (CES-BUET)	Responsible for analysis and implementation in end-use energy efficiency, including cooperation on ES&L in Bangladesh.
China (Lead Country)	
National Development	Lead agency overseeing energy policy and regulatory and legal framework

and Reform Commission (NDRC)	for ES&L in China.
Standards Administration of China (SAC)	Oversight of minimum energy performance standards (MEPS), mandatory labeling, and endorsement labeling in China.
China National Institute for Standardization (CNIS)	Implementing agency for MEPS and mandatory labeling in China. Under SAC.
Indonesia	
Directorate General for Electricity and Energy Utilization (DGEEU)	Lead agency for developing and implementing energy efficiency and ES&L in Indonesia.
Pakistan	
National Energy Conservation Centre (ENERCON)	Lead agency for the programming and implementation of the Government of Pakistan's energy conservation and energy efficiency efforts.
Thailand	
Department of Alternative Energy and Energy Efficiency (DEDE)	Lead implementing agency on energy efficiency and ES&L. DEDE has authority to develop MEPS and to designate endorsement levels for high-efficiency products.
Electricity Generation Authority of Thailand (EGAT)	Key implementing agency for Thailand's successful voluntary comparative energy labeling programs.
Thailand Industrial Standards Institute (TISI)	Lead agency for developing and implementing mandatory standards for product safety and quality. Also responsible for enacting MEPS as Thailand national standards.
Electrical and Electronics Institute (EEI)	Quasi-government laboratory responsible for energy performance testing on behalf of EGAT and government ES&L programs.
Vietnam	
Ministry of Industry (MOI)	Lead agency for developing energy labeling criteria, regulations for MEPS, and working with MOST to ensure that these are developed as national standards and implemented.
Ministry of Standards (MOS)	Lead agency for developing and implementing mandatory standards for product safety and quality. Also responsible for enacting MEPS as Thailand national standards.
Electricity of Vietnam	Implementing voluntary programs on end-use efficiency, including certification of high-efficiency equipment. Supports ES&L activities in cooperation with MOI.

ACTIVITY NO.	ORIGINAL PLAN	NEW PLAN	NATIONAL SUB-ACTIVITY	REGIONAL SUB-ACTIVITY
2.1	Training to Strengthen and Enable Public Institutions to Support Development and Implementation of ES&L Programs	To be Reserved. The training will play an important role in the whole program. As the lead country of BRESL, China will fully disseminate technical analysis methods, successful experiences and best practices during the process of ES&L designing, implementing and evaluating, in order to promote the development and implementation of ES&L in other BRESL countries, and the adoption the ES&L model of China. The training workshop will be hold 2-3 times per year. The training material will be based on the survey questionnaire of TNA.	No Change	The name of the activities will not change. But the scope, times and content of the training workshop will be expanded.
2.2	Capacity Enhancement in the Development and Implementation of Standards and Labeling for the 6 Targeted Products	To be Reserved. The position of international lighting/motor/appliances experts will be cancelled as no fitted candidates. The TWG expert of the lead country for each product will be the group leader, organizing the development of test procedure, standard and label for each products. There will be at least 2 TWG workshops every year.	No Change	No Change
2.3	Strengthening of National and Regional Testing and Certification Infrastructure	To be Adjusted. The implementation of robin test faces many difficulties. Only one product will be selected to conduct the test. In addition, a training workshop will be added, which focus on testing labs registration and management, specific product testing capacity building.	No Change	The name of the activities will not change. Budget decreased because of fewer products to be tested.
2.4	Strengthening of Data Collection and Reporting Procedures on Equipment Availability and Sales by Efficiency Level in Participating Countries	To be Reserved. The international expert/ subcontract institution will finish the work. The procedure will be used in the database of REESLN, providing technical support for the following work. The market survey will be cancelled. The dissemination meeting will be combined in the other workshops in order to reduce the external cost.	No Change	The name of the activities will not change. The promotion activity for adopting the procedures will

				be combined with TWG meeting. So it will cost less.
3.1	Product Technical Analysis and Reports	To be Reserved. The international expert/ subcontract institution and national efficiency experts from each CTs will finish the work together. The report will be finished through desk review. The visit to local manufacturer will be cancelled.	-----	The visit to local manufactures will be cancel because lack of IE. The other activities remain the same names. The desk review of course will cost less.
3.2	Educational Workshops for Manufacturers and Retailers on Impacts of Standards on Manufacturers and Retailers and Ways to Work with Standards to Increase Profitability	To be Adjusted. The workshop will be part of activity 2.1. The target group will be invited to participate the training. And the visits to local manufacturers will be cancelled. The position of international EE expert will be cancelled too.	No Change	No change of name. The training will be combined with 2.1.
4.1	Development of Project Web Site	To be Reserved. The IT expert will finish the establishment of the project website by the support of RPMU. The website is designed to be an information platform, which will report the progress of all CTs and RPMU in time.	-----	No Change except for cancelling the link with APEC-ESIS.
4.2	Lessons Learned Report	To be Reserved. Ms. Yu Cong was hired as the international program expert. She will finish the learned report.	No Change	No Change
4.3	Regional Energy Efficiency	To be Reserved. The network will created with the following thoughts: 1. China will take the leading role in the Network,	No Change	No Change

	Standards and Labeling Network	joining the harmonization activity actively. 2. The network will focus on ES&L training and regional coordination & harmonization. 3. Attract more country to join the network and establish the information platform together in order to enhance the influence of REESLN. 4. The management and operation mechanism refer to Global Ecolabel Network.		
4.4	Regional ES&L Harmonization Initiative, Dissemination of the outputs of TWGs	To be Reserved. This activity will be the main output of TWG, mainly divided into two types: 1. Mainly support the TWG technical meeting for harmonization; 2. Conduct the bilateral meeting or multilateral meeting striving for ES&L harmonization during BRESL countries.	-----	No Change
4.5	Preparation of a Plan for Regional Activities and Coordination after the GEF Funded Project Ends	To be Reserved. The RPMU will conduct more regional and international cooperation activities based on BRESL.	-----	No Change

ANNEX 8**RPMU Partner Organizations**

NO.	CONTRACT NAME	CONTRACT NO.	SUBCONTRACTOR	AMOUNT	DURATION	STATUS
1	Development of Training Materials on Energy Efficiency Standards and Labeling	BRESL-RPMU025-2011	China National Institute of Standardization(CNIS)	90,000	1 years (16 Dec,2011-15 Dec,2012)	Completed
2	Capacity Construction for Developing, Implementing and Promoting Energy Efficiency Standards and Labeling Program	BRESL-RPMU026-2011	Graduate School of Chinese Academy of Social Sciences (GSCASS)	180,000	2 years (16 Dec,2011-15 Dec,2013) Extend to Feb 2015	On going
3	Establishment and Implementation of Regional Energy Efficiency Standards and Labeling Network (REESLN)	BRESL-RPMU027-2011	China Quality Mark Certification Group Product Certification Co.,Ltd (CQM)	180,000	2 years (16 Dec,2011-15 Dec,2013)	Completed
4	Energy Efficiency Comparison Test for Typical Products	BRESL-RPMU028-2011	Vkan Certification and Testing Co., Ltd.	90,000	1 years (16 Dec,2011-15 Dec,2012)	Completed
5	International Best Practice Study on Energy Efficiency Standards and Labeling Program	BRESL-RPMU031-2011	Center for Industrial Energy Efficiency	150,000	1 years (19 Dec,2011-18 Dec,2012)	Completed
6	Energy Efficiency Standards and Labeling Seminars for Experts from Energy Regulatory Authorities, Manufacturers and Relevant Institutions of BRESL Countries	BRESL-RPMU032-2011	Huanzhibo Information and Technology Institute	280,000	1 years (19 Dec,2011-18 Dec,2012)	Completed

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7	Research and suggestion of capability building on regional cooperation in energy efficiency standards and labeling/certification (ES&L)	BRESL-RPMU002-2013	China Quality Mark Certification Group Product Certification Co.,Ltd (CQM)	80,000	8 months (1 March, 2013-31 October,2013)	Completed
8	Energy Efficiency Comparison Tests of automatic electric rice cooker	BRESL-RPMU003-2013	China Standard Energy Efficiency Science & Technology (Beijing Co.Ltd).(CSC)	80,000	11 months (1 March, 2013-31 January, 2014)	Completed
	Total for all institutional contracts		USD	1,130,000		

ANNEX 9

Updated List of Key Activities, Targets and Outputs with Details as Adjusted in 2010

ACTIVITY NO.	ORIGINAL PLAN	NEW PLAN	NATIONAL SUB-ACTIVITY	REGIONAL SUB-ACTIVITY
2.1	Training to Strengthen and Enable Public Institutions to Support Development and Implementation of ES&L Programs	To be Reserved. The training will play an important role in the whole program. As the lead country of BRESL, China will fully disseminate technical analysis methods, successful experiences and best practices during the process of ES&L designing, implementing and evaluating, in order to promote the development and implementation of ES&L in other BRESL countries, and the adoption the ES&L model of China. The training workshop will be hold 2-3 times per year. The training material will be based on the survey questionnaire of TNA.	No Change	The name of the activities will not change. But the scope, times and content of the training workshop will be expanded.
2.2	Capacity Enhancement in the Development and Implementation of Standards and Labeling for the 6 Targeted Products	To be Reserved. The position of international lighting/motor/appliances experts will be cancelled as no fitted candidates. The TWG expert of the lead country for each product will be the group leader, organizing the development of test procedure, standard and label for each products. There will be at least 2 TWG workshops every year.	No Change	No Change
2.3	Strengthening of National and Regional Testing and Certification Infrastructure	To be Adjusted. The implementation of robin test faces many difficulties. Only one product will be selected to conduct the test. In addition, a training workshop will be added, which focus on testing labs registration and management, specific product testing capacity building.	No Change	The name of the activities will not change. Budget decreased because of fewer products to be tested.
2.4	Strengthening of Data Collection and Reporting Procedures on Equipment Availability and Sales by Efficiency Level in Participating Countries	To be Reserved. The international expert/ subcontract institution will finish the work. The procedure will be used in the database of REESLN, providing technical support for the following work. The market survey will be cancelled. The dissemination meeting will be combined in the other workshops in order to reduce the external cost.	No Change	The name of the activities will not change. The promotion activity for adopting the

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Updated List of Key Activities, Targets and Outputs with Details as Adjusted in 2010

				procedures will be combined with TWG meeting. So it will cost less.
3.1	Product Technical Analysis and Reports	To be Reserved. The international expert/ subcontract institution and national efficiency experts from each CTs will finish the work together. The report will be finished through desk review. The visit to local manufacturer will be cancelled.	-----	The visit to local manufactures will be cancel because lack of IE. The other activities remain the same names. The desk review of course will cost less.
3.2	Educational Workshops for Manufacturers and Retailers on Impacts of Standards on Manufacturers and Retailers and Ways to Work with Standards to Increase Profitability	To be Adjusted. The workshop will be part of activity 2.1. The target group will be invited to participate the training. And the visits to local manufacturers will be cancelled. The position of international EE expert will be cancelled too.	No Change	No change of name. The training will be combined with 2.1.
4.1	Development of Project Web Site	To be Reserved. The IT expert will finish the establishment of the project website by the support of RPMU. The website is designed to be an information platform, which will report the progress of all CTs and RPMU in time.	-----	No Change except for cancelling the link with APEC-ESIS.
4.2	Lessons Learned Report	To be Reserved. Ms. Yu Cong was hired as the international program expert. She will finish the learned report.	No Change	No Change

ANNEX 9**Updated List of Key Activities, Targets and Outputs with Details as Adjusted in 2010**

4.3	Regional Energy Efficiency Standards and Labeling Network	To be Reserved. The network will created with the following thoughts: 1. China will take the leading role in the Network, joining the harmonization activity actively. 2. The network will focus on ES&L training and regional coordination & harmonization. 3. Attract more country to join the network and establish the information platform together in order to enhance the influence of REESLN. 4. The management and operation mechanism refer to Global Ecolabel Network.	No Change	No Change
4.4	Regional ES&L Harmonization Initiative, Dissemination of the outputs of TWGs	To be Reserved. This activity will be the main output of TWG, mainly divided into two types: 1. Mainly support the TWG technical meeting for harmonization; 2. Conduct the bilateral meeting or multilateral meeting striving for ES&L harmonization during BRESL countries.	-----	No Change
4.5	Preparation of a Plan for Regional Activities and Coordination after the GEF Funded Project Ends	To be Reserved. The RPMU will conduct more regional and international cooperation activities based on BRESL.	-----	No Change

ANNEX 10

Details of Accomplishments against the Activities Outlined in the Logframe for each of the five components

Objective / Outcome: Description of Objective / Outcome	Description of Indicator	Baseline Level	Target Level at end of project	Level at 31 Dec 2014
Outcome 1: Establishment of legal and regulatory basis for removing lowest EE technologies from the market and promoting high- efficiency technologies.	Clear ES&L principles expressed in laws and regulations of participating countries by year 3	Except for China and Korea, countries lack clear regulatory and legal framework for MEPS and mandatory labeling	4 countries adopt new laws and regulations on ES&L by Year 3	<p>BD: Draft SREDA rules developed</p> <p>CN: New implementing rules for labeling of 7 target products have been adopted in the past 5 years</p> <p>ID: 1) Ministerial Regulation for CFL EE labeling has been implemented. The regulation had been revised in July 2014. The regulation drafts of home air conditioner (AC) and refrigerator were submitted in 2012 and currently are still under the final examination of the legal division of MEMR. 2) Draft of Ministerial Decree of Ballast, Electric motor, rice cooker and electric fan are being examined by the implementing partner. The draft of regulation will be issued after the AC and Refrigeration regulation are implemented. 3) Official government accreditation program for appliance testing laboratories is established in the existing manufacturing plants, the state own and private company laboratories, and in the government laboratories.</p> <p>PK: Draft Pakistan Energy Efficiency & Conservation (PEEC) Bill; ES&L Summary developed and submitted for Cabinet approval ; Procedure for implementation of Energy Efficiency Standards and Labels in Pakistan has been adopted</p> <p>TH: Energy Conservation Promotion Act, National Energy Policy Council Act, Industrial Product Standards Act B.E.2511 (1968), Energy Conservation Program, Demand Side Management Program</p> <p>VN: 1. Law on Energy conservation and efficient use; 2. Decree 21/2011/ND-</p>

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				<p>CP:DecreesonregulationandmeasurestoimplementtheLawonEnergyconservationandefficiencytuse3.Decree134/2013/ND-CP:Decreeonsanctionsagainstadministrativeviolationinthefieldofelectricity,safetyofhydroelectricdam,energyefficiencyandconservation;4.Decision51/2011/QD-TTgandDecision03/2013/QD-TTg:DecisionsonlistofequipmentssubjecttoenergylabelingandapplicationofMEPSandroadmapandandonstateprocurementregulationonenergyefficientlabelingproducts;</p>
	New minimum standards for air conditioners (A/Cs).		10% energy savings in new AC by Year 5; approved in 4 countries by Year 3.	<p>BD:Energy standards published for AC,Air-Conditioners=BDS-1852 : 2012,Air-Conditioners=BDS-1853 : 2012</p> <p>CN:GB12021.3-2010:The minimum allowable values of the energy efficiency and energy efficiency grades for room air conditioner,GB 21455-2013: The minimum allowable values of the energy efficiency and energy efficiency grades for variable speed room air conditioners</p> <p>IN: Energy Efficiency Standard – for Room Air Conditioner</p> <p>PK:None</p> <p>TH: MEPS for Air Conditioner</p> <p>VN:National standard on EE Performance Standard for AC</p>
	New minimum standards for refrigerators		10% energy savings in new refrigerators by Year 5; approved in 4 countries by Year 3.	<p>BD:Energy standards published for Fridge</p> <p>CN:None</p> <p>IN: Energy Efficiency Standard – for Refrigerator</p> <p>PK:None</p> <p>TH:MEPS for Refrigerator</p> <p>VN:National standard on EE Performance Standard for Refrigerator</p>

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Details of Accomplishments against the Activities Outlined in the Logframe for each of the five components

	New minimum standards for fluorescent ballasts.		30% reduction in losses from new ballasts by Year 5; approved in 4 countries by Year 3.	<i>BD</i> :Energy standards published for Electronic Ballast <i>CN</i> :GB 17896-2012: Minimum allowable values of energy efficiency and energy efficiency grades for ballasts for tubular fluorescent lamps <i>IN</i> : Energy Efficiency Standard – for Ballast Electronics <i>PK</i> :None <i>TH</i> : None <i>VN</i> :National standard on EE Performance Standard for Electromagnetic Ballast, National standard on EE Performance Standard for Electronic Ballast
	New minimum standards for motors.		At least 4% energy savings for new motors by Year 5; approved in 4 countries by Year 3.	<i>BD</i> :Energy standards published for Motor <i>CN</i> :GB 18613-2012: Minimum allowable values of energy efficiency and energy efficiency grades for small and medium three-phase asynchronous motors <i>IN</i> : Energy Efficiency Standard – for 3 phase Electric Motor <i>PK</i> : MEPS for motors revised & approved <i>TH</i> : None <i>VN</i> :National standard on EE Performance Standard for Motor
	Quality standards for electric fans.		15% reduction in electricity use from new electric fans by Year 5; approved in 4 countries by Year 3.	<i>BD</i> :Energy standards published for Fan <i>CN</i> :None <i>IN</i> : Energy Efficiency Standard – for Electric Fans <i>PK</i> : MEPS & Label (PS-1/2010,Anx-A) for electric fans implemented and manufacturers started registering. their products for energy labeling <i>TH</i> : None <i>VN</i> :None
	Quality standards for rice cookers		20% reduction in electricity use from rice cookers by Year 5; approved in China by Year 3.	<i>BD</i> :None <i>CN</i> :None <i>IN</i> : Energy Efficiency Standard – for Rice Cookers <i>PK</i> : None

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Details of Accomplishments against the Activities Outlined in the Logframe for each of the five components

				TH: None VN:None
	Quality standards for compact fluorescent lamps (CFLs).		Quality standards for CFLs approved in at least 4 countries by Year 3.	BD: Testing Standard for CFL (CFL= BDS-IEC 1734,1735 & 1761) CN: Minimum allowable values of energy efficiency and energy efficiency grades for CFL (GB 19044-2013) IN: Energy Efficiency Standard – for CFL PK: MEPS(Anx-A,PS-IEC:60969) and Testing Protocol (PS-IEC 60969 & 90968) for CFL have been approved & notified TH: Testing protocol for CFL VN: Draft National standards on testing protocol for CFL (on process not officially issued)
	Labeling scheme implementation.		Labels in use for at least two products in 5 countries by Year 5.	BD: Star Labels for CFL, EB & Electric Fan CN: Energy Label for 7 target products IN: First revision of the Ministerial Regulation on EE labeling for CFL which is MEMR regulation No. 18, 2014 concerning Energy Efficiency Label for CFL, MEMR regulation on MEPS and Energy Efficiency Label for Room Air Conditioner, MEMR regulation drafts of Indonesian Energy Efficiency Label for Refrigerator, Rice Cookers, Electric Fans, and Ballast PK: Star Labeling scheme implemented for fans, CFL & motors on voluntary basis TH: None VN: Label for 7 target products
Activity 1.1: Strengthening of policy context for ES&L actions Supporting Activities	<ul style="list-style-type: none"> Approved laws and policy documents setting clear principles for EE by end year 1 More effective Thai ES&L program manifested by number of standards adopted and labels revised 	Limited awareness and support among energy policymakers about central role of ES&L in achieving energy savings and GHG mitigation targets	<ul style="list-style-type: none"> 3 countries that currently lack ES&L laws and policies 	BD: Draft one CN: 1 regulation upgraded, 4 new implementation regulations adopted for motor, fixed-speed AC, variable-speed AC, and refrigerators between 2009-2014 IN: First revision of the Ministerial Regulation on EE labeling for CFL which is MEMR regulation No. 18, 2014 concerning Energy Efficiency Label for CFL, MEMR regulation on MEPS and Energy Efficiency Label for

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Details of Accomplishments against the Activities Outlined in the Logframe for each of the five components

				<p>Room Air Conditioner, MEMR regulation drafts of Indonesian Energy Efficiency Label for Refrigerator, Rice Cookers, Electric Fans, and Ballast</p> <p><i>PK</i>: Two Drafts under approval</p> <p><i>TH</i>: Energy Conservation Promotion Act, National Energy Policy Council Act, Industrial Product Standards Act B.E.2511 (1968), Energy Conservation Program, Demand Side Management Program</p> <p><i>VN</i>: 1. Law on Energy conservation and efficient use; 2. Decree 21/2011/ND-CP: Decrees on regulation and measures to implement the Law on Energy conservation and efficient use 3. Decree 134/2013/ND-CP: Decree on sanctions againsts administrative violation in the field of electricity, safety of hydroelectric dam, energy efficiency and conservation; 4. Decision 51/2011/QD-TTg and Decision 03/2013/QD-TTg: Decisions on list of equipment subject to energy labeling and application of MEPS and roadmap and on state procurement regulation on energy efficient labeling products</p>
Activity 1.2: Adoption and implementation of ES&L regulations Supporting Activities	<ul style="list-style-type: none"> • Adopted and enforced minimum standards and labels • No. of countries implementing ES&L programs for A/Cs • No of countries implementing ES&L programs for refrigerators • No. of countries implementing ES&L programs for fluorescent ballasts • No of countries implementing ES&L programs for motors • No. of countries implementing ES&L programs for CFLs • No of countries implementing ES&L programs for electric fans 	<ul style="list-style-type: none"> • China and Korea implement mandatory labeling • Implementation of MEPS and labeling in China only partially effective • For other countries, only voluntary labeling, and only 1 MEPS passed on average per country during project period 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Please see Activity 1.1

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Details of Accomplishments against the Activities Outlined in the Logframe for each of the five components

Outcome 2: Building of institutional and individual capacity to secure on-the-ground implementation of regulatory frameworks, as well as actual standards and labeling programs.	New testing standards and testing facilities in place and operational by Year 4.		At least one for the targeted products in at least 3 countries	<i>BD</i> : 5 new testing standards for CFL, EB, Refrigerator, AC, Motor are in place. Testing facility is on process <i>CN</i> : No new testing standards. Tens of testing facilities for target products <i>IN</i> : Testing Protocol for the seven products, several testing facilities <i>PK</i> : 4 new testing standards for Fan, CFL and Motor are in place. With 2 testing facilities. <i>TH</i> : Testing protocol for CFL, at least testing facilities <i>VN</i> : 3 draft new testing standards for Fan, CFL and Rice cooker are in place. With 5 testing facilities.
	Mutual recognition agreements in place and enforced for product testing and posting of certification information by Year 4		At least 3 participating countries sign mutual recognition agreements by Year 4.	4 countries, Bangladesh, China, Indonesia and Pakistan
	Web-based posting procedures for certified equipment information developed and implemented by Year 5		At least 4 participating countries are posting certification information by Year 5	<i>BD</i> : through www.breslbd.org <i>CN</i> : through www.energylabel.gov.cn & www.cnis.gov.cn <i>IN</i> : through www.bresl.or.id ¹⁷ <i>PK</i> : through www.bresl.net.pk , www.enercon.gov.pk <i>TH</i> : www.bresl.tgo.or.th <i>VN</i> : through www.nhannangluong.com
	Countries with annual data collection and reporting systems in place and being implemented		Certification information posted on at least 500 products by Year 5	<i>BD</i> : None <i>CN</i> : totally 610 thousand product models have been registered <i>IN</i> : 382 CFL models posted as of July 2014 by DGNREEC <i>PK</i> : Under process of development for fans, CFL, motors & air conditioners <i>TH</i> : None <i>VN</i> : through its website

¹⁷21 CFL brands of 13 companies' product data is being recorded

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Details of Accomplishments against the Activities Outlined in the Logframe for each of the five components

			At least 4 participating countries have such procedures in place	<i>BD:</i> None <i>CN:</i> With the procedure in place <i>IN:</i> With the procedure in place <i>PK:</i> Under process of development for fans ,CFL, motors & air conditioners <i>TH:</i> None <i>VN:</i> With the procedure in place
Activity 2.1: Training to strengthen and enable public institutions to support development and implementation of EE standards and labeling	<ul style="list-style-type: none"> • EE professional public officers and consultants trained • Number of trainees that are applying ES&L principles in their work 	<ul style="list-style-type: none"> • Limited, one-off regional workshops related to ES&L • No systematic and sustained training and hands-on meetings related to ES&L planning and implementation in the region 	<ul style="list-style-type: none"> • At least 6 EE professional public officers and consultants per participating country trained by end of year 1 • 60% of trainees engaged in national ES&L program implementation by Year 2 	<i>Regional:</i> RPMU held 4 training courses, with more than XXX trainees. 1.Harbin—with around 30 participants 2.Guilin—with around 30 participants 3.Guangzhou—with around 30 participants 4.Guangzhou—with around 30 participants All trainees are engaged in national ES&L program
Activity 2.2: Capacity enhancement in the development and implementation of standards and labeling for the seven (7) targeted products	<ul style="list-style-type: none"> • Number of private sector and government participants in regional product working groups. • Number of improved government-supported national ES&L programs implemented • Implemented National ES&L programs incorporate recommendations of working groups 	<ul style="list-style-type: none"> • No regional working groups on end-use policies or ES&L related to five of the six target products • Meetings on CFL harmonization and the Efficient Lighting Initiative (ELI) occur in Asia region on average 1-2 times per year, with 1-2 people attending from each participating country 	<ul style="list-style-type: none"> • At least 2 officials from each of the participating countries participate in at least 2 product-specific working groups • At least 4 national ES&L programs significantly enhanced • At least 4 countries participating in each working group use working group products to adopt new standards and/or labels 	<i>TWG group:</i> <ul style="list-style-type: none"> • AC:All countries • Ref:All countries • Rice Cooker:China,Indonesia,Vietnam • Fan:All countries • Motor:All countries • CFL:All countries • Ballast:All countries
Activity 2.3: Strengthening of national and regional testing and certification infrastructure	<ul style="list-style-type: none"> • Number of improved test procedures developed and adopted by Year 3. • Number of improved testing facilities constructed and operational by end of project 	<ul style="list-style-type: none"> • No systematic regional discussion on coordination of test procedures for any of the target products and no round-robin testing in the region • Three countries have certification procedures in place 	<ul style="list-style-type: none"> • 4 countries adopt improved test procedures on at least one product • At least 1 improved testing facility for targeted products in at least 2 countries. 	<ul style="list-style-type: none"> • <i>BD:</i> 5 new testing standards for CFL, EB, Refrigerator, AC, Motor are in place. Testing facility is on process • <i>CN:</i> No new testing standards. Tens of testing facilities for target products • <i>IN:</i> Testing Protocol for the seven products, several testing facilities

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Details of Accomplishments against the Activities Outlined in the Logframe for each of the five components

	<ul style="list-style-type: none"> Number of countries with testing and certification procedures in place Round-robin testing completed to assess comparability of testing between countries Number of mutual recognition agreements (MRAs) on product testing and certification signed and implemented by Year 4. Web-based posting procedures developed and implemented by Year 4. Labeling accuracy in China 	<ul style="list-style-type: none"> In 2004-2005, there was one regional meeting and study tour to Australia to discuss harmonized ballast test procedure; but it has not yet been adopted by ASEAN countries No active MRAs in place covering the six target products in the BRESL countries No web posting of results of energy performance testing for any of the six target products 	<ul style="list-style-type: none"> At least 6 countries have certification procedures in place by end of Year 3 	<p>PK: 4 new testing standards for Fan, CFL and Motor are in place. With 2 testing facilities. TH: Testing protocol for CFL, at least testing facilities VN: 3 draft new testing standards for Fan, CFL and Rice cooker are in place. With 5 testing facilities.</p> <ul style="list-style-type: none"> In 6 countries(B, C, I, P,T& V) <p>BD: Energy Label CN: Energy Label IN: Energy Label PK: Energy Label(Pilot) TH:Energy Label VN:Energy Label</p>
Activity 2.4: Strengthening of data collection and reporting procedures on equipment availability and sales by efficiency level in participating countries	<ul style="list-style-type: none"> Model procedures provided to participating countries Number of countries receiving TA <p>Number of countries with annual data collection and reporting procedures in place</p>	No systematic data collection and reporting on end-use energy, including unit size; operating hours and conditions; unit energy consumption or efficiency; stock; annual sales; and efficiency potential	<ul style="list-style-type: none"> Model procedures completed by end of Year 1 TA provided to at least 5 countries by end of Year 2 At least 4 participating countries have such procedures in place by end of Year 3 and collect data annually thereafter 	<p>BD: Under process of development CN: With the procedure in place IN: With the procedure in place PK: Under process of development TH: With the procedure in place VN: With the procedure in place</p>
Outcome 3: Provision of information and technical assistance to manufacturers of covered products	Total number of local manufacturers manufacturing EE equipment/appliance by Year 5	Market shares of EE products in participating countries are low (typically less than 5-10%)	At least 5 local manufacturers begin producing EE equipment	<p>BD: 9 manufacturers (2 for CFL, 7 for Fan and 2 for Ballast) CN: 6,000 manufacturers registered in China Energy Label Center for about 28 end-use products IN: 13 manufacturers (2 for CFL, 1 – AC, 1 – Ref, 1 – Ballast, 8 – Rice cooker) PK: 6 manufacturers TH: 12 manufactures VN: at least 2 manufactures</p>
	Number of high efficiency models produced	Local manufacturers or suppliers do not produce EE products	Manufacturers in the region add at least 50 EE	BD: 115 models (35 for Fan, 29 –CFL, 14 – Ballast, 7 – A/C, 14 – Motor, 16 Ref

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Details of Accomplishments against the Activities Outlined in the Logframe for each of the five components

			models to their product lines	CN: About 50,000 models IN: 8 models (1 for ballast, 3 for AC, 4 for Ref) PK: 2 series model of fans TH: Under development VN: Several models
	Volume of EE products sold	No current survey data on manufacturer attitudes but this % is assumed to be low	Sales of EE products increase at least 25% by Year 5	BD: 1% for Fan, 18.8% for CFL CN: 32% for variable speed room AC; 70% for room AC; 25% for refrigerator; 18% for CFL; 52% for Motor IN: 30% for CFL PK: 0.5% for AC and refrigerator; 0.1% for Motor; 0.2% for fan 1.5% for CFL TH: 12% for all VN: No information available
	Percent of manufacturers involved in project who agree that ES&L can provide opportunities to increase profitability		50% of manufacturers agree that ES&L can provide opportunities to increase profitability	BD: more than 50% CN: more than 50% IN: more than 50% PK: More than 60% TH: No information available VN: No information available
Activity 3.1: Analysis and preparation of technical reports on each of the seven (7) covered products; reports cover techniques for improving product efficiency and the costs involved.	<ul style="list-style-type: none"> • Technical reports completed • Manufacturer ratings of usefulness of technical reports • Percent of manufacturers that apply recommended techniques in the technical reports • Percent of manufacturers that benefited financially from the application of recommended techniques 	<ul style="list-style-type: none"> • During 2004-2006, benchmarking reports prepared for APEC covering air conditioners, electric motors, and CFLs • No regionally focused product-specific technical reports prepared to document benefit-cost of efficiency improvements for the target products 	<ul style="list-style-type: none"> • 5 technical reports completed by Year 2 • Technical reports receive average rating from manufacturers of at least 4 on a 1-5 scale by Year 3 	Regional: The 7 Feasibility Study Reports on target products with technical content have been completed
Activity 3.2: Educational workshops for manufacturers on impacts of standards on manufacturers and ways to work with	<ul style="list-style-type: none"> • Number of trainees • Percent of trainees applying concepts learned in workshops Percent of trainees whose companies are actually profiting and benefiting from ES&L 	<ul style="list-style-type: none"> • Manufacturers and suppliers participate in occasional half-day or full-day workshops to learn about government ES&L policies or programs • No sustained technical training or outreach to manufacturers on ES&L 	<ul style="list-style-type: none"> • At least 100 trainees, including at least 15 per country by Year 2 	Regional: 8 training workshops, 350 participants in total

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standards to increase profitability.				
Activity 3.3: Limited technical assistance that addresses technical and marketing/financial barriers to increasing EE in the manufacturing of equipment and appliances for local manufacturers on techniques for increasing efficiency of their products.	<ul style="list-style-type: none"> • Total number of local manufacturers adopting technical assistance recommendations by Year 5 • Percent of local manufacturers satisfied with TA provided • Percent of local manufacturers that benefited financially from the application of the TA provided • Volume of EE products manufactured and sold by local manufacturers that received TA • Number of financial institutions in Bangladesh that are financing EE product manufacturing projects of equipment/appliance manufacturers • Number of BRESL countries replicating good lessons learned from Bangladesh TA program for financing institutions 	<ul style="list-style-type: none"> • Local manufacturers do not receive technical assistance on steps to upgrade manufacturing and on benefits for profitability • Local banks do not promote or encourage investment in upgrades to produce EE equipment 	<ul style="list-style-type: none"> • At least 5 manufacturers adopt some of the technical assistance recommendations • Manufacturers give average rating for TA provided of at least 4 on a 1-5 scale by Year 5 • 50% of manufacturers receiving TA by Year 5 • At least 5 new EE products manufactured and sold by local manufacturers that received TA by Year 5 • 3 local financing institutions/banks in Bangladesh providing financing for EE products manufacturing projects • 1 other BRESL country carrying out TA program for financing institutions to finance EE product manufacturing projects. 	<p><i>BD</i>: No information available <i>CN</i>: 51 manufacturer labs were inspected under GEF fund, and over 300 labs are inspected under co-financing between 2009-2014, their testing facilities were improved after adopting the technical assistance recommendations given by experts. <i>IN</i>: 18 manufacturers, 100% receiving TA <i>PK</i>: Technical assistance on improving energy efficiency provided to fan and motor manufacturers <i>TH</i>: None <i>VN</i>: None</p>
Outcome 4: Regional cooperation and information sharing on-going and helps to maximize impacts	Number of national web sites operating and updated annually	APEC ESIS web site operating and displays current ES&L programs	All BRESL countries have ES&L websites operating by Year 2 and updated at least annually	<p><i>BD</i>: www.breslbd.org <i>CN</i>: www.energylabel.gov.cn, & www.cnis.gov.cn <i>IN</i>: www.bresl.or.id <i>PK</i>: www.bresl.net.pk & www.enercon.gov.pk <i>TH</i>: www.bresl.tgo.or.th</p>

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				<i>VN: www://nhannangluong.com</i>
	Lessons learned reports	• CLASP Manual	Report completed & posted by Yr 2 on at least 4 issues	Regional: Lessons Learned Report
	Work group activities contributing to regional ES&L harmonization	• No regional work group on ES&L	• At least countries use harmonized standards	<ul style="list-style-type: none"> • 7 MRAs were signed as following: <ol style="list-style-type: none"> 1) Testing Protocol for Fan: China, Indonesia, Pakistan and Bangladesh 2) Testing protocol for CFLs: China, Indonesia, Pakistan and Bangladesh 3) Testing protocol for Rice cooker: China and Indonesia 4) Testing protocol for AC: China and Indonesia 5) EE performance specification for Fan: China, Indonesia, Pakistan and Bangladesh 6) EE performance specification for CFL: Bangladesh, China and Pakistan 7) EE performance specification for CFL: China and Indonesia • For Thailand and Vietnam, still wait for official procedure for the MRA signing, but in principle, the BRESL specification can be adopted/referred to.
	Regional follow up action plan		Follow up action plan (year 4)	<i>Regional:</i> <ol style="list-style-type: none"> 1) REESLN will start to be implemented and operated with the agencies and institutions that have already signed the REESLN MOU through the coordination of the CQM –PCC 2) A new UNDP/GEF project identification for the next phase of the BRESL program was under going
Activity 4.1: Project web site with regional information developed and maintained; provides umbrella for websites referenced in other components.	<ul style="list-style-type: none"> • Operational project website Number of national web sites operating and updated annually	<ul style="list-style-type: none"> • APEC ESIS web site operating and displays current ES&L programs • Little advance public notice (and regional awareness) of planned MEPS and labeling and revisions to current MEPS and labeling 	<ul style="list-style-type: none"> • Operating by end of Year 1 • All participating countries have ES&L websites operating by Year 2 and updated at least annually 	The websites for all PCs are Operating

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Activity 4.2: Lessons learned are assessed, documented and disseminated.	<ul style="list-style-type: none"> Lessons learned reports 	CLASP manual	Report completed and posted by end of year two on at least 4 issues	<i>Regional:</i> Lessons Learned Report
Activity 4.3: Regional work group on labeling and standards (cutting across products)	<ul style="list-style-type: none"> Participation in workgroup ES&L Information generated and provided by work group that are useful to participating countries Work group activities contributing to regional ES&L harmonization 	<ul style="list-style-type: none"> No regional work group on ES&L <p>Some information generated on ES&L activities posted on APEC, but limited dissemination to policymakers working on ES&L in BRESL countries</p>	<ul style="list-style-type: none"> 80% of BRESL countries participate in workgroup annually starting Year 1 Starting Year 2, at least 80% of participants each year are satisfied with information provided by work group At least 4 participating countries use harmonized standards or procedures developed under project 	<ul style="list-style-type: none"> All 6 PCs participated in TWGs 100% participants are satisfied with information provided and the outputs of TWGs are adopted by each CT to develop or revise their own national standard on target products 7 MRAs were signed as following: <ol style="list-style-type: none"> Testing Protocol for Fan: China, Indonesia, Pakistan and Bangladesh Testing protocol for CFLs: China, Indonesia, Pakistan and Bangladesh Testing protocol for Rice cooker: China and Indonesia Testing protocol for AC: China and Indonesia EE performance specification for Fan: China, Indonesia, Pakistan and Bangladesh EE performance specification for CFL: Bangladesh, China and Pakistan EE performance specification for CFL: China and Indonesia <p>For Thailand and Vietnam, still wait for official procedure for the MRA signing, but in principle, the BRESL specification can be adopted/referred to.</p>
Activity 4.4 Regional ES&L Harmonization Initiative.	Pilot program of a regional energy efficiency benchmarking system approved and implemented in BRESL	Each country is implementing independent ES&L activities	N/A	<i>Regional:</i> REESLN is established with MOU signed with members from each CT
Activity 4.5: Preparation of a plan for regional activities	Regional Action Plan approved by BRESL countries for post-GEF	APEC ESIS exists as useful information platform, but no long-	N/A	<i>Regional:</i> 1) REESLN will start to be implemented and operated with the agencies and institutions that

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and coordination after the GEF-funded project ends.	activities to continue progress and regional coordination	term plan for coordination of ES&L activities in the region		have already signed the REESLN MOU through the coordination of the CQM –PCC 2) A new UNDP/GEF project identification for the next phase of the BRESL program was under going
Outcome 5: Demonstration of various aspects of the development and implementation of ES&L programs	Number of countries implementing government procurement schemes for EE products	China and Korea implementing government procurement policies	2 countries by Year 3	<i>BD:</i> Not yet <i>CN:</i> implementing <i>IN:</i> implementing <i>PK:</i> Not yet <i>TH:</i> Government purchasing guideline for high-efficiency equipment inclusive of the BRESL products was submitted to Thai Green Label Sub-committee <i>VN:</i> implementing
	Number of countries with EE products databases	• On-line databases of efficient equipment only available in Korea	• 2 additional countries by Year 3	<i>BD:</i> Under process of development <i>CN:</i> Available <i>IN:</i> Available <i>PK:</i> Paper based available, online data-base for EE products under process of development <i>TH:</i> Under process of development <i>VN:</i> Available
	Number of countries with EE consumer education schemes	• Limited consumer education and promotion schemes	• Successful and acceptable results in at least 3 countries by Year 3, at least two more countries replicate successful schemes	<i>BD:</i> Different kinds of consumer educational campaign were held <i>CN:</i> 5 big-scale schemes carried out <i>IN:</i> Different kinds of consumer educational campaign were held through advertisement at 3 national TV Campaign to student, women, teachers, and manufacturers <i>PK:</i> Vigorous awareness campaign undertaken in print media after launch of labeling policy followed by electronic-based media <i>TH:</i> 115 consumer education activities such as exhibitions, lectures and EE demonstrations were held with more than 900000 consumers were educated through promotional materials <i>VN:</i> Marketing strategy and campaigns for CFL and Fan were prepared and implemented

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Activity 5.1: Government procurement	<ul style="list-style-type: none"> Number of countries implementing government procurement schemes for efficient products Percentage of covered equipment that is efficient Number of BRESL countries replicating successful schemes 	<ul style="list-style-type: none"> China and Korea implementing government procurement policies Thailand implementing for air conditioners only 	<ul style="list-style-type: none"> In addition to China and Korea, two countries implement government procurement programs by Year 3 	<i>BD</i> : Not yet <i>CN</i> : implementing <i>IN</i> : implementing <i>PK</i> : Not yet <i>TH</i> : Government purchasing guideline for high-efficiency equipment inclusive of the BRESL products was submitted to Thai Green Label Sub-committee <i>VN</i> : implementing
Activity 5.2: On-line databases of efficient equipment	<ul style="list-style-type: none"> Number of countries with databases developed and on-line Number of database users Percentage of users rating database "useful" or "very useful" 	On-line databases of efficient equipment only available in Korea	<ul style="list-style-type: none"> Two additional countries have databases operating and populated by Year 3 	<i>BD</i> : Under process of development <i>CN</i> : Available <i>IN</i> : Available <i>PK</i> : Paper based available, online data-base for EE products under process of development <i>TH</i> : Under process of development <i>VN</i> : Available
Activity 5.3: Consumer education	<ul style="list-style-type: none"> Number of countries demonstrating EE consumer education schemes Number of countries replicating successful EE promotion/market development schemes 	Limited consumer education and promotion schemes; usually one-off schemes for particular project, and then discontinued	<ul style="list-style-type: none"> Successful and acceptable results in at least 3 countries by Year 3 	<i>BD</i> : Different kinds of consumer educational campaign were held <i>CN</i> : 5 big-scale schemes carried out <i>IN</i> : Different kinds of consumer educational campaign were held through advertisement at 3 national TV Campaign to student, women, teachers, and manufacturers <i>PK</i> : Vigorous awareness campaign undertaken in print media after launch of labeling policy followed by electronic-based media <i>TH</i> : 115 consumer education activities such as exhibitions, lectures and EE demonstrations were held with more than 900000 consumers were educated through promotional materials <i>VN</i> : Marketing strategy and campaigns for CFL and Fan were prepared and implemented

No.	Date	Location	Topic	Participants	Category of Participants	Country	Teachers	Budget(\$)	Evaluation outcome
1	30 June-2 July, 2011	Harbin, China	Experiences for the development of ES&L program	45	Mainly Govt.	All the six PCs	Experts for CNIS, EIR, CQC and etc.	about 50000	Suggestions for next training workshop
2	14 Nov-16 Nov, 2011	Guilin, China	Energy Saving Certification	45	Mainly Govt.	All the six PCs	Experts for CNIS, EIR, CQC and etc.	about 50000	Suggestions for next training workshop
3	14 June-22 June, 2012	Beijing, Qingdao, Shanghai	Testing and manufacture	30	Officers and experts	All the six PCs	Experts for testing labs and manufactures and etc.	about 70000	Suggestions for next training workshop
4	8-9 Aug, 2013	Guangzhou	Labeling and Testing	150	Experts	China	Experts for CNIS and etc.	about 60000	Suggestions for next training workshop
5	20-23 Aug, 2013	Guangzhou	Policy and standard	30	Officers and experts	All the six PCs	Experts for testing labs , manufacturers and etc.	about 50000	Suggestions for next training workshop
6	25-27 Sep, 2013	Guangzhou	Testing	30	Officers and experts	All the six PCs	Experts for testing labs , manufacturers and etc.	about 50000	Suggestions for next training workshop
7	24-25 Oct, 2013	Guangzhou	Testing	30	Experts	All the six PCs	Experts for testing labs , manufacturers and etc.	about 50000	Suggestions for next training workshop

NO.	DATE	LOCATION	TOPIC	PARTICIPANTS	PRODUCTS	BUDGET(\$)	SUMMARY OF OUTPUTS
1	11-12 November, 2010	Bangkok, Thailand	Inception meeting	41	All the seven Products	about 30000	TWGs of seven products established
2	7th-10th June, 2011	Xiamen, China	FS reports	27	All the seven Products	about 30000	Draft FS reports
3	28 -30 November 2011	Ho Chi Minh City , Vietnam	BRESL Specifications	36	All the seven Products	about 30000	Frame of BRESL Specifications
4	24 -27 September 2012	Qinzhou City, Guangxi, China	FS reports	25	All the seven Products	about 30000	Finalized FS reports
5	12-13 April 2013	Langkawi, Malaysia	BRESL Specifications	19	Fans, Rice Cookers and CFLs	about 30000	Finalized Frame of BRESL Specifications
6	12 - 13 December 2013	Xiamen, China	BRESL Specifications	27	Fans, Rice Cookers and CFLs	about 30000	Draft BRESL Specifications
7	16-Oct-14	Beijing, China	BRESL Specifications	28	Fans, Rice Cookers and CFLs	about 30000	Finalized BRESL Specifications

PRODUCTS	TESTING PROTOCOLS	PERFORMANCE SPECIFICATIONS
CFL	BRESL-001/T:2014 BRESL Specification: Energy Efficiency Testing Protocol for CFL	BRESL-001/S:2014 BRESL Specification: Energy Efficiency Performance Specification for CFL
Fan	BRESL-002/T:2014 BRESL Specification: Energy Efficiency Testing Protocol for FAN	BRESL-002/S:2014 BRESL Specification: Energy Efficiency Performance Specification for FAN
Rice Cooker	BRESL-003/T:2014 BRESL Specification: Energy Efficiency Testing Protocol for Rice Cooker	BRESL-003/S:2014 BRESL Specification: Energy Efficiency Performance Specification for Rice Cooker
AC	BRESL-004/T:2014 BRESL Specification: Energy Efficiency Testing Protocol for Rice Cooker	/
Motor	BRESL-005/T:2014 BRESL Specification: Energy Efficiency Testing Protocol for Motor	/
Refrigerator	BRESL-006/T:2014 BRESL Specification: Energy Efficiency Testing Protocol for Refrigerator	/

OVERALL PLAN FOR ESTABLISHING AND OPERATING THE REESLN	
STAGE	ACTIVITIES
<p>Initial Development and Launching Stage</p> <p>(2013-2014)</p>	<ul style="list-style-type: none"> • Feasibility and Business Planning (October – November 2013) • Finalization of BRESL Phase 2 defining the Operational Support from GEF for the REESLN during the Operational Stage (2015 onwards) and communications with other Potential Partners (November 2013) • Launching and Gathering Commitments (December 2013) • Signing of the MOUs by Network Members (Starting with the Initial founding members) • Finalization of Organizational and Operational Plans (the Board of Directors), Working Groups, National Focal Point Network, Experts database (4th Q 2014) • Finalization of Commitments for Resource Inputs (4th Q 2014) • Incorporation of the REESLN as a Non-Governmental Organization (1st Q 2015) • Marketing and Membership recruitment (1st Q 2015)
<p>Operational Stage</p> <p>(2015 onwards in conjunction with the proposed projects for funding by international organizations e.g. GEF, UNDP, etc)</p>	<ul style="list-style-type: none"> • Institutional capacity development and maintenance • Establishment of expert database • Development of website and information database of BRESL outputs • Development of remote training service through Website • Development of remote consulting service through Website

COUNTRY	INSTITUTION
BANGLADESH	<ol style="list-style-type: none"> 1) Bangladesh Standards and Testing Institution (BSTI) 2) Sustainable Energy for Development (SED) German Development Cooperation
CHINA	<ol style="list-style-type: none"> 1) VKAN Certification & Testing Co.,Ltd (CVC) 2) China Standard Certification Center 3) Dongguan EMTEK Co., Ltd 4) Etc.
INDONESIA	<ol style="list-style-type: none"> 1) Sucofindo International Certification services (SICS) 2) PT Tuv Rheinland Indonesia 3) National Standardization Agency of Indonesia (BSN) 4) Etc.
PAKISTAN	<ol style="list-style-type: none"> 1) The Institution of Taxila 2) The Network for consumer Protection 3) National Institute of Electronics 4) Etc.
THAILAND	<ol style="list-style-type: none"> 1) Electricity Generating Authority of Thailand 2) Thailand Institute of Scientific and Technological Research (TISTR) 3) Thailand Greenhouse Gas Management Organization (Public Organization)
VIETNAM	<ol style="list-style-type: none"> 1) Quality Assurance & Testing Center 3 (QUATEST 3) 2) Vietnam Standards and Quality Institute (VSQI) 3) Quality Assurance & Testing Center 1 (QUATEST 1)

