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**“Energy Efficiency Standards and Labels in Peru”**

**Terminal Evaluation**

**Final Report**

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The analysis and recommendations of this report do not necessarily reflect the opinions of UNDP, its Executive Board or of the Members of the United Nations. This publication only reflects the opinion of the author.

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## Abbreviations and Acronyms

APR	Annual Progress Report
ASPEC	Peruvian Association of Consumers and Users
CENERGIA	Energy Conservation and Environmental Center
CEPLAN	National Strategic Planning Center
CONFIEP	National Confederation of Private Business Institutions
COPANT	Pan-American Standards Commission
CO <sub>2</sub>	Carbon dioxide
DGEE	Energy Efficiency Directorate General of MEM
DS	Supreme Decree (for its abbreviation in Spanish)
EA	Executing Agency
EE	Energy Efficiency
ELS	Efficient Lighting System
GEF	Global Environmental Facility
GHG	Greenhouse gases
IA	Implementing Agency
IAAC	Inter-American Accreditation Cooperation
IAF	International Accreditation Forum
ICA	International Cooper Association
IL	Incandescent lights
INACAL	National Quality Institute (for its abbreviation in Spanish)
INDC	Intended National Determined Contributions
INDECOPI	National Institute for the Defence of Competition and Protection of Intellectual Property
LAC	Latin America and the Caribbean
M&E	Monitoring & Evaluation
MEF	Ministry of Economy and Finance
MEM	Ministry of Energy and Mines
MEPS	Minimum Energy Performance Standards
MINAM	Ministry of Environment
MINCETUR	Ministry of Foreign Affairs and Tourism
MLA	Multilateral Agreement
NEX	National Execution Modality
NAMAs	Nationally Appropriate Mitigation Actions
OECD	Organisation for Economic Co-operation and Development
PRODOC	Project Document
PRODUCE	Ministry of Production
SDG	Sustainable Development Goals
PUCP	Pontifical Catholic University of Peru
RIA	Regulatory Impact analysis
SE4ALL	Sustainable Energy for All
S&L	Standards & Labels
SUNAT	Superintendence of National Tax Administration
TA	Technical Assistance

TJ	Tera Joules
UEC	Unit Energy Consumption
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNEP	United Nations Environment Programme
UNI	National Engineering University
US\$	US dollar
WTO	World Trade Organisation

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## Executive Summary

### Project Information

The following table summarizes the Project Information

Table 1 Project Information

<b>Project Title:</b>	<b>ENERGY EFFICIENCY STANDARDS AND LABELS IN PERU</b>			
<b>GEF Project ID:</b>	4128		<i>at endorsement (millions of US\$)</i>	<i>at completion (millions of</i>
<b>UNDP Project</b>	PIMS 3791	<b>GEF financing:</b>	2,000,000	2,000,000
<b>Country:</b>	Peru	<b>IA / EA<sup>1</sup> own:</b>		
<b>Region:</b>	LAC	<b>Government:</b>	4,800,000	4,800,000
<b>Focal Area:</b>	Climate Change	<b>Other:</b>		
<b>Operational Programme:</b>	CC-5	<b>Total co-financing:</b>	4,800,000	4,800,000
<b>Executing Agency:</b>	MEM	<b>Total Project Cost:</b>	6,800,000	6,800,000
<b>Other partners involved:</b>	MINAM	<b>PRODOC Signature (date project began):</b>		June 19 <sup>th</sup> , 2012
<b>Terminal Evaluation Completion Date</b>	July 2017	<b>Operational Closing Date:</b>	<b>Proposed:</b> December 2015	<b>Actual:</b> March 30 <sup>th</sup> , 2017

### Project Description

The Energy Efficiency (EE) Standards and Labels in Peru project aims at removing key barriers to the widespread commercialization of energy efficient domestic appliances such as refrigerator, lighting products, and air-conditioners, as well as, electric motors among others.

The Project will support the implementation of the energy efficiency standards and labeling program carrying out activities to: (i) strengthen the implementation structure of a mandatory standards and labeling program by the Peruvian Ministry of Energy and Mines (MEM), (ii) provide technical assistance to manufacturers and (iii) promote the demand for such appliances by, inter alia, implementing a consumer awareness campaign, all of which are based on five components:

- **Capacity development of key public and private agencies** looking to analyse the institutional capacity of government agencies and train public authorities to develop and implement policies and programs related to mandatory energy efficiency standards and labels including: (i) training courses to staff of ministries, regulatory entities and institutions in charge of inspecting and controlling the enforcement of such regulations; (ii) the establishment of a data base on energy consumption and end-use technologies; (iii) the strengthening of standardization institutes and testing laboratories, and (iv) the establishment of a coherent verification and application system for EE labels.

<sup>1</sup> IA / EA Implementing Agency /Executing Agency

- **Strategy for the implementation of a market transformation** based on: (i) the consolidation of market structure information, (ii) the techno-economic analysis for priority technologies and measures to be undertaken, and (iii) the design of a market transformation strategy
- **Strengthening of the legal the regulatory framework** through (i) an increase in the awareness among key decision makers in government and private sector with regard to the benefits of having a mandatory EE standards and labels system, and (ii) the elaboration of final regulations to be endorsed by the government.
- **Consumer awareness and outreach** through (i) a more effective participation by industry (i.e., importers, suppliers distributors, and retail chains) including training of sales staff and the design of incentives for the phase out of inefficient equipment.
- **Monitoring, evaluation and knowledge management** including continuous monitoring annual reports, mid-term evaluation and a terminal evaluation of the project complemented with project publications to share lessons learned, a summary of project results and a closing workshop.

## Summary of conclusions, recommendations and lessons

### *Findings*

The Project is fully aligned with Peru's development priorities and in particular with those established in the United Nations Development Programme (UNDP) country program for Peru (2017-2021) and in the EE-related legislation (i.e., Law No 27345 Promotion of the Efficient Use of Energy and its regulation, Reference Plan for the Efficient Use of Energy 2009-2018, and National Energy Policy for Peru 2010-2040).

Based on preliminary projections, it is estimated that the reduction of CO<sub>2</sub> emissions between 2013 and 2027 will be approximately between 4.6 and 6.6 million tons in accordance with the conservative and optimistic scenario, respectively. However, since the mandatory implementation of the Technical Regulation will only come into force on April 7, 2018, and approval of the homologation cards has been very recent, it has not yet been possible to accurately assess their impact with regard to the reduction of CO<sub>2</sub> emissions generated by the Project.

The Project has attained important achievements, although there are still activities to be done to ensure the sustainability of the mandatory EE labeling program in the short to medium term. Key achievements include:

- Government approval of the Technical Regulation of Labeling by Supreme Decree N° 009-2017-EM
- Strengthening the capacities of decision makers, producers, importers, distributors and marketers involved in the design and establishment of the EE labeling program,
- Creation of a specialized website with detailed information ([www.etiquetaenergetica.minem.gob.pe](http://www.etiquetaenergetica.minem.gob.pe)),
- Strengthening the standardization of testing institutes and laboratories together with the identification of 26 laboratories with the potential to become EE laboratories,

- Signing of a Cooperation Agreement with the *Universidad Nacional de Ingenieria* (UNI) to promote the creation of EE laboratories through which the Project financed the acquisition of a test bench for electric water heaters,
- Development of a conformity assessment system for the certification of the EE labeling and Minimum Energy Performance Standards (MEPS) compliance, whose implementation will be progressively carried out in three phases with the participation of MEM, the National Superintendence of Customs and Tax Administration (SUNAT), the National Quality Institute (INACAL), the National Institute for the Defence of Competition and the Protection of Intellectual Property (INDECOPI), and the Ministry of Production (PRODUCE). The conformity assessment will be carried out by the Product Certification Organizations (OCP) and the Testing Laboratories,
- Evaluation of the energy equipment market structure, evolution and projection together with the elaboration of energy consumption and end-use technologies data base and measurement of impacts of the EE labeling,
- Definition of MEPS with the objective of prioritizing the entry of efficient equipment and drawing up a roadmap for the establishment of its regulatory framework which implementation is being led by the General Energy Efficiency Directorate (DGEE for its abbreviation in Spanish),
- Preparation of homologation sheets that will be used by *Peru Compras* for public sector entities to lead the implementation of the EE labeling program,
- Development of a strategy for transforming the EE market and labeling by the DGEE,
- Organization of activities for the exchange of experiences, workshops and meetings with the main bodies involved in the application of the EE Labeling Technical Regulations,
- Dissemination of the benefits of labeling among relevant actors and training of retail staff along with the development of consumer awareness campaigns with mass media broadcasting and social networks with national coverage, and
- Even if not stated in result framework, the Project has supported the preparation of the study "Management, handling and final disposal of solid and gaseous waste of energy equipment" and further supported the Ministry of Environment (MINAM) and the Electrical and Electronic Equipment Waste (RAEE for its abbreviation in Spanish) Technical Committee in the elaboration of the Peruvian Technical Standard "Management and Handling of Electrical and Electronic Equipment Waste".

The following table summarizes performance ratings:

Table 2 Project performance rating

Rating of Project Performance			
1. Monitoring and Evaluation	Rating	2. IA & EA Execution	Rating
M&E design at Project start up	Satisfactory (S)	Implementing Agency Execution	Satisfactory (S)
M&E Plan implementation	Satisfactory (S)	Executing Agency Execution	Satisfactory (S)

Overall quality of M&E	Satisfactory (S)	Overall quality of Project Implementation / Execution	Satisfactory (S)
3. Outcomes	Rating	4. Sustainability	Rating
Relevance	Relevant (R)	Financial resources	Moderately Likely (ML)
Effectiveness	Satisfactory (S)	Socio – political	Likely (L)
Efficiency	Satisfactory (S)	Institutional framework / governance	Moderately Likely (ML)
		Environmental	Likely (L)
<b>Overall Quality of Project Outcomes</b>	Satisfactory (S)	<b>Overall likelihood of risks to sustainability</b>	Likely (L)

### *Corrective actions for the design, implementation, monitoring and evaluation of the Project*

- Promote the issuance of subsidized credit lines to assist existing laboratories to finance needed equipment and training of their professionals in order to comply with the EE tests required under the Technical Regulations,
- Create specific policies to encourage the use of efficient equipment by reducing taxes on more efficient equipment,
- Implement mechanisms based on Producer Extended Responsibility (REP) and develop collection centres to remove inefficient appliances, particularly with regard to refrigeration equipment being displaced and which use gases that affect the ozone layer in order to be congruent with the UNDP agenda under the Montreal Protocol,
- Ensure the early formation of the Project team, and
- Accelerate and simplify UNDP administrative processes, a recurrent cause of delays in the implementation of UNDP / GEF Projects.

### *Actions to follow up or reinforce initial benefits from the Project*

#### *Financial*

- Guarantee the allocation of financial, as well as, technological and human resources needed by the different public bodies responsible for control, monitoring and control of compliance with the Technical Regulations nationwide.

#### *Data management*

- Continue generating, compiling and systematizing reliable information regarding imports, inventory and sales of the different equipment subject to the EE labeling regulation.

#### *Capacity development / training*

- Continue strengthening metrological management in order to ensure traceability in the measurements of the parameters required by the

Technical Regulations and generate conditions to encourage the accreditation of laboratories.

- Carry out a study to estimate the level of investment that would be required to adapt existing laboratories to be able to offer the EE tests required by the Technical Regulations, and the laboratory demand that would be generated if in-country equipment certification is required.
- Continue strengthening INDECOPI as it does not currently have enough technical staff and financial resources to carry out an effective control nationwide.
- Continue training retail sales forces to ensure consumers have better access to information.

#### *Regulatory*

- Include quality requirements in the Technical Regulations to allow consumers to distinguish between two equipment of similar energy consumption but of different quality based on the information displayed on the EE label.
- DGEE to continue with the development of workshops and meetings to clarify doubts in the interpretation of standards and requirements, which may very well translate into the need to issue explanatory notes and / or make changes to the Technical Regulations.
- Ensure that SUNAT becomes one of the bodies in charge of monitoring the types of equipment that are imported based on their energy consumption and supervise compliance with the mandatory labeling.

#### *Disposal handling of inefficient energy equipment*

- Create mechanisms to ensure the disposal of inefficient appliances in order to avoid that with the purchase of a high efficiency appliance, inefficient appliances continue to work.

#### *Awareness raising*

- Continue with awareness raising campaigns on the benefits measures of implementing EE saving measures at home and their impact on reducing CO<sub>2</sub> emissions.

#### *Proposals for future directions underlying main objectives*

- Continue to work on the removal of the institutional and technical barriers which in spite of having been clearly identified and evaluated that still persist to achieve an effective implementation of the mandatory EE labeling system that includes mandatory compliance of MEPS,
- Improve and strengthen the conformity assessment system,
- Promote investments in calibration and testing laboratories,
- Promote the creation of OCPs,
- Continue awareness raising of final consumers to ensure the sustainability and success of the Project in the medium and long term,
- Develop a strategy to include mandatory compliance with MEPS in order to avoid the commercialization of energy inefficient equipment, and
- Work on incorporating other categories of equipment into the mandatory EE labeling regulations, as well as on the design and implementation of mandatory EE

labeling programs for other sectors (i.e., buildings, industrial boilers, automotive) in order to continue Reducing energy consumption and CO<sub>2</sub> emissions in Peru, with the objective of developing an integral EE public policy.

### *Best and worst practices in addressing issues relating to relevance, performance and success*

Best practices identified during project design and implementation include:

- The formation of the Project Steering Committee with a wide and effective interinstitutional participation
- The high level of detail of the baseline analysis which allow determining the in-country technical capacity, as well as the profile of sales subject to the Technical Regulation.
- The early assessment of the context and overall importance of the Project together with a clear identification of the barriers to market transformation and the constraints for their removal.
- The strong alignment of the Project with national programs related to EE and with the priorities of UNDP and GEF, as well as, with other similar projects developed by UNDP such as PIMS 3087 in Colombia, as part of the immediate project objectives.
- The key role played by the technical committees with a wide participation of public and private sector actors in order to achieve consensus in the establishment of technical standards
- The suitability and dedication of the members of the Project team.
- The activities carried out in conjunction with other initiatives with the objective of maximizing the use of resources and generating synergies.
- The way in which the Project managed to involve the different actors both from the public and private sectors which became heavily involved in the development of the Technical Regulations and made important contributions based on their respective experiences.

Some of the worst practices used were:

- The inclusion of indicators that are difficult to measure during the project execution period, as was the case of the average change in annual sales to higher efficiency appliances or the participation of nonconforming products in standardization and mandatory labeling. While these indicators are relevant, it is difficult to expect a major change in the short term and even more so when the Technical Regulations are not yet in force,
- The introduction of goals in the logical framework with a high political risk which prove difficult to manage,
- The time it took to complete the hiring of the Project team despite the fact that the Project schedule required “having an Inception Workshop within the first two months of the Project starting date”, and
- Lack of transversal integration of the gender component in the Project

## 1. Introduction

Towards the end of March 2017, United Nations Development Program (UNDP) of Peru hired Alfredo Caprile as an Independent Consultant to perform the Terminal Evaluation (TE) of the Project named “Energy Efficiency Standards and Labels in Peru (PIMS (4128))”. The Project started in June, 19 and the operational closing took place on March 30<sup>th</sup>, 2017. The end date of the Project is programmed for June 30<sup>th</sup>, 2017.

The Project aims at removing key barriers to the widespread commercialization of energy efficient domestic appliances such as refrigerators, freezers, water heaters and air conditioners lighting products, as well as, electric motors and industrial boilers. The Project will support the implementation of the energy efficiency standards and labeling program by the Peruvian Ministry of Energy and Mines (MEM), carrying out activities to: (i) strengthen the implementation structure of a mandatory standards and labeling program, (ii) provide technical assistance to the testing institutions and (iii) promote the demand for such domestic appliances by, inter alia, the development of an awareness rising campaign directed to consumers in cooperation with the private sector including importers, distributors and retail chains

### 1.1 Purpose of the Evaluation

In accordance with the policies and procedures for Monitoring and Evaluation of UNDP and the Global Environment Fund (GEF), UNDP supported and GEF finance by GEF projects are required to undergo a Terminal Evaluation (TE) within a period of six months before or after the operational closing date.

The purpose of the TE is to provide an independent evaluation of the progress and impact of the Project. The performance of the Project will be evaluated taking into account the indicators mentioned in the logical framework. The complementary purposes of the TE are:

- Promote accountability and transparency and outline the scope of Project achievements;
- Identify lessons learned that could be useful in refining the selection, design and implementation of future GEF-funded UNDP activities and projects;
- Provide feedback on issues that are recurrent throughout the UNDP portfolio;
- Contribute to the overall assessment of results with respect to achievement of GEF strategic objectives; and
- Measure the alignment of the Project with other priorities of the UN and UNDP.

### 1.2 Scope and methodology

The TE has been implemented in accordance with the Terms of Reference (see Annex I) and UNDP/GEF policies and procedures for monitoring and evaluation included in the “Guidance for Conducting Terminal Evaluations of UNDP Supported GEF-Financed Projects<sup>2</sup>”. The evaluation is based on the five criteria defined in such guide which are:

- Relevance
- Effectiveness
- Efficiency

- Results
- Sustainability

The following instruments have been used to gather project information and its progress and results:

- **Gathering of Project information and documentation**

Prior to the start of the mission to Lima the following Project documentation was gathered and reviewed:

- Project Identification Form (PIF)
- Project Document (PRODOC)
- Project Progress reports
- Project operating manual
- Project Annual Progress Reports 2012-2016
- Project Implementation Reviews (PIR) 2012 – 2016
- Budget revisions
- Quarterly plans / reports
- CDR's (2014-2017)
- Law No 27345 Promotion of the Efficient Use of Energy and its regulation
- Reference Plan for the Efficient Use of Energy 2009-2018
- National Energy Policy for Peru 2010-2040
- Budget revisions for 2014 and 2015
- Legal norms and regulations
- Use of GEF and co-financing funds

During the mission to Lima the following documents have been gathered:

- Legal framework report
- Technical regulations report
- Market analysis report
- Law N° 27345 Promotion of the Efficient Use of Energy and its regulation
- Reference Plan for the Efficient Use of Energy 2009-2018
- National Energy Policy for Peru 2010-2040
- Budget revisions for 2014 and 2015
- Legal norms and regulations
- Use of GEF and co-financing funds
- Legal framework report
- Technical regulations report
- Market analysis report
- PRODOC for the Energy Efficiency Standards and Labels for Colombia
- PRODOC for the Market transformation of the lighting market for Peru
- MTR final report
- Elaboration of a conformity assessment system for the certification of EE labeling and compliance with Minimum Energy Performance Standards (MEPS)- Final Report
- Proposal for MEPS for Peru Final Report



- Study of the market structure, evolution and projection for energy equipment, development of a data base for energy consumption and final use of technologies and Impact evaluation of the EE labeling – Executive Summary
- Diagnostic and evaluation of testing laboratories for the EE labeling- Executive Summary
- Supreme Decree (DS for its initials in Spanish) N° 009-2017-EM – Approval of the Technical Regulations for the EE labeling for energy equipment
- Decree No 143-2017-MEM/DM – Approval of the Homologation Cards for Domestic Automatic Washing Machines
- **Mission to Lima (February 25<sup>th</sup> through May 4<sup>th</sup>, 2017)<sup>3</sup>**

The mission to Lima allowed for the conduct of a formal kick off meeting of the TE, meetings with the Project team and UNDP representatives in charge of the Project, as well as, face to face meetings with the key Project actors, beneficiaries and other interests parties. At the end of the mission a Mission closing meeting took place to present the Preliminary conclusions

Annexes II, III, IV y V present: the mission itinerary, list of persons interviewed, list of documents reviewed, and the questionnaire that has been used, respectively.

- **TE Evaluation Framework**

Annex VI presents TE Evaluation Matrix with a list of evaluation criteria, questions, success indicators, data sources, and methods and instruments used to gather the data that has been used.

- **Information analysis**

The documents collected before and during the mission were analysed and compared in conjunction with the information obtained from the meetings with UNDP, the Project team and the main stakeholders, beneficiaries and other stakeholders to verify their consistency and / or opinion of the interviewees regarding the quality of the collected information.

The main limitation of the evaluation has to do with the short duration of the mission. However, based on their previous experience and knowledge of the Project<sup>4</sup>, the Evaluator considers that the detail contained in the information collected and the opinions of the interviewees have been sufficient to carry out the ET in accordance with the standards established by UNDP and GEF.

### 1.3 Structure of the Evaluation Report

The TE report is structured in accordance with UNDP and GEF requirements. The summary of the key sections is presented below:

- **Executive Summary** with a brief description of the TE objectives and an overview of the key findings and recommendations
- **Section 1 – Introduction.** In this section the objectives and scope of the TE are described together with the methodology which have been used.
- **Section 2 – Project description and development context,** with reference to the Project start and duration, problems that the Project sought to address, Project immediate and

development objectives together with the established indicators. Also, main stakeholders and expected results are listed in this section.

- **Section 3 - Findings.** This section presents the findings as a result of the TE, including a review of the Project design and formulation, an analysis of the logical framework and results framework, assumptions and risks and lessons from other relevant projects incorporated into the Project design. In turn, it presents other aspects such as planned stakeholder participation, replication approach, UNDP comparative advantage, linkages between the Project and other interventions within the sector and management arrangements. The main aspects related to Project implementation are discussed, including an assessment of adaptive management and partnerships agreements with relevant stakeholders. Finally, Project results are evaluated and qualified in terms of achievement of objectives, relevance, effectiveness and efficiency, national involvement, integration sustainability and impact.
- **Section 4 - Conclusions.** This section presents the main conclusions, recommendations and lessons learned.

## 2. Project description and development context

### 2.3 Project start and duration

The PRODOC was approved in June 2012. However, the start of activities was delayed until March 2013, when the first National Project Coordinator and the Project Administrator were hired while the Technical Specialist was hired in May 2013. Following the resignation of the first National Coordinator, in April 2014 a second National Project Coordinator was hired but resigned in mid- 2016 and another National Project Coordinator had to be put in place. The closing date of the Project was scheduled for May 2015<sup>5</sup> but due to the delays experienced it was rescheduled in several instances, and the scheduled date of closure of the Project was set for June 30, 2017.

#### 1.3 Problems that the Project sought to address

The Project was designed to assist in the removal of key barriers to the widespread spread of the mass marketing of EE appliances such as refrigerators, lighting products and air conditioners, as well as electric motors. To this end, the Project supported the implementation of energy efficiency standards (EE) and the EE labeling programme and the strengthening of the enforcement structure of mandatory standards and labeling. Other activities included: (i) capacity development of public and private agencies, (ii) development of a strategy to achieve market transformation, (iii) strengthening of the legal framework, and (iv) implementation of awareness-raising campaigns targeting end-users.

#### 2.4 Immediate and development objectives of the Project

The overall objective of the Project is "to reduce CO<sub>2</sub> emissions through the implementation of a (mandatory) EE standards and labeling program". The immediate objectives of the Project aim at eliminating those barriers that prevent the mass marketing of EE appliances that include:

- **Lack of reliable information** on the importance, stocks and sales of the different appliances and their energy consumption for each of the EE labels,
- **Lack of an accreditation, certification and verification system** for the application of the EE labeling system,
- **Need to strengthen calibration and testing laboratories, institutions and companies** that decide to participate in the accreditation, certification and verification processes,
- **Absence of EE standards and labeling and minimum performance standards MEPS** for each of the categories of appliances,
- **Lack of awareness** at the level of consumers as well as importers, manufacturers, suppliers, distributors and marketers regarding the benefits of having a mandatory system of standards and labeling of EE, and
- **Lack of regional cooperation** in the implementation of EE standards and labeling that could negatively impact competition due to the lack of alignment between testing procedures, regulations and label content at the Andean and / or regional level from Latin America.

Regarding the development objectives, the Project aims at developing capacities of public and private actors, formulating and implementing a strategy for transforming the domestic appliances market, strengthening the legal and regulatory framework, raising consumer awareness and Monitoring, evaluation and knowledge management.

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<sup>5</sup> In accordance with the PRODOC the Project end date was set for May 2015, but due to the delays that occurred it had to be reprogrammed in several instances.

## 2.5 Baseline indicators established

Based on the PRODOC, the proposed baseline indicators are<sup>6</sup>:

- Change in annual sales towards average higher efficiency appliances (lower unit energy consumption, UEC)
- Share of non-compliant products
- GHG emission trends
- Amount of CO2 emissions avoided directly and indirectly
- Status of programs in key public agencies to implement effective mandatory S&L
- Impact of Project's website on government officials private sector and consumers (in their purchasing decision)
- Status and type of TA and capacity building activities
- Strengthened standardization institutes and testing bodies
- Status of verification and enforcement of S&L
- Status of recommendations contributing to institutional sustainability
- Availability of required market and technical data
- Level of info available for definition of energy consumption levels for labels and MEPS
- Status of strategy on mandatory S&L implementation
- Awareness level of decision-makers to develop and implement effective S&L policy and regulations
- Status of Technical Regulations
- Priority of different criteria used by customers in their purchasing decision and of private sector in marketing their products
- Joint marketing campaigns with the manufacturers and retail chain (with related material for advertising and in-store use), highlighting the energy efficiency aspects and the life-cycle costs approach
- Emphasis on EE aspects in the marketing strategy of the retail chain
- Status and delivery of specific campaigns and incentives
- The level of information available for monitoring and evaluation and adaptive management

## 2.6 Main stakeholders

The Project has been open to involve stakeholders from both the public sector and the private sector, academics and civil society. With regard to public sector entities, the Project has maintained a close relationship with the different agencies responsible for the implementation of the Technical Regulation and the definition of MEPS including:

- Ministry of Energy and Mines (MEM),
- National Institute of Quality (INACAL),
- Ministry of Production (PRODUCE),
- MINAM,

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<sup>6</sup> The achievement of each of these indicators is discussed in detail in Section 3.1.1

- Ministry of Foreign Trade and Tourism (MINCETUR),
- Ministry of Economy and Finance (MEF)
- National Institute for the Defence of Competition and Protection of Intellectual Property (INDECOPI)
- Superintendence of National Tax Administration (SUNAT), and
- *Peru Compras*

To this list manufacturers, importers, distributors, marketers, certifiers, educational institutions and representatives of civil society were added showing their support to the different needs of the EE labeling initiative and making important contributions including among others to:

- Indurama,
- BSH Electrodomésticos SAC,
- Industrial MT (SOLE),
- Roberto Bosch,
- MABE,
- Hydrostatic,
- LG,
- Hiraoka,
- Lenor,
- Pontificia Universidad Católica del Perú (PUCP),
- National University of Engineering (UNI),
- National Society of Industries (SNI),
- National Confederation of Private Enterprise Institutions (CONFIEP),
- Peruvian Association of Consumers and Users (ASPEC), and
- Lima Chamber of Commerce.

## 2.7 Expected Results

The PRODOC mentions the following Outcomes as progress indicators

Table 3 Project Outcomes

Component	Expected outcome
1) Capacity development of key public and private agencies	Enhanced capacities of key public and private agencies to design, implement and enforce a mandatory S&L programme
2) Market transformation strategy and implementation	Market transformation strategy implemented with public and private sector involvement, based on consolidated information on the market structure
3) Strengthened legal and regulatory framework	Strengthened legal framework for mandatory S&L and endorsed final Technical Regulations
4) Consumer awareness and outreach	Heightened consumer awareness and acceptance of S&L programme.
5) Monitoring, evaluation and knowledge management	Information and knowledge on S&L programme generated and shared

In term of global environmental impact, the Project objective is to reduce the CO<sub>2</sub> emissions via the implementation of an EE norms and labeling programme.

## 3 Findings

This section analyses the findings resulting from the TE. First the Project design is analysed followed by the assessment of the Project implementation and outcomes.

### 3.1 Project design and formulation

The Evaluator considers that the design that has been adopted to achieve the domestic appliance market transformation in Peru is adequate except for the fact that the use of indicators which are difficult to measure during the project implementation period should have been avoided. Both the characterisation of the actual situation and expected results as well as the identification and definition of the various barriers which would have to be removed are conceptually well defined.

The Project is consistent with the GEF Operational Programme No. 5 "Elimination of barriers to efficient use and conservation of energy"

The design of the PRODOC and the logical framework complies with the criteria that the expected results and indicators are SMART: Specific, Measurable, Achievable, Relevant and Time-bound except for the inclusion of certain indicators that are difficult to measure during the project execution period.

Also the Project design is fully aligned with Product 1<sup>7</sup> and indicator 1.6<sup>8</sup> of the Country Programme Action PLAN (2012-2016).

#### 3.1.1 Analysis of LFA/Results Framework (Project logic /strategy; Indicators)

The project components and activities proposed to achieve the objectives are appropriate and respond to the institutional, legal and regulatory conditions facing the project.

The proposed indicators to guide the implementation of the Project and measure the achieved results are considered appropriate except that the following targets that have been established were too optimistic or lack precision and/or were difficult to measure during the project implementation period:

- The proposed value for indicator A (change in annual sales towards average higher efficiency appliances (lower unit energy consumption, UEC<sup>9</sup>) at Project end date proved to be too optimistic. Due to the delays that occurred during Project implementation, the approval of the Technical Regulations was achieved a few months before the end of the Project and it will not become in force until April 2018. As a result, it has not been possible to measure changes in the average reduction of UEC. Even in the absence of implementation delays, it would not have been possible to comply with the proposed targets since in order to achieve a reduction of UEC in accordance with the proposed values (i.e., in some cases of up to 43%) would require an amount of time beyond the Project end date.

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<sup>7</sup> PRODUCT 1. Strengthened institutions for the design and implementation of low emission and climate resilient development strategies and / or plans linking the national agenda to the international negotiation process.

<sup>8</sup> Indicator 1.6: Number of energy planning tools implemented at national and regional level, in order to diversify the energy matrix, promote energy efficiency and low emission development.

<sup>9</sup> UEC Unit of Energy Consumption in kWh/year

- Under Outcome 1 and as part of the indicator 4 the proposed target is to have at least 5 public or private accredited laboratories by the end of the Project, something which is very difficult to achieve taking into consideration that there were no accredited EE testing laboratories in the country and the time that is needed to generate capacities and promote investing in laboratories of such characteristics.
- The amount of staff to be trained has been included as a target under several indicators but without precision since it does not specify the capacity level to be achieved in each case.

### 3.1.2 Assumptions and risks

The main risks and assumptions mentioned in the PRODOC for the effective implementation of the Project have been duly identified and analysed except for the following:

- The amount of time to achieve the approval of the Technical Regulations by the Presidency of the Council of Ministers (PCM for its abbreviation in Spanish) have not been duly identified as a risk of the magnitude that it proved to be.
- A similar thing happened with the obstacles provided by the MEF with regard to the potential restrictions to commerce derived from having the EE equipment subject to the Technical Regulations comply with the MEPS. This resulted in another risk which ended up generating important delays in the approval of the Technical Regulations. Consequently, it has not been possible to approve that EE equipment had to comply with the MEPS as it was originally included in the PRODOC.
- Risks associated with verification and control mechanisms have not been duly evaluated since they have been classified as low risks based on the assumption that **“In Peru all appliances targeted are imported, which introduces a special dimension, which is different from other countries with a local manufacturing base. This highlights the role of Customs’ involvement in enforcing a verification and control mechanism”** This assumption did not hold since not all of the EE equipment subject to the Technical Regulations are imported (even though most of them are). Also, it has not been possible to assign compliance responsibilities to Customs, something that needs to be modified in order to enhance the verification and control mechanism which requires that compliance with the Technical Regulations only takes place at point of sales.
- Among the different risks not identified in the PRODOC is the difficulty in establishing a network of testing and calibration laboratories for the certification of the EE equipment in country and the impact that this generates to local manufacturing companies which as a result has to certify their EE equipment overseas.
- Other risks that have materialised but had not been duly predicted are: the delays in the setup of the Project team, the resignation of the National Coordinators and the cancellation of the consulting contract with the international expert that had been selected to assist with the preparation of the Technical Regulations. In spite of, the Project was able to overcome the impact generated by these circumstances through the implementation of adaptive management.

### 3.1.3 Lessons from other relevant projects incorporated into project design

The Project formulation and design has taken into account lessons learned from other projects, activities and regulations related with the improvement of EE in Peru such as:

- The Normalisation of the Use of Energy and EE Technical Committee (CTN-UREEE for its abbreviation in Spanish)
- The National Regulations for the Management and Disposal of Waste, which establishes the responsibilities of the public and private sectors towards the implementation of RAEE management systems in the country.

During the Project design and formulation phase, other regional EE related UNDP/GEF projects were taken into account. In particular, a project of similar characteristics for Colombia (i.e., the UNDP/GEF EE Norms and Labels in Colombia project) that has been implemented almost in parallel with the Project in Peru. Also, during the implementation phase, members of the Project team participated in an Inter-institutional workshop that took place in Bogota in October 2015 and exchange information and lessons learned

#### *3.1.4 Planned stakeholder participation*

During the Project design and formulation phase, an active participation of the key public institutions and agencies in charge of promoting EE in domestic appliances has been planned together with the participation of key EE equipment manufacturers, importers, distributors, sellers and their respective associations and labour unions in the different programmed activities with the objective of generating and effective interaction among the various stakeholders involved.

#### *3.1.5 Replication approach*

The Project was designed with the intent of serving as an example for the implementation of future interventions related to introduce the obligatory compliance of EE labels and MEPS for other EE appliances or other equipment which are not yet part of the recently approved Technical Regulations such as the case of lighting equipment included in the UNDP/GEF project Lighting Market Transformation in Peru.

As mentioned in the PRODOC, there are other UNDP/GEF projects with the objective of supporting the development and implementation of EE norms and labels in other countries including others in the region. The materials, outcomes and lessons learned from this Project are expected to be used to facilitate the implementation of other projects and in particular of those in Spanish speaking countries.

The Project organised a series of seminars, workshops and other public presentations with the objective of facilitating contact and cooperation among different groups with a national and regional interest and in this manner be able to exchange knowledge and practical experiences.

#### *3.1.6 UNDP comparative advantage*

One of UNDP's comparative advantages lie in providing its experiences in integrating development policies, institutional strengthening and the involvement of non-governmental organisations and civil society. Another comparative advantage of UNDP lies on its capacity to mobilise GEF funds to assist in promoting, designing and delivering activities and programs to support the implementation of compulsory S&L and MEPS programs in the region.

To these comparative advantages, UNDP provides other strengths among which are the following:



- Its good understanding of the needs and expectations of the different actors with regard to the type of barriers that have prevented the implementation of compulsory S&L systems in the region,
- UNDP's capacity to influence in the development of public policies and development of capacities,
- The long standing role of UNDP as a trusted associate of the Peruvian government with which has been working on different sectors and with multiple interested parties,
- UNDP's presence in an important network of countries and its fundamental coordinating role within the UN System,
- UNDP's technical assistance with the Project M&E which has allowed for the implementation of suitable mechanisms, in coordination with the National Project Directorate, to achieve the Project outcomes.

### *3.1.7 Linkages between project and other interventions within the sector*

The Project generated important links with different public and private entities and got involved with other EE initiatives such as the UNDP/CGEF Lighting Market Transformation in Peru already mentioned and the UNDP/GEF NAMAs<sup>10</sup> for the Energy Generation and its Final Use in Peru project, as well as, with other EE related interventions including the implementation of the INDCs<sup>11</sup> and SDG<sup>12</sup> indicators

### *3.1.8 Management Arrangements*

Project implementation was carried out under the National Execution modality of the UNDP (NEX) and as such the implementation responsibility lied on the Government of Peru which delegated such responsibility on the MEM. In turn, the MEM assigned the Project implementation responsibility to DGEE.

The Project Management Unit (PMU) has been comprised of the National Project Coordinator which had the support of Technical Specialist and Administrative Assistant that realized and effective job in managing the Project activities The Project Team acquired a detailed understanding of the Project LFA including a clear comprehension of the extent of the proposed activities, indicators and targets, as well as of the Project risks and assumptions.

The Project Steering Committee (PSC) was initially made up of representatives from UNDP, MEM, INDECOPI, MINAM, and PRODUCE. During Project implementation other actors have been invited to become part of the PSC such as: SUNAT, MEF, MINCETUR and INACAL, which proves the high degree of Project ownership at the national level.

UNDP's monitoring and supervision has been adequate and UNDP has assisted the PMU with the implementation of several tendering processes, some of which have taken longer than expected since several tenders were declared void due to lack of interest

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<sup>10</sup> NAMAs – Nationally Appropriate Mitigation Actions

<sup>11</sup> INDC Intended Nationally Determined Contributions

## 3.2 Project Implementation

### 3.2.1 Adaptive management

Project activities have been undertaken in accordance with what has been stipulated in the Logical Framework. Even so, during Project implementation it was necessary to use adaptive management mechanisms to confront with different problems and uncertainties. Key examples of this include:

- The approval of the proposal for the Technical Regulation and the MEPS suffered significant delays mainly from the MEF, which objected to the mandatory compliance of the MEPS alluding that it may generate potential impediments to international trade, due to the fact that the objective of including MEPS under the Technical Regulation is to restrict the commercialisation of low EE appliances<sup>13</sup>. Faced with this unforeseen event, the Project opted to implement an adaptive management strategy that consisted of excluding the MEPS from its request for approval of the proposed Technical Regulation by the MEF. In this way, the MEF was able to validate the wording of the Technical Regulation, which was presented to the Presidency of the Council of Ministers (PCM), and approved by Supreme Decree No 009-2017-EM on April 7, 2017,
- At the same time, the Project worked with *Peru Compras*<sup>14</sup>, the entity in charge of optimizing procurement of government owned entities, in the development of homologation cards based on the MEPS that, once approved, will be used by all public entities that need to comply with the Public Procurement Law,
- To date, the MEM has approved the use of 38 homologation cards with the technical characteristics corresponding to 36 types of luminaires and two classes of washing machines and another 42 other homologation cards (15 for electric motors and 27 for electrical appliances) are awaiting final approval. The technical characteristics included in the homologation cards are a direct reflection of the MEPS. As a result, public entities that will be buying equipment for which homologation cards have been approved will be in fact complying with the MEPS developed by the Project and which has not yet been included in the Technical Regulation,
- As part of its adaptive management interventions, the Project also made certain changes in the financial resources allocated for each component in order to maximize their utilization according to the specific needs identified during Project implementation. For example, financial resources were reallocated among components to allow for the installation of a testing laboratory for electric water heaters at UNI as well as to strengthen the awareness raising campaigns., and
- Another example of the Project adaptive management capacity was its decision to carry out publicity campaigns on the benefits of labeling in conjunction with the Lighting Market Transformation project and to have the company in charge of implementing

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<sup>13</sup> In this regard, it is important to note that most if all developed countries that comply the rules of free trade imposed by the World Trade (WTO) have approved the inclusion of MEPS under their EE legislation in order to ban the commercialization of domestic appliances as well as other types of electrical equipment below certain minimum energy consumption standards.

<sup>14</sup> Among other attributions Peru Purchases is responsible for generating homologation cards with the technical characteristics of equipment that once approved must be used by all state entities when formulating their equipment procurement requirements.

such campaigns (i.e., RPP Noticias del Peru <http://rpp.pe/> ) make a financial contribution as part of its Corporate Social Responsibility (CSR) programme.

### 3.2.2 Partnership arrangements

Throughout the implementation of its activities, the Project sought associations with various public and private entities as well as other initiatives such as the Lighting Transformation Project in Peru and the NAMAs project in energy generation and its final use sector in Peru in order to share lessons learned and generate synergies.

Apart from activities carried out in collaboration with the closest actors such as laboratories and research centres, INACAL, MINAM, *Peru Compras*, SUNAT, the technical sub-committees of the Peruvian Technical Standards of INDECOPI, as well as, manufacturers, importers, and traders , the Project worked with other initiatives related to EE, including:

- **United for Efficiency (U4E)<sup>15</sup>**, U4E is an initiative of the United Nations Environment Program (UNEP), UNDP, the International Copper Association (ICA), the environmental and EE NGO, CLASP<sup>16</sup>, and the Natural Resources Defence Council (NRDC). U4E is part of the Energy Efficiency Acceleration Platform of the SE4ALL initiative of the United Nations Secretary General SE4ALL aims to have 30 countries committed to mandate the use of high energy efficient appliances and equipment within the next 18 months
- ***en.lighten.initiative*<sup>17</sup>** , is a public-private partnership (PPP) created in 2009 between UNEP, OSRAM, Philips Lighting, with the support of GEF. In 2011 and 2013, the National Lighting Test Centre of China and the Government of Australia also joined in to provide support to Southeast Asian countries. *en.lighten.initiative* serves as a platform for building synergies among international actors, identifying good practices at the global level, sharing knowledge and information, developing regulatory frameworks, solving technical and quality issues, and encouraging countries to develop strategies for lighting efficiency at national and regional levels.
- **Sustainable Energy for All (SE4ALL)**, a United Nations initiative created to mobilize stakeholders and take concrete steps towards achieving the 2030 SDGs: (i) Ensure universal access to modern energy services (ii) Duplicate the overall rate of EE improvement and (iii) Duplicate the share of RE in the global pool of energy sources. The initiative is expected to change the rules of the game by introducing innovative partnerships between the public and private sectors, based on constructive dialogue on policies, investment and market development by governments, business and civil society.
- **PTB**, the National Institute of Metrology of Germany, which, with the support of the German government, offers technical assistance programmes aimed at harmonizing metrology practices at the global level and thereby facilitate international trade. PTB experts have participated in various forums organized by the Project and visits by members of the PMU to metrology centres in Germany have been organized to get acquainted with the status of good practices in metrology.

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<sup>15</sup> U4E <http://united4efficiency.org/>

<sup>16</sup> CLAPS, <http://clasp.ngo/>

<sup>17</sup> *en.lighten.initiative*, <http://www.enlighten-initiative.org>

### 3.2.3 Feedback from M&E activities used for adaptive management

Feedback for M&E activities used for adaptive management was provided through the following reports:

- PIRs 2013-2016 with details on the activities undertaken and commentaries with regard to Project progress which serve as the basis for deciding on adaptive management interventions,
- Quarterly and annual reports 2013-2017,
- PSC minutes of meetings 2013-2017, and
- MTR of 2015 and its respective tracking tool with conclusions on Project progress and recommendations to improve its implementation.

### 3.2.4 Project financing

GEF funds assigned to the Project amounted to US\$ 2.0 million. Table 4 show the budget execution of the Project.

Table 4 Budget execution

Component	Total budgeted funds per PRODOC US\$	Executed funds as of 05/ 2017 US\$	% Executed as of 05/2017	Committed funds as of 05/ 2017 US\$	% Executed + Committed as of 05/217	Uncommitted as of 05/ 2017 US\$
1	517,256	443,371.96	85.72	11,5027	107.95	
2	684,124	634,743.33	92.78	0.00	92.78	
3	198,771	198,000.69	99.61	0.00	99.61	
4	359,849	359,848.23	100.00	0.00	100.00	
5	60,000	56,601.85	94.34	0.00	94.34	12,408.04
6	180,000	179,998.9	100.00	0.00	100.00	
<b>Total</b>	<b>2,000,000</b>	<b>1,872,564.96</b>	<b>93.63</b>	<b>11,5027</b>	<b>99.38</b>	<b>12,408.04</b>

The percentage of executed funds as of May 2017 amounted to 93.63%. When including already committed funds to such date, such percentage results in 99.38% leaving only US\$12.408.04 of uncommitted GEF funds. With regard to co-financing, the commitment of MEM and MINAM amounted to US\$ 4,800,000.

Table 5 shows the details of the committed co-financing funds by those institutions and the amount of funds disbursed which have been provided in kind. Copies of co-financings letters are included in Annex XI.

Table 5 Co-financing table

Co-financing entity	Type of Co-financing	Co-financing amount at CEO endorsement (US\$)	Co-financing contributed (US\$)	% of co-financing committed
MEM	In kind	4,300,000.00	4,300,000.00	100
MINAM	In king	500,000.00	500,000.00	100
<b>Total</b>		<b>4,800,000.00</b>	<b>4,800,000.00</b>	

The following table shows the details of the co-financing in kind provided by MEM and MINEM.

Table 6 Co-financing actions

Co-financing entity	Activities	Valuation Criteria
MINAM	<ul style="list-style-type: none"> <li>• National Regulations for the management and disposal of the RAEEs.</li> <li>• Annual dissemination and collection of RAEE campaigns, (10 per year throughout the country).</li> <li>• Guide for managing RAEE</li> <li>• Technical Assistance in each of the studies developed by the Project.</li> <li>• Participation as member of the PSC.</li> <li>• Elaboration of 03 NTP on RAEE and capacity training</li> </ul>	<p>Cost of man hours, annual investment, investment the elaboration and contracting of the different services, annual budget of the environmental quality management of MINAM, Cost of man hours of the actors involved in the sub-committees of waste management.</p>
MEM	<ul style="list-style-type: none"> <li>• Participation as member of the PSC.</li> <li>• Promulgation of General Guidelines for Labeling, Packaging and Advertising in compliance with the Law on the Promotion of Efficient Use of Energy</li> <li>• Support in reviewing studies through technical professionals.</li> <li>• Legal advice</li> <li>• Support in the administrative proceedings before authorities of the Technical Regulation of EE Labeling.</li> <li>• Campaign for the dissemination of the Labeling through the Image Office of the MEM since 2015.</li> <li>• Logistic and technical support in workshops developed at national level.</li> <li>• Legal advice in the preparation of the homologation cards for the selected equipment.</li> <li>• Facilitation in the technical and administrative coordination before <i>Peru Compras</i> for the</li> </ul>	<p>Cost of man hours, annual investment, investment in the elaboration and contracting of the different services, annual budget of the environmental quality management of MEM, the cost invested by the State in creating and operating INACAL, Cost of Man hours of the actors involved in the Sub-Committees of Technical Normalization</p>

	<p>establishment of the homologation cards</p> <ul style="list-style-type: none"> <li>• Technical support for the creation of INACAL, whose competence is standardization, accreditation and metrology, as well as the promotion of a culture that contributes to the adoption of quality management practice and the use of quality infrastructure, which will support the accreditation of the system of accreditation and certification of EE testing in Peru.</li> <li>• Participation in activities with the Project "Lighting Market Transforming in Peru".</li> <li>• Technical support to the Ministry of Production so that through Law No 3039, the government provide fiscal incentives to corporate innovation granting an additional cost deduction of up to 100% of the costs related to scientific research, technology development and innovation. This additional deduction can go up to 75% of total expenses and reduce net income from which income tax is calculated.</li> <li>• Technical assistance to PRODUCE which by Supreme Decree No. 004-2016-PRODUCE, created the Centres for Productive Innovation and Technology Transfer and its regulations.</li> </ul>	
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### 3.2.5 Monitoring and evaluation: design at entry and implementation

The project monitoring and evaluation framework included in PRODOC has been designed in accordance with UNDP / GEF procedures. Both internal communications and those with different stakeholders were carried out effectively and periodically and generated adequate feedback mechanisms to maintain a good level of communication between stakeholders.

The main monitoring and evaluation activities and the parties responsible for each of these activities are summarized in the table below.

*Table 7 Monitoring and evaluation activities and responsible parties*

Monitoring and Evaluation	Responsible parties
Inception workshop and report <sup>18</sup>	<ul style="list-style-type: none"> <li>▪ Project manager</li> <li>▪ UNDP GEF</li> </ul>
Measure verification means for Project progress through activities	<ul style="list-style-type: none"> <li>▪ Supervision by Project manager</li> <li>▪ Project Team</li> </ul>
Annual Progress Report – Project Implementation Report (PIR/APR)	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP Programme Officer</li> <li>▪ RTA UNDP (Regional Technical Advisor)</li> <li>▪ External consultant</li> </ul>
Periodic project progress reports	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> </ul>
Mid Term Evaluation	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP Programme Officer</li> <li>▪ RCU UNDP (Regional Coordination Unit)</li> <li>▪ External consultants</li> </ul>
Project Terminal Report	<ul style="list-style-type: none"> <li>▪ Project manager and team</li> <li>▪ UNDP office in Peru</li> <li>▪ Local consultant</li> </ul>
Audit	<ul style="list-style-type: none"> <li>▪ UNDP office in Peru</li> <li>▪ Project manager and team</li> </ul>
Visits to field sites	<ul style="list-style-type: none"> <li>▪ UNDP office in Peru</li> <li>▪ UNDP RCU (as appropriate)</li> <li>▪ Government representative</li> </ul>

The Evaluator considers that the monitoring and evaluation of Project activities have been undertaken in a systematic manner and within the stipulated times with the exception of Inception workshop which in accordance to the proposed M&E framework should have been done within the first two months of Project start.

The PRODOC was approved in June 2012 but the initiation of activities was delayed until March 2013, when the first National Project Coordinator and the Project Administrator were hired whereas the Technical Specialist was hired in May 2013. The Inception workshop was not held until August 2013.

Due to the delays in getting the Technical Regulations approved, something over which the Project has not much control, it has been necessary to extend the Project end date to June 2017,

<sup>18</sup> A copy of the Inception workshop report is presented in Annex X.



request that was issued by the National Project Directorate and in turn presented by UNDP to the GEF.

**The monitoring and evaluation of the Project activities is rated as Satisfactory (S).**

### *3.2.6 UNDP and MEM implementation / execution coordination, and operational issues*

During project implementation, the proposed organization chart was respected and there was an appropriate approach by both UNDP and the National Project Directorate to achieve the outcomes established in the PRODOC. In addition, both agencies carried out an adequate supervision of the activities of the project and the DGEE was the most adequate agency for the implementation of this project working in coordination with the MINAM.

The PSC meetings were held periodically and served to analysed the progress of the Project and undertake adaptive management actions

The Steering Committee meetings were held periodically and served to analyse the progress of the Project and carry out adaptive management actions against the different scenarios that were presented throughout Project implementation.

The approval of the Technical Regulations was an issue that both the DGEE and UNDP followed closely and with preoccupation due to the fact that several Project indicators were linked to its approval and hence it turned into a high risk for complying with the proposed targets. In this particular issue UNDP and the DGEE worked in coordination.

With the objective of untangling the Technical Regulations approval process which had provided for the inclusion of the compulsory approval of the MEPS, in the middle of 2016 the Project decided to seek the approval of the Technical Regulations without including the MEPS as part of an adaptive management decision. At the same time, the Project decided to work with *Peru Compras* in order to include the MEPS as part of the homologation cards<sup>19</sup> which would be utilised to manage the procurement of EE equipment subjected to the Technical Regulations by the public sector entities. In this way, at least state companies would refrain from buying very low EE appliances and in this way help with the transformation of the market until the approval of MEPS is achieved. As mentioned above, it is important to note that the inclusion of MEPS in EE public policies is considered a best practice and is part of the EE policies of developed countries that comply with the WTO rules on free international trade.

**The implementation / execution coordination and operational issues of UNDP and MEM is rated as Satisfactory (S).**

## **3.3 Project Results**

### *3.3.1 Overall results (attainment of objectives)*

At its beginning the Project suffered important delays which impacted negatively in the achievement of the established targets. Although the PRODOC was approved in June 2012, the initiation of Project activities was delayed until March 2013 when the first National Project Coordinator and the Project Administrator were hired while the Technical Specialist was put in place in May 2013. After the resignation of the first National Project Coordinator in April 2014, the second National Project Coordinator was hired which also resigned in the middle of 2016

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<sup>19</sup> The homologation cards determine the specifications of minimum energy consumption with which the equipment that the State owned companies have to comply with. In this way, these companies must comply with MEPS without this being mandatory for the rest of the consumers.

and hence a third National Project Coordinator had to be hired to finish the Project implementation.

The completion of the PSC did not happen until June 2013 and the first PSC meeting was not held until December 2013 with the participation of the first National Project Coordinator.

In turn, from the beginning of Project implementation there has been four changes in the head of the DGEE which has negatively impacted on the progress of Project activities.

In the middle of 2015, when the Mid Term Review (MTR) was undertaken, the Project showed a low execution level resulting in an extension request of the Project end date for December 31, 2016 and which was later stretched to June 30, 2017.

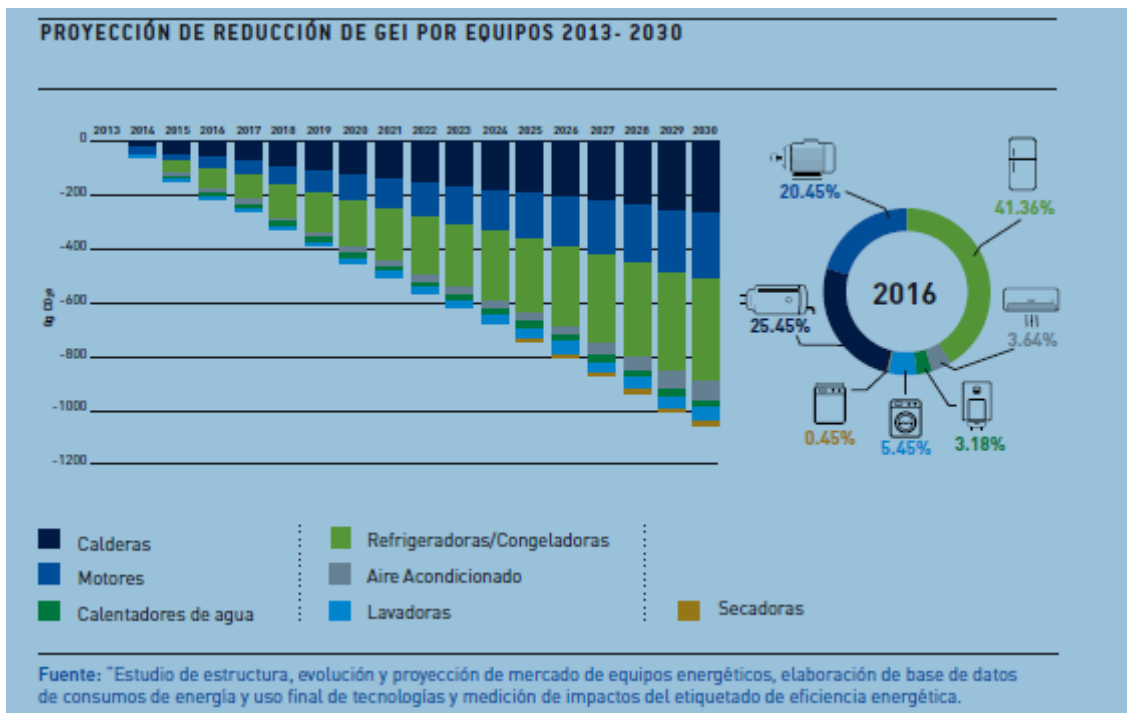
Since then, the Project has adequately followed the MTR recommendation and was able to gain part of the lost time and meet with its principal objective and the majority of the expected outcomes but with an agenda of actions to be undertaken, mostly related to the implementation of the conformity assessment system and approval of the MEPS.

*Project Objective: To reduce CO<sub>2</sub> emissions through the implementation of a (mandatory) EE standards and labels programme*

The technical-economic study that was based on the data from the market study estimated that with the implementation of the EE standards and labels programme it would be possible to achieve a reduction in energy consumption in the order of 63,000 TJ between 2013 and 2027 under a conservative scenario and a corresponding total amount of CO<sub>2</sub> emissions avoided estimated in 4.6 million tons of CO<sub>2</sub>

**¡Error! No se encuentra el origen de la referencia.** Figure 1 shows the progressive reduction of GHG by equipment type for the period 2013-2030.

Figure 1 Projected GHG reductions by equipment type for 2013-2030



Since the Technical Regulations have been approved in 2017 and that they will not be in force until April 2018, it has not been possible to quantify the average reduction of UEC. As it has been mentioned earlier, the targets that have been established in the PRODOC with regard to the average reduction of UEC for the domestic appliances are too optimistic and its possible compliance is doubtful in the medium term. Also, due to the short time that has elapsed since the approval of the Technical Regulations, it has not yet been possible to estimate the amount of EE equipment which are not in compliance.

The implementation of a mandatory EE labeling system is one of the measures that the Government of Peru has included in the INDC that was presented in the COP21 in December, 2015 in Paris, which demonstrates the high level of commitment that the Government has placed on this initiative which would contribute to the government objective of reducing of 89.4 MtCO<sub>2e</sub>, resulting in a 30% emission reduction by 2030.

*Outcome 1: Enhanced capacities of key public and private agencies to design, implement and enforce a mandatory S&L programme*

The Project succeed in strengthening the capacities of public and private agencies through the implementation of workshops and capacity building activities nationwide and the development of a Website ([www.etiquetaenergetica.minem.gob.pe](http://www.etiquetaenergetica.minem.gob.pe)) with detailed information on the EE labeling programme.

The Laboratory Diagnostic and Evaluation study identified 26 laboratories with potential to become EE laboratories. With the objective of promoting the development of this type of laboratories, the Project signed an agreement with the UNI to put in place a testing laboratory for electric water heaters.

As mentioned in the MTR, compliance with the target of having at least 5 accredited laboratories internationally recognised by the end of the Project is too ambitious for a country that did not require EE tests for the appliances included in the Technical Regulations. Until the conditions to guarantee a demand level that justifies investing in this type of laboratories by the private sectors are generated, it will be difficult that Peru will have testing and calibration laboratories capable of making the tests that are required under the Technical Regulations for all of the equipment categories.

The Project develop a conformity assessment system for the certification of the EE labeling and compliance with the MEPS which have been duly validated in workshops and seminars with the participation of 148 persons. However, it has not been possible to have Certification Entities (OCPs for its abbreviation in Spanish). INACAL's Accreditation Directorate is in the process of incorporating experts to manage the accreditation of OCPs. LENOR ([www.lenor.com.ar](http://www.lenor.com.ar)), a conformity assessment group of companies composed by certification and inspection bodies, and calibration and testing laboratories and which has EE laboratories in Argentina and Chile is interested in achieving certification in Peru and is evaluating the feasibility of installing an EE laboratory in the country.

In spite of the increase in technical capacity achieved with the different Project interventions, there is still a need for specialized technicians with direct experience in the implementation and management of a mandatory EE labeling system.

*Outcome 2: Market transformation strategy implemented with public and private sector involvement, based on consolidated information on the market structure*

The Project complied with the goals of developing a database with information on annual sales, energy consumption and technological characteristics of the equipment, defining MEPS and developing a strategy for its implementation based on four axes:

- **Axis 01**            Generation of a cultural change.
- **Axis 02**            Leverage through financial and technical promotion instruments.
- **Axis 03**            Evaluation and periodic updating of the current regulation related to energy equipment.
- **Axis 04**            Inter-institutional strengthening and articulation for the planning, coordination, execution and follow-up to the implementation of EE labeling.

The data base is a dynamic tool which will need to be updated periodically by DGEE which needs to assign technical personnel to this specific task and allow that interested parties including users of EE appliances to access the data base in order to monitor the market transformation process.

*Outcome 3: Strengthened legal framework for mandatory S&L and endorsed final Technical Regulations*

Due in part to the change of Government, the Technical Regulations on EE Labeling were approved on April 7, 2017, by Supreme Decree No 009-2017-EM, with its 9 annexes corresponding to the following categories of equipment: (i) luminaires, (ii) ballasts, (iii) engines, (iv) boilers, (v) air conditioners, (vi) refrigerators, (vii) water heaters, (viii) dryers and (ix) washing machines. Due to the opposition of the MEF, it was not possible to approve the mandatory compliance of the MEPS as required by the PRODOC, since MEPS were viewed as a potential impediment to international trade. This is despite the fact that many countries in the region and in the world have EE labeling systems that include mandatory compliance with MEPS.

To counteract this situation, the Project decided to work with *Peru Compras* to develop homologation cards based on the MEPS, which once approved will be of mandatory compliance for the purchase of EE equipment by public sector entities. On April 9, 2017 homologation cards were approved for washing machines for domestic use and there are 15 other homologation cards awaiting the signature of the Minister. At the same time, 38 other homologation cards related to luminaires have been approved already. Even though compliance with the homologation cards will only be mandatory for public sector companies, it is expected that this practice will help transform the appliance market by increasing the availability of high EE appliances.

*Outcome 4: Strategy to achieve the involvement of industry and consumers developed and implemented*

In the process of disseminating the benefits of mandatory EE labeling, the Project worked with all relevant stakeholders such as importers, manufacturers, marketers and distributors.

One aspect to be highlighted was the training of retail staff in which participatory practices were included in order to exchange information in a friendly manner as shown in *Figure 2*.

Figure 2 Capacity building of retail sales forces



The Project hired a specialized group to carry out a mass publicity campaign with written press, radio, and television, which became a key piece to raise consumer awareness who in the end will decide the type of appliance to buy. During his mission to Lima, the Evaluator was able to verify the effectiveness of the radio campaign that was being carried out at the time.

Figure 3 and Figure 4 shows examples of the graphics used in the campaigns of diffusion to the public and of the campaign: "The Energy of Change".

Figure 3 Examples of the graphics used in the awareness raising campaign: The Energy of Change





Figure 4 The Energy of Change campaign



*Outcome 5: Information and knowledge on S&L program generated and started*

The Project monitoring and evaluation was carried out using the mechanisms established in PRODOC, although there were delays in the implementation of the Inception Workshop, mainly due to delays in the formation of the Project team.

The involvement of private sector actors was key for achieving the development of the various studies undertaken by the Project. The strategy of using participatory processes and dissemination campaigns to validate and disseminate the knowledge generated was effective.

In turn, joint actions with other initiatives such as the Lighting Market Transformation project in Peru generated important synergies and enhanced the dissemination of the knowledge acquired through this Project, as well as, of the benefits of the EE labeling system.

Table 8 presents the ratings for Project Outcomes, Effectiveness, Efficiency, M&E, I&E Execution in accordance with the following scale of classifications.

- **6: Highly Satisfactory (HS):** The project had no shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency
- **5: Satisfactory (S):** There were only minor shortcomings
- **4: Moderately Satisfactory (MS):** there were moderate shortcomings
- **3. Moderately Unsatisfactory (MU):** the project had significant shortcomings
- **2. Unsatisfactory (U):** there were major shortcomings in the achievement of project objectives in terms of relevance, effectiveness, or efficiency
- **1. Highly Unsatisfactory (HU):** The project had severe shortcomings

Table 8 Ratings for Project Outcomes, Effectiveness, Efficiency, M&E, I&E Execution

Objective / Outcomes	Rating
<b>Objective:</b> To reduce CO2 emissions through the implementation of a (mandatory) energy efficiency standards and labels program	MS
<b>Outcome 1:</b> Enhanced capacities of key public and private agencies to design, implement and enforce a mandatory S&L programme	MS
<b>Outcome 2:</b> Market transformation strategy implemented with public and private sector involvement, based on consolidated information on the market structure	S
<b>Outcome 3:</b> Strengthened legal framework for mandatory S&L and endorsed final Technical Regulations	S
<b>Outcome 4:</b> Strategy to achieve the involvement of industry and consumers developed and implemented	S
<b>Outcome 5:</b> Information and knowledge on S&L program generated and started	HS
<b>Project:</b>	S

Table 9 presents the Matrix for rating the achievement of outcomes detailing the attainment of the project objective and each of the expected outcomes at project end, evaluated based on the fulfilment of the proposed indicators and goals.

Table 9 Matrix for rating the achievement of outcomes

Indicator assessment code

Green=Completed, Indicator shows successful achievement	Yellow= Indicator shows expected completion by the end of the Project	Red= Indicator shows poor achievement – unlikely to be completed by Project closure
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Project Strategy	Indicator	Baseline	Targets End of Project	Status at Project end	Achievement Ratings	Justification for Ratings
Project Objective <sup>20</sup> To reduce CO2 emissions through the implementation of a (mandatory) energy efficiency standards and labels program	A) Change in annual sales towards average higher efficiency appliances (lower unit energy consumption, UEC)	See UEC table	Reduction in average UEC of domestic appliances	<ul style="list-style-type: none"> <li>n.a.</li> <li>n.a.</li> <li>Between 2016 and 2030, it is estimated that the reduction of CO2 emissions was estimated at approximately 8.8 million tonnes.</li> </ul>	<b>MS</b>	The study of the Structure and Evolution of the Market conducted on the basis of 2013 served to know the inventory of existing equipment and trends at residential, commercial and industrial level. This information was updated in 2016 as part of the MEPS study. However, due to the recent approval of the Technical Regulation, there is still no reliable data on the reduction of the average UEC of household appliances. There is still no actual data regarding the number of equipment that complies with
	B) Share of non-compliant products	There is no mandatory S&L	50% should be compliant by the end of the project.			
	C) GHG emission trends	Annual electricity demand will grow to 1000 TJ by 2018 and corresponding GHG emissions	Estimate of direct and indirect emissions (1,217 ktCO <sub>2</sub> over the period 2011-2018 in accordance with the Referential Plan's projections.			
	D) Amount of CO <sub>2</sub> emissions avoided directly and indirectly	N/A	Direct emission reduction (due to project's intervention)			

<sup>20</sup> Objective (Atlas output) and outcomes are monitored quarterly ERBM and annually in APR/PIR



Project Strategy	Indicator	Baseline	Targets End of Project	Status at Project end	Achievement Ratings	Justification for Ratings
			2011-2015): 301 ktCO <sub>2</sub> ;  Indirect emission reduction (post-project impact, 2016-2025): 2,192 ktCO <sub>2</sub>			the standard. The approval of the Technical Regulations for the moment does not contemplate restrictions on the commercialization of equipment that does not comply with the MEPS. However, from the approval of the homologation cards developed by <i>Peru Compras</i> all state entities are obliged to buy equipment that comply with the MEPS.
<b>Outcome 1</b> Enhanced capacities of key public and private agencies to design, implement and enforce a mandatory S&L program	E) Status of programs in key public agencies to implement effective mandatory S&L	Insufficient implementation of S&L program	New policy provisions and compliance checking, enforcement and outreach programs adopted that reflect international "best practices"			
Output indicators:	1) Status and type of TA and capacity building activities ( <i>output 1.1</i> )	Programs, procedures and organizational arrangements are not sufficient for mandatory implementation of S&L	About 100 staff trained over a 4-yrs period at 4 workshops and training events	<ul style="list-style-type: none"> <li>More than 100 government officials were trained on issues related to EE labeling, calibration and testing laboratories and the</li> </ul>		As part of the study "Diagnosis and evaluation of testing laboratories for energy labeling", 26 laboratories with

Project Strategy	Indicator	Baseline	Targets End of Project	Status at Project end	Achievement Ratings	Justification for Ratings
	2) Impact of project's website on government officials private sector and consumers (in their purchasing decision) (output 1.1, output 4.1, output 4.2)	Some info on S&L on MINEM website	A dedicated web site with 50% of interviewees find website useful)	proposed system for conformity assessment. <ul style="list-style-type: none"> <li>Website is operational with a direct access <a href="http://etiquetaenergetica.minem.gob.pe/">http://etiquetaenergetica.minem.gob.pe/</a> and with good references of users.</li> </ul>	MS	the potential to become EE laboratories according to ISO 17025 were identified. In order to stimulate the creation of national EE laboratories, an agreement with the National University of Engineering (UNI) to set up a laboratory for testing electric water heaters. To date there are no accredited laboratories.  Although the study "Conformity assessment system for the certification of EE labeling and compliance with the MEPS was carried out and validated in workshops and seminars with the participation of 148 people, to date it has not been possible to count With Product Certification Organizations (OCP). However, the company Lenor that already has EE laboratories in Argentina and Chile has expressed interest in being certified and is evaluating the implementation of an EE laboratory in Peru.
	3) Status and functioning of database (output 1.2)	No such a database exists	One database established by yr1 at MINEM	<ul style="list-style-type: none"> <li>Data base established.</li> </ul>		
	4) Strengthened standardization institutes and testing bodies (output 1.3)	Testing capacity available at selected institutes but insufficient	At least 5 accredited laboratories and internationally recognized  Number of agreements recognizing accreditation bodies in other countries  About 150 staff trained over at 6 workshops and training events per year	<ul style="list-style-type: none"> <li>No labs have been accredited but Lenor is in the process of being certified. In the MTR it was anticipated that this indicator was too ambitious.</li> <li>Certificates of conformity may be issued by the competent national authority of the country of manufacture or other member countries of IAC that have signed the Multilateral Recognition Agreement (MLA).</li> <li>About 150 staff trained in workshops</li> </ul>		
	5) Status of verification and enforcement of S&L (output 1.4)	Current verification and enforcement scheme are inadequate	Accepted verification and enforcement plans	<ul style="list-style-type: none"> <li>Conformity assessment system has been validated in workshops and seminars with the participation of 148 officials</li> </ul>		

Project Strategy	Indicator	Baseline	Targets End of Project	Status at Project end	Achievement Ratings	Justification for Ratings
			About 150 staff trained at 6 workshops events per year  The appliances selected are tested on compliance			
<b>Outcome 2</b> Market transformation strategy implemented with public and private sector involvement, based on consolidated information on the market structure	F) Level of info available to define energy consumption in label categories and for measuring project impact	Data available in MINEM's database, but needs to be updated and expanded	Regularly updated data on annual sale and energy consumption and technology Market monitoring methodology finalized			
	G) Status of recommendations contributing to institutional sustainability (transformation strategy)	S&L system in place is voluntary, but has limited impact so far	Market transformation strategy in with implementation plan and budget			
<i>Output indicators:</i>	6) Availability of required market and technical data ( <i>output 2.1</i> )	Insufficient data Insufficient information on consumers preferences No real info exchange or integration of info systems with other countries in the region	Regularly updated data base) Completed consumer surveys with at least 1500 questionnaires per survey 14 workshops on data gathering	<ul style="list-style-type: none"> <li>Data base established with market structure information, annual sales, technical characteristic and consumption date for the different energy equipment</li> </ul>		The evaluation of the structure and projection of the energy equipment market was carried out with a high degree of detail and the market data is available on the Project website.
	7) Level of info available for definition of energy consumption levels for labels and MEPS	Format for MEPS and labels formulated, but quantification is needed based on solid data	Proposal for levels of MEPS for the 5 appliances	<ul style="list-style-type: none"> <li>MEPS have been established for the different equipment categories.</li> </ul>	S	In spite of having developed the MEPS and its implementation strategy for each of the defined product categories, mandatory

Project Strategy	Indicator	Baseline	Targets End of Project	Status at Project end	Achievement Ratings	Justification for Ratings
			About 16 meetings per appliance on S&L energy level definition	<ul style="list-style-type: none"> <li>Market transformation strategy is in place with implementation plan and a budget to guarantee the sustainability of the proposed actions required over the next five years.</li> </ul>		<p>approval of the MEPS has not been granted. However, it was possible to incorporate the MEPS in the homologation cards of <i>Peru Compras</i>, so that nowadays MEPS are mandatory for purchases of equipment from public entities.</p> <p>The market transformation strategy is based on four axes which are:</p> <ul style="list-style-type: none"> <li>• AXIS 01: Generation of a Cultural Change.</li> <li>• AEJE 02: Leverage in financial and technical promotion instruments.</li> <li>• Axis 03: Evaluation and periodic updating of the current regulations related to energy equipment.</li> <li>• Axis 04: Inter-institutional strengthening and articulation for the planning, coordination, execution and follow-up to the implementation of the EE Labeling.</li> </ul>
	8) Status of strategy on mandatory S&L implementation	Non existing	Strategy in place 14 workshops with stakeholders on strategy including participation in 4 regional meetings			
<b>Outcome 3</b> Strengthened legal framework for mandatory S&L and endorsed final Technical Regulations	H) Status of decision-making regarding introduction of mandatory EE S&L	Mandatory MEPS exist for CFLs; voluntary labels and MEPS for ballasts, cloth washers, fluorescent lamps, refrigerators and freezers, air	Signed decree on Technical regulations making labels (and/or MEPS) mandatory in the refrigerators, freezers, water heaters, washing			

Project Strategy	Indicator	Baseline	Targets End of Project	Status at Project end	Achievement Ratings	Justification for Ratings
		conditioners and electric water heaters	machines and electric motors			
<i>Output indicators:</i>	9) Awareness level of decision-makers to develop and implement effective S&L policy and regulations <i>(output 3.1)</i>	Insufficient awareness and info to adopt S&L laws and regulations	3 events per year; including participation in international events and study tour for key decision-makers	<ul style="list-style-type: none"> <li>• Technical capacities strengthened through study trips and participation in international events.</li> <li>• Workshops with CTN-UREEE undertaken including 6 meetings on specific aspects.</li> </ul>	S	<p>The cancellation of the contract of the international consultant initially selected to prepare the Technical Regulations together with the shortage of local specialists caused a significant delay in the drafting of the Technical Regulations.</p> <p>The approval of the Technical Regulation was only achieved in early April 2017 and therefore it was not possible to assess the impact of labeling on the market structure.</p> <p>At the same time, it was not possible to approve the mandatory compliance with MEPS</p> <p>This is despite the fact that many countries in the region and the world have mandatory EE + MEPS labeling systems. The benefits of compiling a compendium of international best practices should be analyzed to demonstrate that mandatory labeling schemes for EE and MEPS rather than being measures against free trade are an effective tool for</p>
	10) Status of Technical Regulations <i>(output 3.2)</i>	S&L on voluntary basis	Decree by Government and/or President making S&L mandatory	<ul style="list-style-type: none"> <li>• National forums have been held in Arequipa, Huancayo, Piura, Pucallpa and Lima with the participation of 341 attendees to present the Technical Regulations,</li> <li>• Technical Regulations have been approved by DS N° 009-2017- EM on April 7<sup>th</sup>, 2017.</li> <li>• Homologation cards for two categories of domestic washing machines were approved in April 2017.</li> <li>• 15 homologation cards for electric motors are awaiting approval by Minister of Energy and Mines</li> </ul>		

Project Strategy	Indicator	Baseline	Targets End of Project	Status at Project end	Achievement Ratings	Justification for Ratings
						protecting consumers' rights and preventing them from being abused by unscrupulous manufacturers / traders who intend to market equipment with possibly a lower initial cost but which when considering the life cycle cost end up generating a higher cost to the consumer apart from generating negative externalities for the country
<b>Outcome 4</b> Heightened consumer awareness and acceptance of S&L program	1) Priority of different criteria used by customers in their purchasing decision and of private sector in marketing their products	No emphasis among the consumers (and sales personnel) on energy efficiency aspects and life cycle costs when purchasing and marketing new appliances	Beside the initial purchasing price, energy efficiency and life-cycle costs have become a key criteria for purchasing decisions, guided by the energy label			
<i>Output indicators:</i>	11) Joint marketing campaigns with the manufacturers and retail chain (with related material for advertising and in-store use), highlighting the energy efficiency aspects and the life-cycle costs approach ( <i>output 4.1; output 4.2</i> )	Insufficient focus and material on energy efficiency aspects in marketing and advertisement	Delivery of joint marketing campaigns with the manufacturers and retail chain highlighting the EE aspects and the life-cycle costs 30 workshops-meetings-promotional events with industry, consumer groups, NGOs, retail chains	<ul style="list-style-type: none"> <li>• Work was done with the various relevant stakeholders, such as importers, manufacturers, distributors and distributors to disseminate the benefits of labeling.</li> <li>• In order to influence consumers' purchasing decisions, campaigns were carried out in mass media and social networks with national coverage</li> <li>• 7 training workshops were held for retail teams</li> <li>• Events on financial incentives have been held</li> </ul>	S	The hiring of a specialized group to carry out an awareness raising campaign with written press, radio and / or television was a key piece to achieve consumer awareness that in the long run it is who will decide which domestic appliances to buy.
	12) Emphasis on EE aspects in the	Relatively low emphasis on energy	Trained sales staff in the retail chain			

Project Strategy	Indicator	Baseline	Targets End of Project	Status at Project end	Achievement Ratings	Justification for Ratings
	marketing strategy of the retail chain (output 4.1)  13) Status and delivery of specific campaigns and incentives (output 4.1)	efficiency aspects in the marketing strategy of the retail chain.  No specific incentives	(complemented, as applicable, by specific incentives such as premiums for the sales personnel for the sale of EE products) 12 training events-meetings with retailers	<ul style="list-style-type: none"> <li>Workshops were carried out within the framework of the solid waste management study that considered the incentive scheme proposed in the energy equipment substitution programme.</li> </ul>		
Outcome 5: Information and knowledge on S&L program generated and started	J) The level of information available for monitoring and evaluation and adaptive management	n.a.	Adequate information available for adaptive management and measuring the impact			
	14) Estado de los informes de progreso, evaluación y final del Proyecto	No hay consolidado de lecciones aprendidas y resultados del Proyecto	Reportes anuales de progreso del Proyecto, informe de evaluación de la línea de base y final del Proyecto	<ul style="list-style-type: none"> <li>The Project complied with the preparation of all documentation required under this component</li> <li>El Proyecto cumplió con la preparación de los informes requeridos bajo este componente</li> </ul>	HS	The anual reviews and budgetary adjustments have been prepared with a high degree of detail which has facilitated the evaluation process.

### 3.3.2 Relevance

As a result of the significant economic growth that Peru has experienced, total energy demand between 2000 and 2013 grew by 3.8% on average, with electricity being one of the main sources of energy for the residential sector. This increase in energy consumption represents a major challenge for the sector and for the economy in general. To address this growing energy demand, one of the main policies that has been successfully pursued at the international and regional levels is the implementation of a mandatory EE labeling system together with the establishment of MEPS as a complementary tool.

In this context, the EE S & L Project is of crucial importance for Peru given the high priority set by the Government in achieving the reduction of electrical energy consumption caused by inefficient-energy domestic appliances.

The relevance of the Project is also demonstrated by the commitment made by the Peruvian Government to include the EE labeling program as one of the measures which have been proposed in the INDC presented at the December 21, 2015 COP 21 in Paris and its alignment with the regulations and institutional framework in force.

At the same time, the Project responds to the strategic objectives of the GEF in terms of its potential to reduce CO<sub>2</sub> emissions, another example of its relevance at the international level.

**In terms of Relevance, the Project is classified as Relevant (R).**

### 3.3.3 Effectiveness and Efficiency

The Evaluator considers that the Project has been effective in achieving the expected results, except that due to the delays in the approval of the Technical Regulation, it is still too early to determine the impact that the Project has had on transforming the market and reducing CO<sub>2</sub>. In turn, it has not been possible to include the MEPS as part of the Technical Regulation, which is why, for the moment, MEPS compliance is only voluntary.

In turn, the Project demonstrated effectiveness in managing risks with appropriate adaptive management. In particular, the decision to work with *Peru Compras* in the development of homologation cards based on MEPS was an excellent strategy from which, once the homologation cards have been approved by the MEM, the purchases of the public companies will be obliged to comply with MEPS.

The contribution of the Project in terms of the increased technical capacity of the public and private organisms related to EE also proved to be effective, except that calibration and testing laboratories have not yet been established and further training programs technique are still required. In any case, based on the experience of the countries of the region, the conformity assessment system will be implemented in three stages, and it will allow even under phase 3 the possibility of accepting certification by an accrediting body that is a signatory to the International Multilateral Agreement (MLA) to the International Accreditation Forum (IAF)

Irrespective of the relatively good level of effectiveness achieved, it is essential to continue awareness-raising actions for final consumers and to strengthen calibration and testing laboratories and training institutions in charge of the control and verification of EE labeling to ensure the effective achievement of long-term objectives, in particular regarding the reduction of CO<sub>2</sub> emissions and the effective transformation of the appliance market.

In terms of efficiency, the Project managed to execute almost 100% of the funds contributed by the GEF and materialize all the co-financing commitments of MEM and MEM. However, certain



unforeseen events, such as the cancellation of the contract of the international consultant initially selected to develop the MEPS and the three changes of the National Coordinators, among others, ended up generating some degree of inefficiency in the use of the funds.

**In terms of Effectiveness and Efficiency, the Project is classified as Satisfactory (S)**

#### 3.3.4 Country ownership

The EE Labeling Project is well aligned with the country's development priorities and in particular those set out in the Efficient Energy Efficiency Reference Plan that was officially introduced in October 2009, as well as, the priorities that were introduced in legislation related to EE a posteriori.

Other ongoing initiatives aligned with the Project include:

- Lighting Market Transformation in Peru project
- NAMAs project in the energy generation sector and end use of energy in Peru

The Project worked closely with these initiatives that are also being implemented by the DGEE, exchanging experiences and knowledge and carrying out some joint activities in order to maximize the use of resources, both financial and human.

Due to the nature of the main activities and expected outcomes of the Project there is no particular focus on the issue of gender equality and / or human rights, as is the case with other projects that address these issues more directly under UNDP priority themes. In any case, during the implementation of the Project, the principle of equal opportunities in terms of gender was respected.

In the design of mass media campaigns and social networks to raise consumer awareness the influence of women in the decision to purchase appliances considering their main motivations are savings and welfare were taken into account.

#### 3.3.5 Mainstreaming

The objectives and results of the Project are in line with the priorities of the UNDP Country Programme for Peru (2017-2021), a program designed to assist Peru in becoming a member of the Organization for Economic Cooperation and Development (OECD) and meet the 2030 Agenda for Sustainable Development.

The Project effectively integrated capacity-building at both the national and sub-national levels for the design and implementation of policies to increase EE and reduce CO2 emissions and thus support the achievement of *Outcome 1: Growth and Inclusive and sustainable development* of that programme.

Project activities were well aligned with Outputs 1.1 and 1.2 which aim to strengthen national and sub-national capacities for the implementation of sustainable and inclusive development policies and plans and for the sustainable management of climate change mitigation.

Under the United Nations Development Assistance Framework (UNDAF) agreed with the Government of Peru for the period 2017-2021, development countries and actors have committed to work together to promote sustainable and inclusive growth, social development and environmental protection, with the imperative to tackle social inequalities, eradicating all forms of discrimination so that no one is left behind. The Project fully complies with the

objectives of the UNDAF and in particular with the pragmatic principle of promoting "Environmental sustainability, disaster risk reduction, climate change and increased resilience."

Finally, the Project successfully integrates the objectives of GEF Operational Program No. 5 "Removal of barriers to energy efficiency use and energy conservation".

### 3.2.6 Sustainability

The Project sustainability assessment is based on determining the extent to which the benefits of the Project will continue after the GEF financial support has been completed and evaluating those risks that may affect the continuation of the Project results in the future.

Table 10 summarizes the main risks under the four categories of sustainability risks established by the GEF.

Table 10 Sustainability risks

Risk	Comment
<b>Financial risks</b>	
Lack of financial resources to maintain the necessary technical capacities in the DGEE and other state agencies charged with ensuring the functioning of the mandatory EE labeling system and the medium and long term implementation of MEPS	The priority objective of DGEE is to continue to support the implementation of the EE labeling program. Although there are no significant funds remaining from this Project, the DGEE remains committed to continue working towards the approval of the MEPS as part of the Technical Regulation and supporting the implementation of the conformity assessment system for which an EE coordinator and Energy Planning coordinator have been incorporated to the DGEE staff recently. In turn, the DGEE continues to carry out training workshops for INDECOPI and INACAL. However, it is necessary to ensure that the various public bodies responsible for overseeing the verification, control and enforcement of the EE labeling program have adequate budgetary allocations to ensure its sustainability over the medium- and long-term. In particular, agencies such as INACAL and INDECOPI need to strengthen their capacities and technical bodies
<b>Socio political risks</b>	
Consumers lack of interest in purchasing EE appliances	DGEE should continue with the implementation of awareness raising campaigns and promotional programmes aimed at the final. Achieving market transformation requires a cultural change that based on the experience of other countries takes time and effort
<b>Institutional and governance risks</b>	

Risk	Comment
<p>The proposed verification and control mechanisms may not be sufficient to avoid that the commercialisation energy inefficient appliances does not continue and to ensure the proper disposal of the existing ones.</p>	<p>By not including the DIAN as a verification agent there is a risk that domestic appliances that do not comply with EE labeling regulations will continue to enter into the country. In turn, given that compliance with MEPS are not mandatory, there are no restrictions on the importation and / or manufacturing of energy inefficient appliances provided they meet the requirements of the labeling.</p> <p>It is necessary to design plans that provide incentives for the purchase of efficient appliances based on the efficient disposal of existing inefficient appliances. This is to avoid that the purchase of an efficient equipment does not translate in an increase in energy consumption due to the fact that the obsolete equipment will remain in use. For this measure to be effective, there is a need to ensure that recovery and disposal plants in the main cities of the country are implemented first. (see Environmental Risks below)</p>
<p>Delays in obtaining certification of laboratories and / or accreditation of certification companies in the short to medium term due to not being in technically equipped or lack of interest under the conditions imposed by the proposed technical regulations and / or other standards of the labeling system to become certified / accredited.</p>	<p>An extended programme to continue strengthening calibration and testing laboratories and ensuring having enough accredited OCPs in country is needed.</p> <p>The approved Technical Regulations do not require that EE tests performed by laboratories overseas have to be certified by local OCPs. Based on the experience of other countries in the region, requiring the certification laboratory testing done overseas by local OCPs is an effective measure to ensure that investment in calibration and testing laboratories by the private sector happens in the medium term. Without such a requirement that will guarantee sufficient demand, it is unlikely that the private sector will invest in calibration and testing laboratories in the country. Unless investments are made in testing and calibration laboratories local manufacturers will be penalised by having to incur additional costs to certify their equipment abroad</p>
<p><b><i>Environmental risks</i></b></p>	

Risk	Comment
Poor management of the final disposal of solid and gaseous waste from energy equipment	It is necessary to analyse good practices related to managing the handling and final disposal of inefficient energy appliances. In particular, current practices should be carefully evaluated placing emphasis on the duly control and follow-up to ensure that the disposal of inefficient appliances (which must be delivered as a condition to qualify for reimbursements for the purchase of high energy efficiency appliances) is carried out in accordance with best international practices

<b>In terms of sustainability the project is rated at:</b>	
<b>Financial resources</b>	<b>Moderately Likely (ML)</b>
<b>Socio political</b>	<b>Likely (L)</b>
<b>Institutional and governance</b>	<b>Moderately Likely (ML)</b>
<b>Environmental</b>	<b>Likely (L)</b>
<b>Overall sustainability</b>	<b>Likely (L)</b>

### 3.3.7 Impact

The Project shows an increasing progress in achieving its objective of reducing CO<sub>2</sub> emissions through the application of mandatory EE standards as a result of having approved the Technical Regulations and the homologation cards of *Peru Compras*.

Based on preliminary projections, it is estimated that the reduction of CO<sub>2</sub> emissions between 2013 and 2027 will be approximately between 4.6 and 6.6 million tons according to the conservative and optimistic scenario, respectively.

However, since the mandatory implementation of the Technical Regulations will only come into force on April 7, 2018, and that the approval of the homologation cards happened too recently, it has not yet been possible to accurately assess their impact with regard to the reduction of CO<sub>2</sub> emissions generated by the Project.

In any case, it is expected that the approval of the *Peru Compras* homologation cards will have a considerable impact by mandating that public sector entities purchase energy-efficient equipment and in this manner it will help raise awareness of private sector companies and the residential sector of the importance of complying with the MEPS, as well as, of importers and marketers that will begin to adapt their stocks to the new requirements.

<b>In terms of impact, the Project is classified as Significant (S)</b>
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## 4. Conclusions and Recommendations

### 4.1 Findings

The Project is fully aligned with Peru's development priorities and in particular with those established in the UNDP country program for Peru (2017-2021) and in the US-related legislation (i.e., Law No 27345 Promotion of the Efficient Use of Energy and its regulation, Reference Plan for the Efficient Use of Energy 2009-2018, and National Energy Policy for Peru 2010-2040).

Based on preliminary projections it is estimated that the reduction of CO<sub>2</sub> emissions between 2013 and 2027 will be approximately between 4.6 and 6.6 million tons according to the conservative and optimistic scenario, respectively. However, as the mandatory implementation of the Technical Regulation will only come into force on April 7, 2018, and approval of the homologation cards has been very recent, it has not yet been possible to accurately assess their impact with regard to the reduction of CO<sub>2</sub> emissions generated by the Project.

The Project has achieved important achievements, although there are still activities which are needed to ensure the sustainability of the mandatory EE labeling program in the short to medium term. Key achievements include:

- The approval of the Technical Regulations of Labeling for rational use of energy for the different classes of appliances included in PRODOC,
- Strengthening of the capacities of decision makers, producers, importers, distributors and marketers involved in the design and establishment of the EE labeling program,
- The creation of a specialized website ([www.etiquetaenergetica.minem.gob.pe](http://www.etiquetaenergetica.minem.gob.pe)) with detailed information on the benefits and advantages of the EE labeling program for the final consumer and statistical data on the projection of energy consumption and savings, CO<sub>2</sub> emission reductions for energy equipment with and without the EE labeling programme and technical documents for specialists,
- Strengthening of the standardization ([etiquetaenergetica.minem.gob.pe](http://www.etiquetaenergetica.minem.gob.pe)) of testing institutes and laboratories together with the identification of 26 laboratories with the potential to become EE laboratories as shown in Annex IX,
- The signing of a cooperation agreement with UNI to promote the creation of EE laboratories through which the Project financed the acquisition of a test bench for electric water heaters,
- The development of a conformity assessment system for the certification of EE labeling and MEPS compliance, validated in more than 30 workshops and seminars with the participation of about 150 officials, whose implementation will be progressively carried out in three phases with the participation of MEM, SUNAT, INACAL, INDECOPI, and PRODUCE. The conformity assessment will be carried out by OCPs and the Testing Laboratories,
- The study of the structure, evolution and projection of the energy equipment market together with the elaboration of data base of energy consumption and of end-use technologies and measurement of impacts of the EE labeling,

- The definition of MEPS with the objective of prioritizing the entry of energy efficient equipment and development of a roadmap for the establishment of its regulatory framework to be led by DGEE,
- The preparation of homologation cards that will be used by *Peru Compras* so that public sector entities use energy efficiently and lead the implementation of the EE labeling program,
- The development of a strategy for the transformation of the EE market and labeling by DGEE with actions for the appropriate final disposal and recycling of waste that will be generated from future actions to replace existing energy inefficient equipment by more efficient ones and proposals of financial incentives and mechanisms to encourage the replacement of inefficient equipment,
- The exchange of experiences, workshops and meetings with the main actors involved in the implementation of the Technical Regulations and with the participation of representatives of INDECOPI, INACAL, SUNAT, MEF, MINAM and others. In turn, national forums were held for the dissemination of the Technical Regulation proposal in Arequipa, Huancayo, Piura, and Pucallpa with the participation of about 350 attendees,
- The dissemination of the benefits of labeling with the various relevant actors and the training of retail staff along with the development of consumer awareness campaigns with mass media broadcasting and social networks with national coverage, and
- Even if not stated in result framework, the Project has supported the preparation of the study "Management, handling and final disposal of solid and gaseous waste of energy equipment" and further supported MINAM and the RAEE Technical Committee in the elaboration of the Peruvian Technical Standard "Management and Handling of Electrical and Electronic Equipment Waste".

Table 11 summarizes the performance ratings

Table 11 Project performance ratings

Rating of Project Performance			
1. Monitoring and Evaluation		2. IA & EA Execution	
	Rating		Rating
M&E design at Project startup	Satisfactory (S)	Implementing Agency Execution	Satisfactory (S)
M&E Plan implementation	Satisfactory (S)	Executing Agency Execution	Satisfactory (S)
<b>Overall quality of M&amp;E</b>	Satisfactory (S)	<b>Overall quality of Project Implementation / Execution</b>	Satisfactory (S)
3. Outcomes		4. Sustainability	
	Rating		Rating
Relevance	Relevant (R)	Financial resources	Moderately Likely (ML)
Effectiveness	Satisfactory (S)	Socio – political	Likely (L)

Efficiency	Satisfactory (S)	Institutional framework / governance	Moderately Likely (ML)
		Environmental	Likely (L)
<b>Overall Quality of Project Outcomes</b>	Satisfactory (S)	<b>Overall likelihood of risks to sustainability</b>	Likely (L)

#### 4.2 Corrective actions for the design, implementation, monitoring and evaluation of the Project

- Having subsidized credit lines to assist existing laboratories to finance the equipment and training of their professionals required to comply with the EE tests required under the Technical Regulations should have been considered,
- Another aspect that should have been considered as part of the project design is the creation of specific policies to encourage the use of EE equipment by reducing taxes on the most efficient equipment,

*Note: The Project by itself could not encourage the creation of incentives to use efficient equipment by reducing taxes on highly EE equipment, because the Government's position is not to establish incentives or subsidies for the implementation of its policies other than through market incentives. During the development of the study of the EE labeling market transformation strategy, the possibility of developing incentives was discussed with the MEF, however the position of the MEF is not to promote this type of mechanisms.*

- The Project design did not envisage promoting the implementation of mechanisms based on Producer Extended Responsibility (REP for its abbreviation in Spanish) in which producers assume responsibility for their products at the end of their useful life, particularly with regard to refrigeration equipment being displaced and which use gases that affect the ozone layer in order to be congruent with the UNDP agenda under the Montreal Protocol. This in spite of the fact that Peru already has a National Regulation for Waste Handling and Management, which establishes the responsibilities of the private and public sector to implement waste management systems of the RAEEs in the country.

*Note: MINAM is the governing body of environmental management in Peru and has established the REP concept for the management of RAEEs, through the National Regulation for the management and handling of electronic and electric devices, approved on June 27, 2012 by Supreme Decree No. 001-2012-MINAM. This regulation was approved after the design of the Project Design Document.*

*The Ministerial Resolution 200-2015-MINAM, regulated the functioning of the REP, by stating that the import and production companies of equipment must submit their RAEE plans (collectively or individually) for evaluation by PRODUCE. These plans include disposal targets for RAEE generated, which are managed by companies known as "colectivos" that perform reverse logistics for the collection of waste. Companies like MABE, INDURAMA, HIRAOKA manage their waste through these "colectivos". The compliance of the plans is supervised by PRODUCE and the Environmental Assessment and Control Agency (OEFA for its abbreviation in Spanish).*

*Since this is a competency of MINAM but is carried out by PRODUCE, the Ministry of Transport and Communications (MTC for its Spanish abbreviation), provincial and local governments, in accordance with the guidelines established in the General Law on Solid Waste, it is unlikely that the project would have been able to comply with indicators directly related to the application of REP to the RAEE, due to the fact that the competencies fall on entities other than MEM. More time and budget would have been required to implement actions in this area.*

*However, the Project has supported the preparation of the study "Management, handling and final disposal of solid and gaseous waste of energy equipment" and further supported MINAM and the RAEE Technical Committee in the elaboration of the Peruvian Technical Standard "Management and Handling of Electrical and Electronic Equipment Waste".*

- Also, it would have been useful to consider the importance of having facilities for the disposal of inefficient appliances

*Note: Provincial and local governments are responsible for providing waste collection, transportation and disposal services. In the case of the "colectivos" that take care of the RAEE, they carry out reverse logistics for collecting RAEEs from private companies using collection points. At the national level 338 permanent collection points have been installed. It is important to emphasize that the investment for the adequate management of RAEEs, which includes the installation of infrastructure including collection centres, treatment and final disposal sites is high. Therefore, as the PRODOC budget was limited, the Project focused its activities on strengthening national capacities and enabling conditions for the implementation of the labeling programme. In addition, the Project supported the preparation of studies that allowed MINAM to develop the Peruvian Technical Standards for the treatment of RAEEs of four equipment categories included in the technical regulation.*

*<http://www.minam.gob.pe/calidadambiental/wp-content/uploads/sites/22/2013/10/RAEE-baja.pdf>*

- With regard to the implementation phase, the conformation of the Project team should have been carried out sooner. This is a recurring feature in much of the UNDP / GEF funded Projects where there are often significant delays in initiating implementation for this reason, and
- It is important to find a way to speed up and simplify UNDP administrative processes, a recurrent cause of delays in the implementation of UNDP/GEF projects.

#### 4.3 Actions to follow up or reinforce initial benefits from the Project

##### 4.3.1 Financial

- Guarantee the allocation of financial, as well as technological and human resources that the different public bodies responsible for control, monitoring and compliance with the Technical Regulations at national level need to have. At the same time, resources for the implementation of the different activities presented in this section should be guaranteed. For this purpose, additional donors should be identified in order to support the implementation process of the EE labeling program in the future.



#### 4.3.2 *Data management*

- Continue to generate, compile and systematize reliable information regarding the imports, inventory and sales of the different equipment subject to the Technical Regulations in order to categorize the equipment according to its consumption and thus be able to measure the changes in the market structure and the Project impact in terms of the reduction of CO<sub>2</sub> emissions generated.

#### 4.3.3 *Capacity development / training*

- Continue strengthening the metrology functions in order to ensure traceability in the measurement of the quantities required by the Technical Regulations and generate conditions to encourage the accreditation of laboratories. In this sense, the possibility of modifying the Technical Regulations should be evaluated so that in the medium term local OCP will be obliged to certify the results of laboratory tests performed abroad. This strategy has already been successfully used to promote the installation of calibration and testing laboratories in other countries of the region. Without a regulatory framework that helps to develop a guarantee demand for laboratories, it will be very difficult for the private sector to invest in laboratory equipment locally.
- A study should also be carried out to estimate the amount of investment required to upgrade existing laboratories to be able to comply with the testing requirements of the Technical Regulations and the level of demand that would be generated if in country certification is made mandatory. From the result of this type of study it will be possible to determine the feasibility of the private sector to carry out investments in calibration and testing laboratories, based on the demand and the projected investment amounts to upgrade existing labs or build new ones. Based on the results of this study, it may become feasible to propose mandatory local certification in a progressive way in order to encourage investments in laboratories by the private sector.
- In order to monitor and verify compliance with the Technical Regulations effectively at the national level, INDECOPI needs to be strengthened since it does not currently have enough technical staff and financial resources to carry out effective control at the national level.
- DGEE should continue with the training of retail sales forces in order to guarantee that consumers have access to reliable information.

#### 4.3.4 *Regulatory aspects*

- The inclusion of quality requirements in the Technical Regulations is another area that should be explored to help the consumer to distinguish between two equipment of similar consumption but with different levels of quality using the information provided in the label.
- Importers, manufacturers, distributors and equipment marketers have actively participated in the Technical Committees that were held to agree on the technical standards of the different categories of equipment. However, there are still unanswered questions remain about the implementation process of the EE labeling program. Therefore, it is necessary that DGEE continues with the development of workshops and meetings to resolve doubts in the interpretation of the rules and

requirements, which very possibly will translate into issuing explanatory notes and / or making changes to the Technical Regulations.

- SUNAT should be in charge of monitoring the categories of equipment that are imported according to their energy consumption and monitoring compliance with the mandatory EE labeling. The approved Technical Regulations only requires that the inspection of the labeling is carried out at the points of sale, something that may lead to the importation of equipment that does not comply with the mandatory EE labeling and which then be marketed through informal sales channels

#### 4.3.5 Disposal of inefficient energy equipment

- In order to increase the participation of energy-efficient appliances in the market while generating effective energy savings, it is necessary to ensure the disposal of inefficient appliances. It is important to avoid that as a result of the sale of a EE appliance, the inefficient appliance that was supposed to replace is no longer in operation. Otherwise, an increase in energy consumption will be generated. To this end, it is necessary to have collection centres to remove from circulation inefficient appliances and policies that offer economic incentives to buyers of efficient appliances to turn in their inefficient appliances,

*Note: As mentioned earlier, the Project on its own has not been able to promote the creation of economic incentives because the Government position is not to establish incentives or subsidies for the implementation of its policies, but rather to develop market incentives. However, in the studies on the management, handling and final disposal of solid and gaseous energy equipment waste and the transformation strategy of the labeling market, equipment replacement programs have been identified in the region, as well as national entities that can develop the design and implement programmes for the replacement of energy equipment in the country.*

#### 4.3.6 Awareness raising

- Market transformation requires of a cultural change so it is necessary to continue the awareness raising campaigns on energy saving measures at the household and to relate them to the reduction of CO<sub>2</sub> emissions. Based on the experience of other countries it is necessary to consider permanent communication campaigns over several years to achieve market transformation.

### 4.4 Proposals for future directions underlying main objectives

- The main objective of the mandatory Labeling Project is to "Reduce CO<sub>2</sub> emissions through the application of EE (mandatory) standards and a labeling program.
- While the Project made important progress, starting with the approval of the Technical Regulations and the development and approval of the homologation cards of *Peru Compras*, it is essential to continue working on the elimination of institutional and technical barriers that still persist and, in particular, to improve and strengthen the conformity assessment system, promote investments in calibration and testing laboratories, encourage the creation of OCPs and continue having awareness raising campaigns oriented towards the final consumer in order to ensure Project sustainability and success in the medium and long term.
- In turn, a strategy should be developed to include mandatory compliance with MEPS in order to avoid the presence of very low EE equipment which are usually of low

quality and have a short life expectancy and hence end up generating additional costs related to their disposal.

- The actions recommended in the previous paragraphs together with those listed in the previous section are concrete proposals of what is needed to emphasize the main objectives of the Project. Additional actions could be added such as incorporating other categories of equipment into the mandatory EE labeling regulation, as well as considering the design and implementation of mandatory EE labeling programs for other sectors (i.e., buildings, industrial boilers, transportation) in order to continue reducing energy consumption and CO<sub>2</sub> emissions in Peru, aiming at the development of an EE public policy in an integral fashion.
- Another aspect that should be taken into account is the promotion of workshops at the regional level to facilitate contact and cooperation among different stakeholder groups and to exchange knowledge and practical experiences. In turn, these workshops should serve to facilitate the integration of testing procedures, regulations and label content at the level of the Andean and / or Latin American region. Project-trained individuals, institutions or companies could be used to help replicate project outcomes in other countries across the region

#### 4.5 Best and worst practices in addressing issues relating to relevance, performance and success

Best practices used during project design and implementation include:

- The formation of the Project Steering Committee with a wide and effective inter-institutional participation which facilitated the communication and cooperation between the different entities of the public sector involved in the Project,
- The high level of detail of the baseline analysis which served to determine the level of in country technical capacity, as well as the assessment of equipment sales subject to the Technical Regulations,
- The early evaluation of the Project context and its overall importance with a clear identification of the barriers to market transformation and the constraints for their removal,
- The strong alignment of the Project with national programmes related to EE and with the priorities of UNDP and GEF, as well as, with other similar projects implemented by UNDP such as PIMS 3087 in Colombia as part of the immediate project objectives,
- The role played by technical committees with a wide participation of public and private sector actors to achieve consensus in the setting of technical standards,
- The suitability and dedication of the members of the Project team,
- The different activities carried out in conjunction with other initiatives to maximize the use of resources and generate synergies, and
- The manner in which the Project managed to involve the different actors both from the public and private sectors who got intimately involved with the development of the Technical Regulations and made important contributions based on their respective experiences.

Some of the practices used that could be improved were:

- The inclusion of indicators in the PRODOC that were difficult to measure during the Project implementation period, such as the average change from annual sales to higher efficiency appliances or the participation of nonconforming products in standardization and mandatory labeling. While these indicators are relevant, it is difficult to expect a major change in the short term and even more so when the Technical Regulation is not yet in force,
- The introduction of goals in the logical framework with a high political risk difficult to manage,
- The delays occurred at the beginning of the Project and the time it took to complete the hiring of the Project team, although the Project schedule required having an Initiation Workshop within the first two months of the Project's initiation, and
- The lack of integration of a transversal gender component in this Project.

## Annexes

Annex I

Terms of Reference

## TÉRMINOS DE REFERENCIA (TdR)

### Consultores o Contratistas Individuales (IC por sus siglas en inglés)

#### Información General

<b>Consultoría:</b>	Evaluación Final del Proyecto Normas y Etiquetado de Eficiencia Energética
<b>Lugar de destino:</b>	Lima, Perú
<b>Plazo:</b>	38 días distribuidos en un plazo máximo de 2 meses
<b>Supervisor:</b>	Oficial de Programa Medio Ambiente y Energía y la Especialista en monitoreo y evaluación del componente de Medio Ambiente y Energía

#### A. Antecedentes generales

El Proyecto se diseñó con el objetivo de reducir las emisiones de CO<sub>2</sub> a través de la implementación del programa de normas de EE y etiquetado. El proyecto apoyará la implementación de programas de estándares de EE y eco etiquetado del Ministerio de Energía y Minas (MEM) del Perú, realizando actividades para fortalecer la estructura de implementación de los estándares obligatorios y programa de etiquetado.

Los resultados previstos son:

- **Resultado 1.-** Aumento de las capacidades de gerencia y organización de las agencias gubernamentales (MEM, PRODUCE, MINAM, INDECOPI, MINCETUR, MEF y LA SUNAT, gobiernos locales), a través de un análisis de capacidad institucional realizado y el entrenamiento de autoridades, facilitando el acceso a éstas a información internacional sobre las mejores prácticas en el cumplimiento de las normas de aplicación de los estándares de etiquetado de EE. Asimismo, productos esperados de este resultado son la creación de una base de datos sobre consumo de energía y uso final de tecnologías y el fortalecimiento de la estandarización de laboratorios y pruebas (a través del fortalecimiento de capacidades).
- **Resultado 2.-** Estrategia de transformación de mercado implementada con participación del sector público y privado, basada en información consolidada de la estructura de mercado. Este resultado se enfocará en: i) consolidación de información sobre estructura de mercado, ii) análisis tecno-económico conducido para priorizar tecnologías y medidas a tomar y iii) estrategia de transformación de mercado para S&L obligatorio diseñada e implementada.
- **Resultado 3.-** Marco Legal de S&L fortalecido y regulaciones técnicas finales endosadas. Este resultado se enfoca en i) incremento de conciencia entre los tomadores de decisiones en el gobierno y sector privado para beneficiar las regulaciones y de normas de etiquetas de EE, ii) resoluciones finales sobre Normas y Etiquetado emitidas por entidades tomadoras de decisiones.
- **Resultado 4.-** Aumento en la conciencia del consumidor y aceptación del programa de S&L. Este resultado se enfoca en i) participación efectiva de la industria (importadores y proveedores, distribuidores y cadenas de venta al detalle) en la creación de conciencia del consumidor, ii) implementación de campañas para el consumidor con el objeto de incrementar sus niveles de conciencia.
- **Resultado 5.-** Monitoreo, evaluación y gestión del conocimiento. Enfocado en el monitoreo y evaluación del proyecto, la realización de evaluaciones de medio término y final y auditorías y el recojo de lecciones aprendidas y las publicaciones del proyecto.

En cuanto a los arreglos institucionales, el Proyecto es co-financiado por el Fondo Mundial para el Medio Ambiente (FMAM) y el Programa de Naciones Unidas para el Desarrollo (PNUD) como agencia implementadora del FMAM que está a cargo de la administración financiera y de obtener los resultados esperados del Proyecto.

La implementación del proyecto es bajo la modalidad de Ejecución Nacional del PNUD, siendo el Socio Ejecutor local el Ministerio de Energía y Minas (MEM), responsable de la implementación del proyecto y los avances para el cumplimiento de los objetivos especificados. Dentro del MEM, la responsabilidad es delegada a la Dirección General de Eficiencia Energética (DGEE). Como ya se ha mencionado, la EF se realizará según las pautas, normas y procedimientos establecidos por el PNUD y el FMAM, según se establece en la Guía de Evaluación del PNUD para Proyectos Financiados por el FMAM ([http://web.undp.org/evaluation/documents/guidance/GEF/GEFTE-Guide\\_SPA.pdf](http://web.undp.org/evaluation/documents/guidance/GEF/GEFTE-Guide_SPA.pdf)). Los objetivos de la evaluación analizarán el logro de los resultados del proyecto y extraerán lecciones que puedan mejorar la sostenibilidad de beneficios de este proyecto y ayudar a mejorar de manera general la programación del PNUD.

De acuerdo con las políticas y los procedimientos de SyE del PNUD y del FMAM, todos los proyectos de tamaño mediano y regular respaldados por el PNUD y financiados por el FMAM deben someterse a una evaluación final una vez finalizada la ejecución. Estos términos de referencia (TdR) establecen las expectativas de la Evaluación Final (EF) del Proyecto Normas y Etiquetado de EE en Perú (Nº4128). El proceso de EF sigue las directrices establecidas en el documento Guía para realizar Evaluaciones Finales de los proyectos respaldados por el PNUD y financiados por el FMAM: ([http://web.undp.org/evaluation/documents/guidance/GEF/GEFTE--Guide\\_SPA.pdf](http://web.undp.org/evaluation/documents/guidance/GEF/GEFTE--Guide_SPA.pdf))

## B. Propósito y objetivo del servicio

Realizar la Evaluación Final del Proyecto Normas y Etiquetado de EE, teniendo en consideración lo siguiente:

### Diseño Metodológico

Los datos aportados por la evaluación deberán estar basados en información creíble, confiable y útil. El consultor examinará todas las fuentes de información relevantes, tales como:

- Documento de Formulación del Proyecto (PIF)
- Documento PRODOC del Proyecto
- Informes de avance del Proyecto
- Planes Operativos Anuales del Proyecto (POA)
- Informes Anuales de Ejecución (PIR)
- Revisiones de presupuesto
- Actas de reuniones del Comité Directivo
- Reporte de la Revisión de Medio Término MTR
- Planes / reportes trimestrales y anuales
- Informe de Medio Término del Proyecto

Se espera que el consultor siga un enfoque colaborativo y participativo que garantice una relación estrecha con el Equipo del Proyecto y otras partes interesadas clave. El involucramiento de las partes interesadas resulta vital para el éxito de la evaluación. Dicho involucramiento debe



incluir entrevistas con actores relevantes y/o grupos técnicos de ser el caso, y con aquellos agentes que tengan responsabilidades en el proyecto. Cabe resaltar que la organización, difusión de invitaciones y materiales (logística y costos de materiales) serán asumidas por el consultor.

Entre los actores se pueden mencionar:

- Actores Nacionales
- Ministerio de Energía y Minas
- Ministerio del Ambiente y sus Direcciones Generales
- Ministerio de Economía y Finanzas
- Ministerio de la Producción
- INDECOPI
- SUNAT
- INACAL

Tanto la propuesta metodológica como el informe final de evaluación deberán contener una descripción completa del enfoque seguido y las razones de su adopción, señalando explícitamente las hipótesis utilizadas y los retos, puntos fuertes y débiles de los métodos y enfoques seguidos para el examen. Se espera además que el programa sea evaluado haciendo uso de los enfoques de género y derechos humanos de manera integral.

## Enfoque de evaluación

Se ha desarrollado con el tiempo un enfoque y un método general para realizar evaluaciones finales de proyectos respaldados por el PNUD y financiados por el FMAM. Se espera que el evaluador enmarque el trabajo de evaluación utilizando los criterios de relevancia, efectividad, eficiencia, sostenibilidad e impacto, según se define y explica en la Guía para realizar evaluaciones finales de los proyectos respaldados por el PNUD y financiados por el FMAM. Se redactó una serie de preguntas que cubre cada uno de estos criterios incluidos en estos TdR (complete el Anexo C de los TdR). Se espera que el evaluador modifique, complete y presente esta matriz como parte de un informe inicial de la evaluación, y la incluya como anexo en el informe final.

La evaluación debe proporcionar información basada en evidencia que sea creíble, confiable y útil. Se espera que el evaluador siga un enfoque participativo y consultivo que asegure participación estrecha con homólogos de gobierno, en particular el Centro de Coordinación de las Operaciones del FMAM, la Oficina en el País del PNUD, el equipo del proyecto, el Asesor Técnico Regional del FMAM/PNUD e interesados clave. Se espera que el evaluador realice una misión de campo en Lima. Las entrevistas se llevarán a cabo con las siguientes organizaciones e individuos como mínimo: MEM, MINAM, MEF, PRODUCE, INACAL.

## C. Tareas y Responsabilidades

Se llevará a cabo una evaluación del rendimiento del proyecto, en comparación con las expectativas que se establecen en el Marco lógico del proyecto (Anexo A), el cual proporciona indicadores de rendimiento e impacto para la ejecución del proyecto, junto con los medios de verificación correspondientes. La evaluación cubrirá mínimamente los criterios de: relevancia, efectividad, eficiencia, sostenibilidad e impacto. Las calificaciones deben proporcionarse de

acuerdo con los siguientes criterios de rendimiento y escala de calificaciones. Se debe incluir la tabla completa en el resumen ejecutivo de evaluación.

<b>Calificación del rendimiento del proyecto</b>			
<b>1. Seguimiento y Evaluación</b>	<i>calificación</i>	<b>2. Ejecución de los IA y EA:</b>	<i>calificación</i>
Diseño de entrada de SyE		Calidad de aplicación del PNUD	
Ejecución del plan de SyE		Calidad de ejecución: organismo de ejecución	
Calidad general de SyE		Calidad general de aplicación y ejecución	
<b>3. Evaluación de los resultados</b>	<i>calificación</i>	<b>4. Sostenibilidad</b>	<i>calificación</i>
Relevancia		Recursos financieros:	
Efectividad		Socio-políticos:	
Eficiencia		Marco institucional y gobernanza:	
Calificación general de los resultados del proyecto		Ambiental:	
		Probabilidad general de sostenibilidad:	

Escala de calificaciones:

<b>Calificaciones de resultados, efectividad, eficiencia, SyE y ejecución de AyE</b>	<b>Calificaciones de sostenibilidad:</b>	<b>Calificaciones de relevancia</b>
6. Muy satisfactorio (MS): no presentó deficiencias 5. Satisfactorio (S): deficiencias menores 4. Algo satisfactorio (AS)	4. Probable (P): Riesgos insignificantes para la sostenibilidad. 3. Algo probable (AP): riesgos moderados. 2. Algo improbable: (AI): Riesgo significativos. 1. Improbable (I): Riesgos graves.	2. Relevante (R)
3. Algo insatisfactorio (AI): deficiencias importantes 2. Insatisfactorio (I): deficiencias importantes 1. Muy insatisfactorio (MI): deficiencias graves		1.. No Relevante (NR)
<i>Calificaciones adicionales donde sea pertinente:</i> No corresponde (N/C) No se puede valorar (N/V)		<b>Calificaciones de impacto:</b> 3. Significativo (S) 2. Mínimo (M) 1. Insignificante (I)

La evaluación valorará los aspectos financieros clave del proyecto, incluido el alcance de cofinanciación planificada y realizada. Se requerirán los datos de los costos y la financiación del proyecto, incluidos los gastos anuales. Se deberán evaluar y explicar las diferencias entre los gastos planificados y reales. Deben considerarse los resultados de las auditorías financieras recientes, si están disponibles. Para tal efecto, se recibirá asistencia de la Oficina en el País (OP) y del Equipo del Proyecto para obtener datos financieros, a fin de completar la siguiente tabla de cofinanciación, que se incluirá en el informe final de evaluación.

Cofinanciación (tipo/ fuente)	Financiación propia del PNUD (millones de USD)		Gobierno (millones de USD)		Organismo asociado (millones de USD)		Total (millones de USD)	
	Planificado	Real	Planificado	Real	Planificado	Real	Planificado	Real
Subvenciones								
Préstamos/ concesiones								
<input type="checkbox"/> Ayuda en especie								
<input type="checkbox"/> Otro								
Totales								

Los proyectos respaldados por el PNUD y financiados por el FMAM son componentes clave en la programación nacional del PNUD, así como también en los programas regionales y mundiales. La evaluación valorará el grado en que el proyecto se integró con otras prioridades del PNUD, entre ellos la reducción de la pobreza, mejor gobernanza, la prevención y recuperación de desastres naturales y el género.

Los evaluadores valorarán el grado en que el proyecto está logrando impactos o está progresando hacia el logro de impactos. Los resultados clave a los que se debería llegar en las evaluaciones incluyen si el proyecto demostró: a) mejoras verificables en el estado ecológico, b) reducciones verificables en la tensión de los sistemas ecológicos, y/o c) un progreso demostrado hacia el logro de estos impactos.<sup>21</sup>

Se espera que el/la consultor/a incluya en el informe una sección donde se recojan las conclusiones obtenidas a partir del análisis de toda la información recabada.

Las recomendaciones deberán ser sugerencias sucintas para intervenciones críticas de mejora del proyecto. En este sentido, se requiere que sean específicas, cuantificables, conseguibles y relevantes con la finalidad de aportar a la mejora del proyecto y a la incorporación de aquellos aspectos que se consideren necesarios para aumentar su nivel de impacto, relevancia y sostenibilidad.

Tanto las conclusiones como las recomendaciones se presentarán en secciones separadas.

## D. Productos

El/la consultor/a será responsable de entregar el siguiente producto:

<sup>21</sup> Una medida útil para medir el impacto del avance realizado es el método del Manual para la Revisión de Efectos

Directos a Impactos (RoTI, por sus siglas en inglés) elaborado por la Oficina de Evaluación del FMAM: [ROTI Handbook 2009](#)

Nro.	Producto	Plazo máximo de entrega	Responsabilidades
<b>1er Producto</b>	<b>Informe de iniciación</b> El consultor proporciona aclaraciones sobre los períodos y métodos.	9 días calendario desde la firma del contrato	El consultor lo presenta a la OP del PNUD
<b>2do Producto</b>	<b>Presentación de los resultados iniciales</b>	Al final de las entrevistas y recojo de información	El consultor lo presenta a la gestión del proyecto y OP del PNUD
<b>3er Producto</b>	<b>Borrador del informe final</b> Informe completo (de acuerdo a plantilla del anexo D), incluyendo anexos	Dentro del plazo de 13 días calendario después de la presentación de los resultados iniciales.	Enviado a la OP, revisado por los ATR, las PCU, los CCO del FMAM.
<b>4to Producto</b>	<b>Informe final*</b> Informe revisado	Dentro del plazo de 5 días calendario después de haber recibido los comentarios del PNUD sobre el borrador.	Enviado a la OP para cargarlo al ERC del PNUD

(\*)Cuando se presente el informe final de evaluación, también se requiere que el evaluador proporcione un Rastro de Auditoría (ver anexo B), donde se detalle cómo se han abordado (o no) todos los comentarios recibidos en el informe final de evaluación. El Informe Final debe ser entregado en español e inglés.

#### E. Plazos

La duración total de la evaluación será de acuerdo al siguiente plan:

Actividad	Período (días calendario)	Fechas aproximadas
Preparación y elaboración del informe de iniciación	9 días	Del 13 al 31 de marzo
Entrevistas, misión en terreno y presentación de los resultados finales	10 días	Del 03 a 12 de abril
Elaboración del borrador del informe de evaluación	13 días	Del 13 al 25 de abril
Elaboración del Informe final	5 días	Del 08 al 12 de mayo

#### F. Coordinación y ubicación

El/a consultor/a trabajará bajo la supervisión del Oficial de Programa de Medio Ambiente y Energía y la Especialista en monitoreo y evaluación del componente de Medio Ambiente y Energía y los productos deberán ser enviados a esta última. Una vez revisado y aprobado por el representante designado (bajo el acuerdo de 7 días de silencio administrativo), se procederá a la aprobación final.

El Equipo del Proyecto será responsable de mantenerse en contacto con el consultor para establecer entrevistas con los interesados, organizar visitas de campo, coordinar con el Gobierno, etc.

## G. Perfil característico de la persona a contratar - calificaciones y experiencia

### Formación académica

- Profesional graduado de las áreas de medio ambiente, ciencias, ingeniería u otro campo estrechamente relacionado.
- Se valorará post grado o maestría en disciplinas relacionadas a la presente convocatoria.

### Experiencia profesional (\*)

- Experiencia de al menos dos (02) servicios de trabajo con el GEF y/o con evaluaciones realizadas por este organismo (o en el marco de proyectos apoyados por el GEF);
- Experiencia en la evaluación de al menos tres (03) proyectos referidos a cambio climático, sector energía, y/o EE.
- Deseable al menos una (1) experiencia en la identificación, formulación, monitoreo y/o implementación de proyectos o programas relacionados al sector energía, EE y/o electrificación.
- Deseable al menos una (1) experiencia en evaluaciones y análisis sensibles al género.

El/la consultor/a no podrá haber participado en la preparación, formulación y/o ejecución del proyecto (incluyendo la redacción del Documento del Proyecto) y no deberá tener un conflicto de intereses con las actividades relacionadas con el mismo.

**(\*) Se deberá de adjuntar al CV y/o P11 copia de las publicaciones/reportes y/o enlaces que certifiquen la experiencia solicitada.**

## H. Forma de Pago

Los pagos se realizarán dentro de los 10 días calendarios siguientes a la presentación de los productos abajo mencionados, previa conformidad emitida por el área usuaria. En caso de existir observaciones a los informes presentados, el plazo se contabilizará a partir del levantamiento de las mismas:

N° de Pago	Concepto	Fecha	Monto
1er. Pago	Aprobación definitiva del Informe de Iniciación de la TE	Del 09 al 15 de marzo	10%
2do. Pago	A la aprobación del Borrador del Informe de la TE	Del 12 al 21 de abril	40%
3er. Pago	A la aprobación definitiva del Informe Final de la TE	29 de abril al 08 de mayo	50%

Annex II

Mission itinerary

## Itinerario de la misión

25 de abril	Viaje de Buenos Aires a Lima
26 de abril	Inicio de la misión en Lima
26 de abril al 3 de mayo	Entrevistas a actores involucrados
4 de mayo	Reunión de cierre de misión
5 de mayo	Viaje de Lima a Buenos Aires

## Annex III

### List of persons interviewed



**REUNIONES PARA LA EVALUACIÓN FINAL DEL PROYECTO**

**“NORMAS Y ETIQUETADO DE EE EN PERÚ”**

<b>Fecha</b>	<b>Reuniones</b>
Miércoles 26	<p><b>9:30 am</b>  <b>PNUD</b>                      Jorge Alvarez / Fabiola Berrocal                      Av. Del Ejército 750, Magdalena del Mar 15076</p> <p><b>12:30 pm</b>  <b>DGEE</b>                      Ana Maria Fox Joo Directora General Eficiencia Energética                      Tania Zamora – Coordinadora Nacional del Proyecto                      Yudith Arzapalo – Asistente Administrativa                      Las Artes Sur 240 San Borja (OFICINAS DE LA DGEE MEM)</p> <p><b>2:00 pm</b>  <b>INDURAMA</b>                      Ing. F. Lesly Fajardo Tasayco- Coordinador de Gestión de Calidad – OM                      Romina Guzmán                      Las Artes Sur 240 San Borja (OFICINAS DE LA DGEE MEM)</p> <p><b>4:00 pm</b>  <b>BSH</b>                      Juan Carlos Marquina –Jefe de Laboratorio                      Laboratorio de refrigeradores                      Avenida Elmer Faucett 3551 Callao                      992-781713 / 7147533                      Juan.marquina@</p>
Jueves 27	<p><b>10: 00 am</b>  <b>PRODUCE</b>                      Victoria Rivera Chale                      Dirección General de Asuntos Ambientales de Industria del Ministerio de la Producción                      Calle Ricardo Angulo N° 816, Urb. Córpac – San Isidro</p> <p><b>12:00 pm</b>  <b>LG</b>                      Roy Cortés División de Aire acondicionado y energía                      Av. República de Colombia 791 - Piso 12                      San Isidro, Lima, Peru</p> <p><b>03:00 pm</b>  <b>ADUANAS SUNAT</b>                      Luis Altunate                      Miguel Angel Jara Falcón                      División Arancel Integrado de la Intendencia de Desarrollo Estratégico Aduanero (INDEA) de SUNAT.                      Av. Gamarra N° 680 Chucuito Callao</p>
Viernes 28	<p><b>9:00 am</b>  <b>MEM</b>  <b>Rosa Luisa Ebentreich A.</b>  <b>(ex Directora General de Eficiencia Energética)</b></p>

	<p><b>Dirección de Asuntos Ambientales Energéticos</b> Las Artes Sur 240 San Borja ( oficinas d Asuntos Ambientales Energéticos)</p> <p><b>11:00 am</b> <b>Hiraoka</b> Jose Castro Av. Abancay 594 - Distrito de Lima</p> <p><b>2:00 pm</b> <b>MINAM</b> <b>Giannina Ibarra</b> Av. Amador Merino Reyna 267 - San Isidro, Lima</p> <p><b>3:30 pm</b> <b>UNI</b> Alberto Briceño – Decano de la Faculta de Ingeniería Electrónica y Eléctrica Ubaldo Rosado Encargado de Laboratorio Av. Túpac Amaru 210 - Rímac. Apartado 1301</p>
Martes 02	<p><b>9:00 am</b> <b>INACAL</b> Cecilia Minaya Dirección de Acreditación Calle las Camelias 817, San Isidro</p> <p><b>10:45 am</b> <b>DGEE</b> Tania Zamora Coordinadora Nacional del Proyecto de Etiquetado Las Artes Sur 240 San Borja (OFICINAS DE LA DGEE MEM)</p> <p><b>2:30 pm</b> <b>PROYECTO DE TRANSFORMACION DEL MERCADO DE LA ILUMINACION</b> Carlos Cáceres -Coordinador del proyecto Las Artes Sur 240 San Borja (OFICINAS DE LA DGEE MEM) Calle Uno Oeste 50, San Isidro 15036</p> <p><b>4:30 pm</b> <b>LENOR</b> Julio Made - CEO Felipe Cumsille Pino – Gerente Comercial Harold Buckley – Gerente General Mariano de los Santos 115, Oficina 501 San Isidro</p>
Miércoles 03	<p><b>9:00 am</b> <b>Robert Bosch</b> Carlos Vásquez Ipanaque – Analista de Proyectos Av. Primavera 781 San Borja 3º Piso</p> <p><b>11:00 am</b> <b>INDECOPI</b> Abelardo Aramayo - Secretario Técnico Comisión de Fiscalización de la Competencia Desleal De La Prosa 104, San Borja 15034</p> <p><b>2:30 pm</b> <b>MINCETUR</b> Rocio Barreda - Coordinadora de Negociaciones y Administración de Acuerdos Sobre Obstaculos Técnicos al Comercio Calle Uno Oeste 50, San Isidro 15036</p>
Jueves 04	<p><b>9:00 AM</b> <b>Peru Compras</b></p>

Enma Raquel Centa Cueva - Coordinadora de Subasta Inversa  
Rosa Prieto – Directora de Subasta Inversa  
Av. República de Panamá N° 3629, San Isidro, Lima  
Central Telefónica (+511) 643-0000

**11:30 am**

**DGEE**

Presentación de los resultados de la misión

Ana María Fox Joo – Directora General de Eficiencia Energética

Tania Zamora – Coordinadora Nacional del Proyecto de Etiquetado

Yudith Arzapalo – Asistente Administrativa

Walter Carrasco Chacón – Experto EE

Jorge Alvarez Lam – Oficial de Programa PNUD Perú

Fabiola Berrocal - Especialista en Monitoreo y Evaluacion - Energia y Medio Ambiente, PNUD Perú

## Annex IV

### Listo f documents revised

## Lista de documentos examinados

- Documento de Formulación del Proyecto (PIF)
- Documento PRODOC del Proyecto
- Informes de avance del Proyecto
- Manual Operativo del Proyecto
- Plan de Implementación del Proyecto (PIP)
- Plan Operativo Anual del Proyecto (POA) 2012 al 2016
- Informe Anual de Ejecución (PIR) 2012 al 2016
- Revisiones de presupuesto,
- Actas de reunión
- Planes / reportes trimestrales
- CDR's (2014-2017)
- Ley Nº 27 345 de Promoción del Uso Eficiente de la Energía y su reglamento
- Plan Referencial del Uso Eficiente de la Energía 2009 - 2018
- Política Energética Nacional del Perú 2010 – 2040
- Reprogramación del presupuesto de 2014 y 2015
- Normas y regulaciones legales
- Informe de ejecución de fondos GEF y fondos de co-financiamiento
- Informe del marco legal
- Informe de reglamentos técnicos
- Informe del estudio de mercado
- PRODOC Proyecto de Nomas y Etiquetado de EE de Perú
- PRODOC Proyecto Transformación del mercado de iluminación en Perú
- Evaluación de Medio Término
- Elaboración de un Sistema de Evaluación de la Conformidad para la Certificación del Etiquetado de EE y el Cumplimiento de Estándares Mínimos de Desempeño Energético (MEPs)- Informe Final
- Propuesta de Estándares Mínimos de EE - MEPS en el Perú Informe Final
- Estudio De Estructura, Evolución y Proyección del Mercado De Equipos Energéticos, Elaboración de Base de Datos de Consumo de Energía y Uso Final de Tecnologías y Medición de Impactos del Etiquetado de EE – Resumen Ejecutivo
- Diagnóstico, Evaluación de Laboratorios de Ensayo para el Etiquetado Energético – Informe Ejecutivo
- Análisis de Impacto Regulatorio para los Proyectos de Reglamentos Técnicos de Etiquetado de Eficiencia Energética – Resumen Ejecutivo
- Decreto Supremo Nº 004-2016-EM – Aprobación de medidas para el uso eficiente de la energía
- Decreto Supremo Nº 009-2017-EM- Aprobación del Reglamento Técnico sobre el Etiquetado de Eficiencia Energética para Equipos Energéticos
- Resolución Ministerial Nº 143-2017 MEM/DM – Aprobación de las Fichas de Homologación para Lavadoras Automáticas Domesticas
- PRODOC - Proyecto de Transformación del Mercado de la Iluminación en el Perú

Annex V

Used questionnaire

## **Modelo de Cuestionario utilizado para la recolección de datos**

### **Relevancia:**

1. ¿Es el Proyecto relevante al área de interés sobre cambio climático del GEF?
2. ¿En qué medida el Proyecto se corresponde con el Plan de Acción del Programa de Perú?
3. ¿Cómo apoya el Proyecto las prioridades ambientales y de desarrollo de Perú?
4. ¿El Proyecto toma en consideración las realidades nacionales ambientales (marco institucional y de políticas) y de la población (desigualdades o inequidades) tanto en la etapa de diseño como en su implementación?
5. ¿Existen vínculos lógicos entre el problema que se desea resolver, los resultados esperados del Proyecto y el diseño del Proyecto (en términos capacidad nacional, componentes del proyecto, elección de socios, estructura, mecanismos de implementación, alcance, presupuesto, uso de recursos, etc.)?

### **Efectividad**

6. ¿Ha sido efectivo el Proyecto para alcanzar los resultados y objetivos previstos "Fortalecimiento de las capacidades nacionales para insertar temas de ambiente y uso eficiente de energía dentro de los planes de desarrollo nacionales y sistemas de implementación"?
7. ¿Qué obstáculos restan para alcanzar los objetivos a largo plazo, o qué medidas aún tienen que tomar los interesados para alcanzar impactos continuos y beneficios para el medio ambiente?
8. ¿Consideró el Proyecto un enfoque de igualdad de género, derechos humanos con respecto a las actividades y resultados esperados?
9. ¿Fueron asignados recursos (financieros, humanos, de tiempo) para integrar la igualdad de género en el diseño, implementación y monitoreo del proyecto?
10. ¿En qué medida se gestionaron adecuadamente los riesgos y suposiciones?
11. ¿Cuáles fueron las principales dificultades, riesgos, oportunidades y desafíos relacionados con la implementación de las actividades y resultados de los diferentes componentes?
12. ¿Cómo se gestionaron; Gestión adaptativa?
13. ¿Cuál ha sido la calidad de las estrategias desarrolladas? ¿Fueron estas suficientes? ¿Qué métodos tuvieron éxito o no y por qué?
14. ¿Qué cambios podrían haber realizado (de haberlos) al diseño del Proyecto para mejorar el logro de los resultados esperados?
15. ¿Fue el apoyo al Proyecto provisto por el PNUD de forma eficaz y eficiente?
16. ¿Cómo ha sido la calidad de la ejecución por el Asociado en la Implementación?
17. ¿Cuál ha sido el nivel de participación de las partes interesadas, beneficiarios y socios en el diseño del Proyecto?
18. ¿Cuáles alianzas / vínculos se han facilitado? ¿Cuáles pueden considerarse sostenibles?
19. ¿Qué mecanismos se implementaron para coordinar y articular el trabajo entre los distintos actores involucrados? ¿Fueron efectivos?
20. ¿En qué medida el marco lógico, los planes de trabajo, el plan de monitoreo y evaluación orientaron la gestión por resultados del Proyecto y apoyaron la toma de decisiones? ¿Se adaptaron estas herramientas para dotar de flexibilidad necesaria para el logro de los resultados?
21. ¿Se usó o necesitó el manejo adaptativo para asegurar un uso eficiente de los recursos?
22. ¿Los sistemas contables y financieros vigentes fueron adecuados para la gestión del Proyecto?
23. ¿Los fondos de co-financiamiento fueron aprovechados tal como fue planificado?
24. ¿Cuál ha sido el nivel de apropiación de las partes interesadas y socios durante el diseño, la implementación del proyecto y sus resultados?

## **Eficiencia**

25. ¿Se han entregado los productos o servicios oportunamente a los destinatarios?
26. ¿El cofinanciamiento sucedió según lo planeado?
27. ¿Fue la ejecución del proyecto tan efectiva como fue propuesta originalmente (planeado vs. actual)?
28. ¿Los recursos financieros fueron usados eficientemente? ¿Han podido usarse con mayor eficiencia?
29. ¿Lograron las adquisiciones realizadas un uso eficiente de los recursos del proyecto? ¿Pudieron usarse con mayor eficiencia? ¿Qué factores del mercado nacional han incidido en la entrega de los productos o servicios?

## **Sostenibilidad**

30. Se repitieron o aplicaron nacionalmente las actividades y los resultados del Proyecto?
31. ¿La experiencia del Proyecto, ha brindado la posibilidad de obtener lecciones relevantes para otros proyectos futuros destinados a objetivos similares?
32. ¿Cómo pueden influir la experiencia y las buenas prácticas del proyecto sobre las estrategias para el uso de mecanismos de eficiencia energética?
33. ¿Cómo puede el país a partir de los éxitos y lecciones del proyecto, mejorar la posibilidad de impacto en iniciativas en curso y futuras?

## **Impacto**

34. En qué medida el proyecto ha contribuido a los efectos del CPAP?
35. ¿Cómo contribuye el Proyecto al impacto esperado:
  - En el medio ambiente global
  - En el bienestar económico del país
  - En otros asuntos socioeconómicos
36. ¿Qué áreas o componentes del Proyecto han contribuido en mayor medida a los efectos de mediano y largo plazo?
37. ¿El Proyecto alcanzó o contribuyó a alcanzar algún resultado imprevisto o no deseado?
38. ¿Cómo se gestionó?



## Annex VI

### Evaluation criteria matrix

Criterios de evaluación	Preguntas de la evaluación	Indicadores de éxito	Fuente de datos	Método e instrumentos de recolección de datos
<b>Relevancia:</b> ¿En qué medida la iniciativa, sus productos y efectos son coherentes con las políticas y prioridades del GEF, del PNUD, las prioridades nacionales ambientales y las necesidades de los beneficiarios? ¿Ha sido idónea la forma de operación del Proyecto en relación al contexto nacional?				
Prioridades del GEF	¿Es el Proyecto relevante al área de interés sobre cambio climático del GEF?	<ul style="list-style-type: none"> <li>• Prioridades y áreas de trabajo incorporados en el diseño del Proyecto</li> </ul>	<ul style="list-style-type: none"> <li>• Documentos de Proyecto</li> <li>• Sitios web de PNUD y GEF, asociados e interesados</li> <li>• Políticas y estrategias nacionales</li> <li>• Asociados claves del Proyecto</li> </ul>	<ul style="list-style-type: none"> <li>• Análisis de los documentos y otra información</li> <li>• Entrevistas con PNUD, el equipo de Proyecto y otros actores asociados</li> </ul>
Prioridades del PNUD	¿En qué medida el Proyecto se corresponde con el Plan de Acción del Programa del País (CPAP por sus siglas en inglés)	<ul style="list-style-type: none"> <li>• Prioridades y áreas de trabajo incorporados</li> </ul>		
Prioridades nacionales ambientales	¿Cómo el Proyecto apoya las prioridades ambientales y de desarrollo del Perú?	<ul style="list-style-type: none"> <li>• Apreciación y reconocimiento de los interesados nacionales con respecto a la adecuación del Proyecto</li> </ul>		
Necesidades de los beneficiarios (género y DH)	¿El Proyecto toma en consideración las realidades nacionales ambientales (marco institucional y de políticas) y de la población (desigualdades o inequidades) tanto en la etapa de diseño como en su implementación?	<ul style="list-style-type: none"> <li>• Grado de participación de los interesados en el diseño del Proyecto</li> </ul>		
Idoneidad	¿Existen vínculos lógicos entre el problema que se desea resolver, los resultados esperados del Proyecto y el diseño del Proyecto (en términos capacidad nacional, componentes del proyecto, elección de socios, estructura, mecanismos de implementación, alcance, presupuesto, uso de recursos, etc.)?	<ul style="list-style-type: none"> <li>• Solidez del marco lógico;</li> <li>• Coherencia entre resultados logrados y resultados planeados</li> </ul>		



Criterios de evaluación	Preguntas de la evaluación	Indicadores de éxito	Fuente de datos	Método e instrumentos de recolección de datos
<b>Efectividad:</b> ¿En qué medida se han logrado o se lograrán resultados y objetivos del Proyecto? ¿Qué factores internos y externos explican los resultados alcanzados a la fecha o la ausencia de resultados?				
Objetivos, resultados y Productos	<p>¿Ha sido efectivo el Proyecto para alcanzar el objetivo y los resultados previstos? ( Reducir las emisiones de CO<sub>2</sub> mediante la aplicación de las normas de eficiencia energética (obligatorias) y programa de etiquetado; Mejora de las capacidades de los principales actores públicos y privados; Información consolidada sobre la estructura del mercado y la estrategia establecida para la transformación del mercado con los instrumentos y procedimientos definidos).</p> <p>¿Qué obstáculos restan para alcanzar los objetivos a largo plazo, o qué medidas aún tienen que tomar los interesados para alcanzar impactos continuos y beneficios para el medio ambiente?</p>	<ul style="list-style-type: none"> <li>• Avance y resultado según los indicadores del marco lógico (documento de proyecto, PIRs); ejemplos de impactos</li> <li>• Estado (tipo, fortaleza) de las barreras al final del Proyecto en comparación con la situación al inicio</li> </ul>	<ul style="list-style-type: none"> <li>• Documento del Proyecto</li> <li>• Informes de avance y productos técnicos</li> <li>• PNUD y demás integrantes del Comité Directivo del Proyecto)</li> <li>• Beneficiarios de las medidas de EE implementadas – (programa de normas y estándares de EE, estrategia para la transformación del mercado, marco legal</li> </ul>	<ul style="list-style-type: none"> <li>• Análisis de los documentos y otra información (ej. registro en Atlas) sobre el proyecto y de terceros</li> <li>• Entrevistas con PNUD y el equipo de Proyecto</li> <li>• Entrevistas con otras asociados e interesados</li> </ul>
Necesidades de los beneficiarios (género y DH)	<p>¿Consideró el proyecto un enfoque de igualdad de género, derechos humanos con respecto a las actividades y resultados esperados?</p> <p>¿Fueron asignados recursos (financieros, humanos, de tiempo) para integrar la igualdad de género en el diseño, implementación y monitoreo del proyecto?</p>	<ul style="list-style-type: none"> <li>• Actividades con indicadores con respecto a género y DH</li> </ul>		
Riesgos y supuestos	<p>¿En qué medida se gestionaron adecuadamente los riesgos y suposiciones?</p> <p>¿Cuáles fueron las principales dificultades, riesgos, oportunidades y desafíos relacionados con la implementación de las actividades y resultados de los diferentes componentes?</p> <p>¿Cómo se gestionaron; Gestión adaptativa?</p>	<ul style="list-style-type: none"> <li>• Tipo y nivel de riesgos y medidas tomadas para asegurar sostenibilidad</li> <li>• Calidad del sistema de información sobre riesgos y de las estrategias de mitigación del riesgo</li> </ul>		

Estrategia	<p>¿Cuál ha sido la calidad de las estrategias desarrolladas?  ¿Fueron estas suficientes?  ¿Qué métodos tuvieron éxito o no y por qué?  ¿Qué cambios podrían haber realizado (de haberlos) a  diseño del Proyecto para mejorar el logro de los  resultados esperados?</p>	<ul style="list-style-type: none"> <li>• Calidad de las estrategias desarrollados</li> <li>• Incidencias de cambio de estrategias del Proyecto</li> </ul>		
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Criterios de evaluación	Preguntas de la evaluación	Indicadores de éxito	Fuente de datos	Método e instrumentos de recolección de datos
		<ul style="list-style-type: none"> <li>• Apreciación y reconocimiento de los interesados nacionales con respecto a la adecuación del Proyecto y sus estrategias</li> </ul>		
Ejecución IA, EA (foco en resultados, riesgo)	<p>¿Fue el apoyo al Proyecto provisto por el PNUD de forma eficaz y eficiente?</p> <p>¿Cómo ha sido la calidad de la ejecución en la implementación del Proyecto?</p>	<ul style="list-style-type: none"> <li>• Apoyo brindado por PNUD y el EA</li> <li>• Nivel de apreciación de los asociados e interesados</li> </ul>		
Alianzas/Participación	<p>¿Cuál ha sido el nivel de participación de las partes interesadas, beneficiarios y socios en el diseño del Proyecto?</p> <p>¿Cuáles alianzas / vínculos se han facilitado? ¿Cuáles pueden considerarse sostenibles?</p> <p>¿Qué mecanismos se implementaron para coordinar y articular el trabajo entre los distintos actores involucrados?</p> <p>¿Fueron efectivos?</p>	<ul style="list-style-type: none"> <li>• Tipo, mecanismos y calidad de la cooperación con asociados; actividades específicas realizadas</li> <li>• Nivel de participación de los interesados y asociados en el diseño e implementación</li> </ul>		

Monitoreo (plan, financiamiento, mecanismos , gestión adaptativa)	<p>¿En qué medida el marco lógico, los planes de trabajo, el plan de monitoreo y evaluación orientaron la gestión por resultados del Proyecto y apoyaron la toma de decisiones?</p> <p>¿Se adaptaron estas herramientas para dotar de flexibilidad necesaria para el logro de los resultados?</p> <p>¿Se usó o necesitó el manejo adaptativo para asegurar un uso eficiente de los recursos?</p> <p>¿Los sistemas contables y financieros vigentes fueron adecuados para la gestión del Proyecto?</p> <p>¿Los fondos de co-financiamiento fueron aprovechados tal como fue planificado?</p>	<ul style="list-style-type: none"> <li>• Calidad del sistema de información sobre riesgos y de las estrategias de mitigación del riesgo</li> <li>• Disponibilidad y calidad de los informes de avance y de gestión (técnico, financiero) del Proyecto</li> <li>• Calidad de la gestión adaptativa y de seguimiento y evaluación (SyE)</li> </ul>		
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Criterios de evaluación	Preguntas de la evaluación	Indicadores de éxito	Fuente de datos	Método e instrumentos de recolección de datos
		<ul style="list-style-type: none"> <li>• Incidencias de cambio de enfoque del Proyecto (diseño; ejecución)</li> </ul>		
Integración	¿En qué medida el Proyecto ha generado fomentado y respaldado las asociaciones y vínculos entre instituciones y organizaciones?	<ul style="list-style-type: none"> <li>• Actividades específicas realizadas para respaldar el desarrollo de acuerdos de cooperación entre partes interesadas</li> </ul>		
Apropiación	¿Cuál ha sido el nivel de apropiación de las partes interesadas y socios durante el diseño, la implementación del proyecto y sus resultados?	<ul style="list-style-type: none"> <li>• Grado de participación de los interesados en el diseño e implementación del Proyecto</li> </ul>		
<b>Eficiencia:</b> ¿El proyecto se implementó de manera eficiente en conformidad con las normas y los estándares internacionales y nacionales?				

Oportunidad	¿Se han entregado los productos o servicios a los destinatarios oportunamente?	• Opinión de los destinatarios sobre la entrega de los productos	• Documentos de proyecto • Sitios de página web (disponibilidad)	• Análisis de los documentos y datos • Entrevistas con PNUD ; equipo de Proyecto
Financiamiento/co-Financiamiento	¿El cofinanciamiento sucedió según lo planeado?	• Fondos planeados y aprovechados (GEF y cofinanciamiento)	• Informes de avance y datos presupuestales	• Entrevistas con otras asociados e interesados
Efectividad de la planificación Financiera	¿Fue la ejecución del proyecto tan efectiva como fue propuesta originalmente (planeado vs. actual)?	• Gastos en vista de los resultados alcanzados	• PNUD	
Factores costo-efectividad	¿Los recursos financieros fueron usados eficientemente? ¿Han podido usarse con mayor eficiencia? ¿Lograron las adquisiciones realizadas un uso eficiente de los recursos del proyecto? ¿Pudieron usarse con mayor eficiencia? ¿Qué factores del mercado nacional han incidido en la entrega de los productos o servicios?	• Nivel de discrepancia entre gastos planificados y realizados		



Criterios de evaluación	Preguntas de la evaluación	Indicadores de éxito	Fuente de datos	Método e instrumentos de recolección de datos
<b>Sostenibilidad:</b> ¿Existen riesgos financieros, institucionales, socioeconómicos o ambientales para la sostenibilidad de los resultados y efectos del proyecto, en el largo plazo?				
Estrategia	<p>¿Qué acciones se pusieron en marcha para la sostenibilidad de los resultados?</p> <p>¿Cuáles son los desafíos y riesgos clave para la sostenibilidad de los resultados de las iniciativas del Proyecto que deben abordarse directa y rápidamente? Qué medidas podrían contribuir a la sostenibilidad de los esfuerzos logrados por el Proyecto?</p>	<ul style="list-style-type: none"> <li>Ejemplos/calidad de medidas tomadas para asegurar sostenibilidad</li> </ul>	<ul style="list-style-type: none"> <li>Documento e informes del Proyecto</li> <li>PNUD, equipo de proyecto e interesados</li> </ul>	<ul style="list-style-type: none"> <li>Análisis de los documentos y datos</li> <li>Entrevistas con PNUD ; equipo de Proyecto y partes interesadas</li> </ul>
Sostenibilidad financiera	<p>¿Cómo el Proyecto abordó los temas de sostenibilidad financiera y económica? ¿Son sostenibles los costos recurrentes luego de la finalización del Proyecto?</p>	<ul style="list-style-type: none"> <li>Nivel y fuente de respaldo financiero futuro que debe proporcionarse a actividades y sectores relevantes</li> </ul>		
Sostenibilidad institucional	<p>¿Existe evidencia de que los socios del Proyecto darán continuidad a las actividades más allá de la finalización del proyecto?</p> <p>¿Las organizaciones y sus sistemas y procedimientos internos asimilaron positivamente los resultados de los esfuerzos realizados durante el período de ejecución del Proyecto?</p> <p>¿Es adecuada la capacidad existente para garantizar la sostenibilidad de los resultados alcanzados hasta la fecha?</p> <p>¿Están preparadas las instituciones que toman las decisiones para continuar mejorando su estrategia de eficiencia energética?</p> <p>¿Se desarrollaron las capacidades relacionadas necesarias para la elaboración de leyes y su aplicación?</p>	<ul style="list-style-type: none"> <li>El grado en que los instituciones u organismos locales han asumido o planean asumir los resultados y actividades del Proyecto</li> <li>Prueba del compromiso del gobierno en la promulgación de leyes y asignación de recursos para contar con un marco regulatorio efectivo</li> </ul>		

Sostenibilidad socio-económica y política	<p>¿Cuál es el grado de compromiso político para continuar trabajando sobre los resultados del proyecto?</p> <p>¿Existen incentivos adecuados para garantizar el sustento de los beneficios económicos y ambientales alcanzados durante el Proyecto?</p>	<ul style="list-style-type: none"> <li>• Ejemplos de contribuciones y de impactos socioeconómicos</li> <li>• Disponibilidad y accesibilidad a incentivos</li> </ul>		
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Criterios de evaluación	Preguntas de la evaluación	Indicadores de éxito	Fuente de datos	Método e instrumentos de recolección de datos
<b>Rol Catalítico:</b> ¿En qué medida el proyecto ha demostrado tener un rol catalítico en el país u otras áreas geográficas?				
Escalabilidad y replicabilidad	<p>¿Se repitieron o aplicaron nacionalmente las actividades y los resultados del Proyecto?</p> <p>¿La experiencia del Proyecto, ha brindado la posibilidad de obtener lecciones relevantes para otros proyectos futuros destinados a objetivos similares?</p> <p>¿Cómo pueden influir la experiencia y las buenas prácticas del proyecto sobre las estrategias para el uso de mecanismos de eficiencia energética?</p> <p>¿Cómo puede el país a partir de los éxitos y lecciones del proyecto, mejorar la posibilidad de impacto en iniciativas en curso y futuras?</p>	<ul style="list-style-type: none"> <li>Ejemplos de lecciones aprendidas y buenas (o malas) prácticas</li> <li>Recomendaciones para futuras direcciones e iniciativas</li> </ul>	<ul style="list-style-type: none"> <li>Los datos e información recolectados en la evaluación</li> <li>PNUD, equipo del Proyecto y partes interesadas</li> </ul>	<ul style="list-style-type: none"> <li>Análisis de los datos</li> <li>Entrevistas</li> </ul>
<b>Impacto:</b> ¿En qué medida el proyecto ha logrado impactos o ha avanzado a alcanzar los efectos e impactos previstos? ¿Se han tenido efectos imprevistos o no deseados?				
Contribución al efecto	En qué medida el proyecto ha contribuido a los efectos de CPAP?	• Grado de contribución a los efectos	<ul style="list-style-type: none"> <li>Los datos e información recolectados en la evaluación</li> <li>PNUD, equipo del Proyecto y partes interesadas</li> </ul>	<ul style="list-style-type: none"> <li>Análisis de los datos</li> <li>Entrevistas</li> </ul>
Impacto	<p>¿Cómo contribuye el Proyecto al impacto esperado:</p> <ul style="list-style-type: none"> <li>En el medio ambiente global</li> <li>En el bienestar económico del país</li> <li>En otros asuntos socioeconómicos</li> <li>¿Qué áreas o componentes del Proyecto contribuyeron en mayor medida a los efectos de mediano y largo plazo?</li> </ul>	• Cualificación y, si posible, cuantificación de los impactos		
Resultados no deseados	¿El Proyecto alcanzó o contribuyó a alcanzar algún resultado imprevisto o no deseado? ¿Cómo se gestionó?	• Ejemplos de resultados no deseados o imprevistos		

Criterios de evaluación	Preguntas de la evaluación	Indicadores de éxito	Fuente de datos	Método e instrumentos de recolección de datos
<b>Relevancia:</b> ¿En qué medida la iniciativa, sus productos y efectos son coherentes con las políticas y prioridades del GEF, del PNUD, las prioridades nacionales ambientales y las necesidades de los beneficiarios? ¿Ha sido idónea la forma de operación del Proyecto en relación al contexto nacional?				
Prioridades del GEF	¿Es el Proyecto relevante al área de interés sobre cambio climático del GEF?	<ul style="list-style-type: none"> <li>• Prioridades y áreas de trabajo incorporados en el diseño del Proyecto</li> </ul>	<ul style="list-style-type: none"> <li>• Documentos de Proyecto</li> <li>• Sitios web de PNUD, y GEF, asociados e interesados</li> <li>• Políticas y estrategias nacionales</li> <li>• Asociados claves del Proyecto</li> </ul>	<ul style="list-style-type: none"> <li>• Análisis de los documentos y otra información</li> <li>• Entrevistas con PNUD, el equipo de Proyecto, representantes de BCIE y otros actores asociados</li> </ul>
Prioridades del PNUD	¿En qué medida el Proyecto se corresponde con el Plan de Acción del Programa del País (CPAP por sus siglas)	<ul style="list-style-type: none"> <li>• Prioridades y áreas de trabajo incorporados</li> </ul>		
Prioridades nacionales ambientales	¿Cómo el Proyecto apoya las prioridades ambientales y de desarrollo del Perú?	<ul style="list-style-type: none"> <li>• Apreciación y reconocimiento de los interesados nacionales con respecto a la adecuación del Proyecto</li> <li>• Grado de participación de los interesados en el diseño del Proyecto</li> </ul>		
Necesidades de los beneficiarios (género y DH)	¿El Proyecto toma en consideración las realidades nacionales ambientales (marco institucional y de políticas) y de la población (desigualdades o inequidades) tanto en la etapa de diseño como en su implementación?			

Idoneidad	¿Existen vínculos lógicos entre el problema que se desea resolver, los resultados esperados del Proyecto y el diseño del Proyecto (en términos capacidad nacional, componentes del proyecto, elección de socios, estructura, mecanismos de implementación, alcance, presupuesto, uso de recursos, etc.)?	<ul style="list-style-type: none"> <li>• Solidez del marco lógico;</li> <li>• Coherencia entre resultados logrados y resultados planeados</li> </ul>		
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Annex VII

Evaluation Consultant Code Of Conduct Agreement Form

## Código de conducta de UNEG para evaluadores/consultores del MTR

Los evaluadores/consultores:

1. Deben presentar una información completa y justa en su evaluación de las fortalezas y debilidades, de tal manera que las decisiones o acciones llevadas a cabo se encuentren bien fundadas.
2. Deben revelar el conjunto completo de conclusiones junto con la información de sus limitaciones y tenerlo a disposición de todos aquellos afectados por la evaluación que posean el derecho expreso para recibir los resultados.
3. Deberán proteger el anonimato y la confidencialidad de los informantes individuales. Deberán ofrecer el máximo tiempo de notificación, limitar las demandas de tiempo y respetar el derecho de las personas a no involucrarse. Los evaluadores deberán respetar el derecho de las personas a otorgar información de manera confidencial, y deben asegurarse de que la información sensible no pueda ser rastreada hasta su origen. Los evaluadores no están obligados a evaluar a personas individuales pero están deben mantener el equilibrio entre la evaluación de las funciones de gestión y este principio general.
4. En ocasiones, al realizar las evaluaciones destaparán pruebas de delitos. Se debe informar de manera discreta sobre tales casos al órgano de investigación apropiado. Los evaluadores deberán consultar con otras entidades de supervisión relevantes cuando exista la mínima duda sobre si estos temas deberían ser comunicados y de cómo deberían comunicarse.
5. Deberán ser sensibles hacia las creencias, usos y costumbres y actuar con integridad y honestidad en sus relaciones con todas las parte interesadas. En la línea de la Declaración Universal de Derechos Humanos de las Naciones Unidas, los evaluadores deben ser sensibles hacia los temas de discriminación e igualdad de género. Deberán evitar ofender la dignidad y autoestima de aquellas personas con las que establezcan un contacto durante la evaluación. Sabiendo que existe la posibilidad de que la evaluación afecte negativamente a los intereses de algunas partes interesadas, los evaluadores deberán conducir la evaluación y comunicar el objetivo de ésta y sus resultados de una manera que respete claramente la dignidad y la autoestima de los implicados.
6. Son responsables de su actuación y (los) producto(s) que generen. Son responsables de una presentación escrita u oral clara, precisa y equilibrada, así como de las limitaciones, conclusiones y recomendaciones del estudio.
7. Deberán aplicar procedimientos contables sólidos y ser prudentes a la hora de utilizar los recursos de la evaluación.

### Formulario de Acuerdo del Consultor de la TE

Acuerdo para acatar el Código de Conducta para Evaluadores del sistema de la ONU:

Nombre del Consultor: Alfredo Caprile

Nombre de la Organización Consultora (cuando sea necesario): Sustainable Development Advisors

Afirmo que he recibido y entendido y que acataré el Código de Conducta para Evaluadores de las Naciones Unidas.

Firmado en Buenos Aires el 19 de Mayo 2017

Firma:



Tracking Tool for Climate Change Mitigation Projects





## Tracking Tool for Climate Change Mitigation Projects (For Terminal Evaluation)

### Special Notes: reporting on lifetime emissions avoided

**Lifetime direct GHG emissions avoided:** Lifetime direct GHG emissions avoided are the emissions reductions attributable to the investments made during the project's supervised implementation period, totaled over the respective lifetime of the investments.

**Lifetime direct post-project emissions avoided:** Lifetime direct post-project emissions avoided are the emissions reductions attributable to the investments made outside the project's supervised implementation period, but supported by financial facilities put in place by the GEF project, totaled over the respective lifetime of the investments. These financial facilities will still be operational after the project ends, such as partial credit guarantee facilities, risk mitigation facilities, or revolving funds.

**Lifetime indirect GHG emissions avoided (top-down and bottom-up):** Indirect emissions reductions are those attributable to the long-term outcomes of the GEF activities that remove barriers, such as capacity building, innovation, catalytic action for replication.

Please refer to the Manual for Calculating GHG Benefits of GEF Projects.

[Manual for Energy Efficiency and Renewable Energy Projects](#)  
[Manual for Transportation Projects](#)

For LULUCF projects, the definitions of "lifetime direct and indirect" apply. Lifetime length is defined to be 20 years, unless a different number of years is deemed appropriate. For emission or removal factors (tonnes of CO<sub>2</sub>e per hectare per year), use IPCC defaults or country specific factors.

General Data	Results at Terminal Evaluation	Notes
Project Title	Energy Efficiency Standards and Labels in Peru / Conservative Scenario	
GEF ID	4128	
Agency Project ID	PIMS 3791	
Country	Peru	
Region	LCR	
GEF Agency	UNDP	
Date of Council/CEO Approval	June 19, 2012	Month DD, YYYY (e.g., May 12, 2010)
GEF Grant (US\$)	2,000,000	
Date of submission of the tracking tool	June 15, 2017	Month DD, YYYY (e.g., May 12, 2010)
Is the project consistent with the priorities identified in National Communications, Technology Needs Assessment, or other Enabling Activities under the UNFCCC?	1	Yes = 1, No = 0
Is the project linked to carbon finance?	0	Yes = 1, No = 0
Cumulative cofinancing realized (US\$)		
Cumulative additional resources mobilized (US\$)	4,800,000	additional resources means beyond the cofinancing committed at CEO endorsement

### Objective 1: Transfer of Innovative Technologies

#### Please specify the type of enabling environment created for technology transfer through this project

National innovation and technology transfer policy	Yes = 1, No = 0
Innovation and technology centre and network	Yes = 1, No = 0
Applied R&D support	Yes = 1, No = 0
South-South technology cooperation	Yes = 1, No = 0
North-South technology cooperation	Yes = 1, No = 0
Intellectual property rights (IPR)	Yes = 1, No = 0
Information dissemination	Yes = 1, No = 0
Institutional and technical capacity building	Yes = 1, No = 0
Other (please specify)	

Number of innovative technologies demonstrated or deployed

#### Please specify three key technologies for demonstration or deployment

Area of technology 1	
Type of technology 1	specify type of technology
Area of technology 2	
Type of technology 2	specify type of technology
Area of technology 3	
Type of technology 3	specify type of technology

Status of technology demonstration/deployment

- 0: no suitable technologies are in place
- 1: technologies have been identified and assessed
- 2: technologies have been demonstrated on a pilot basis
- 3: technologies have been deployed
- 4: technologies have been diffused widely with investments
- 5: technologies have reached market potential

Lifetime direct GHG emissions avoided	tonnes CO <sub>2</sub> e (see Special Notes above)
Lifetime direct post-project GHG emissions avoided	tonnes CO <sub>2</sub> e (see Special Notes above)
Lifetime indirect GHG emissions avoided (bottom-up)	tonnes CO <sub>2</sub> e (see Special Notes above)
Lifetime indirect GHG emissions avoided (top-down)	tonnes CO <sub>2</sub> e (see Special Notes above)

Objective 2: Energy Efficiency		
Please specify if the project targets any of the following areas		
Lighting		Yes = 1, No = 0
Appliances (white goods)		Yes = 1, No = 0
Equipment		Yes = 1, No = 0
Cook stoves		Yes = 1, No = 0
Existing building		Yes = 1, No = 0
New building		Yes = 1, No = 0
Industrial processes		Yes = 1, No = 0
Synergy with phase-out of ozone depleting substances		Yes = 1, No = 0
Other (please specify)		
Policy and regulatory framework		0: not an objective/component 1: no policy/regulation/strategy in place 2: policy/regulation/strategy discussed and proposed 3: policy/regulation/strategy proposed but not adopted 4: policy/regulation/strategy adopted but not enforced 5: policy/regulation/strategy enforced
Establishment of financial facilities (e.g., credit lines, risk guarantees, revolving funds)		0: not an objective/component 1: no facility in place 2: facilities discussed and proposed 3: facilities proposed but not operationalized/funded 4: facilities operationalized/funded but have no demand 5: facilities operationalized/funded and have sufficient demand
Capacity building		0: not an objective/component 1: no capacity built 2: information disseminated/awareness raised 3: training delivered 4: institutional/human capacity strengthened 5: institutional/human capacity utilized and sustained
Lifetime energy saved		MJ (Million Joule, IEA unit converter: <a href="http://www.iea.org/stats/unit.asp">http://www.iea.org/stats/unit.asp</a> ) Fuel savings should be converted to energy savings by using the net calorific value of the specific fuel. End-use electricity savings should be converted to energy savings by using the conversion factor for the specific supply and distribution system. These energy savings are then totaled over the respective lifetime of the investments
	62,922,586,000	tonnes CO2eq (see Special Notes above)
Lifetime direct GHG emissions avoided	429,873	tonnes CO2eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (bottom-up)	4,162,416	tonnes CO2eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (top-down)		tonnes CO2eq (see Special Notes above)

**Objective 3: Renewable Energy**

**Please specify if the project includes any of the following areas**

Heat/thermal energy production	Yes = 1, No = 0
On-grid electricity production	Yes = 1, No = 0
Off-grid electricity production	Yes = 1, No = 0

Policy and regulatory framework	0: not an objective/component 1: no policy/regulation/strategy in place 2: policy/regulation/strategy discussed and proposed 3: policy/regulation/strategy proposed but not adopted 4: policy/regulation/strategy adopted but not enforced 5: policy/regulation/strategy enforced
Establishment of financial facilities (e.g., credit lines, risk guarantees, revolving funds)	0: not an objective/component 1: no facility in place 2: facilities discussed and proposed 3: facilities proposed but not operationalized/funded 4: facilities operationalized/funded but have no demand 5: facilities operationalized/funded and have sufficient demand
Capacity building	0: not an objective/component 1: no capacity built 2: information disseminated/awareness raised 3: training delivered 4: institutional/human capacity strengthened 5: institutional/human capacity utilized and sustained

**Installed capacity per technology directly resulting from the project**

Wind	MW
Biomass	MW el (for electricity production)
Biomass	MW th (for thermal energy production)
Geothermal	MW el (for electricity production)
Geothermal	MW th (for thermal energy production)
Hydro	MW
Photovoltaic (solar lighting included)	MW
Solar thermal heat (heating, water, cooling, process)	MW th (for thermal energy production, 1m <sup>2</sup> = 0.7kW)
Solar thermal power	MW el (for electricity production)
Marine power (wave, tidal, marine current, osmotic, ocean thermal)	MW

**Lifetime energy production per technology directly resulting from the project (IEA unit converter: <http://www.iea.org/stats/unit.asp>)**

Wind	MWh
Biomass	MWh el (for electricity production)
Biomass	MWh th (for thermal energy production)
Geothermal	MWh el (for electricity production)
Geothermal	MWh th (for thermal energy production)
Hydro	MWh
Photovoltaic (solar lighting included)	MWh
Solar thermal heat (heating, water, cooling, process)	MWh th (for thermal energy production)
Solar thermal power	MWh el (for electricity production)
Marine energy (wave, tidal, marine current, osmotic, ocean thermal)	MWh

Lifetime direct GHG emissions avoided	tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime direct post-project GHG emissions avoided	tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (bottom-up)	tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (top-down)	tonnes CO <sub>2</sub> eq (see Special Notes above)

Objective 4: Transport and Urban Systems		
<b>Please specify if the project targets any of the following areas</b>		
Bus rapid transit		Yes = 1, No = 0
Other mass transit (e.g., light rail, heavy rail, water or other mass transit; excluding regular bus or minibus)		Yes = 1, No = 0
Logistics management		Yes = 1, No = 0
Transport efficiency (e.g., vehicle, fuel, network efficiency)		Yes = 1, No = 0
Non-motorized transport (NMT)		Yes = 1, No = 0
Travel demand management		Yes = 1, No = 0
Comprehensive transport initiatives (Involving the coordination of multiple strategies from different transportation sub-sectors)		Yes = 1, No = 0
Sustainable urban initiatives		Yes = 1, No = 0
Policy and regulatory framework		0: not an objective/component 1: no policy/regulation/strategy in place 2: policy/regulation/strategy discussed and proposed 3: policy/regulation/strategy proposed but not adopted 4: policy/regulation/strategy adopted but not enforced 5: policy/regulation/strategy enforced
Establishment of financial facilities (e.g., credit lines, risk guarantees, revolving funds)		0: not an objective/component 1: no facility in place 2: facilities discussed and proposed 3: facilities proposed but not operationalized/funded 4: facilities operationalized/funded but have no demand 5: facilities operationalized/funded and have sufficient demand
Capacity building		0: not an objective/component 1: no capacity built 2: information disseminated/awareness raised 3: training delivered 4: institutional/human capacity strengthened 5: institutional/human capacity utilized and sustained
Length of public rapid transit (PRT)		km
Length of non-motorized transport (NMT)		km
Number of lower GHG emission vehicles		
Number of people benefiting from the improved transport and urban systems		
Lifetime direct GHG emissions avoided		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime direct post-project GHG emissions avoided		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (bottom-up)		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (top-down)		tonnes CO <sub>2</sub> eq (see Special Notes above)

Objective 5: LULUCF		
<b>Area of activity directly resulting from the project</b>		
Conservation and enhancement of carbon in forests, including agroforestry		ha
Conservation and enhancement of carbon in nonforest lands, including peat land		ha
Avoided deforestation and forest degradation		ha
Afforestation/reforestation		ha
Good management practices developed and adopted		0: not an objective/component 1: no action 2: developing prescriptions for sustainable management 3: development of national standards for certification 4: some of area in project certified 5: over 80% of area in project certified
Carbon stock monitoring system established		0: not an objective/component 1: no action 2: mapping of forests and other land areas 3: compilation and analysis of carbon stock information 4: implementation of science based inventory/monitoring system 5: monitoring information database publicly available
Lifetime direct GHG emission avoided		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect GHG emission avoided		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime direct carbon sequestration		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect carbon sequestration		tonnes CO <sub>2</sub> eq (see Special Notes above)

Objective 6: Enabling Activities		
<b>Please specify the number of Enabling Activities for the project (for a multiple country project, please put the number of countries/assessments)</b>		
National Communication		
Technology Needs Assessment		
Nationally Appropriate Mitigation Actions		
Other		
Does the project include Measurement, Reporting and Verification (MRV) activities?		Yes = 1, No = 0



## Tracking Tool for Climate Change Mitigation Projects (For Terminal Evaluation)

### Special Notes: reporting on lifetime emissions avoided

**Lifetime direct GHG emissions avoided:** Lifetime direct GHG emissions avoided are the emissions reductions attributable to the investments made during the project's supervised implementation period, totaled over the respective lifetime of the investments.

**Lifetime direct post-project emissions avoided:** Lifetime direct post-project emissions avoided are the emissions reductions attributable to the investments made outside the project's supervised implementation period, but supported by financial facilities put in place by the GEF project, totaled over the respective lifetime of the investments. These financial facilities will still be operational after the project ends, such as partial credit guarantee facilities, risk mitigation facilities, or revolving funds.

**Lifetime indirect GHG emissions avoided (top-down and bottom-up):** Indirect emissions reductions are those attributable to the long-term outcomes of the GEF activities that remove barriers, such as capacity building, innovation, catalytic action for replication.

Please refer to the Manual for Calculating GHG Benefits of GEF Projects.

[Manual for Energy Efficiency and Renewable Energy Projects](#)  
[Manual for Transportation Projects](#)

For LULUCF projects, the definitions of "lifetime direct and indirect" apply. Lifetime length is defined to be 20 years, unless a different number of years is deemed appropriate. For emission or removal factors (tonnes of CO<sub>2</sub>e per hectare per year), use IPCC defaults or country specific factors.

General Data	Results at Terminal Evaluation	Notes
Project Title	Energy Efficiency Standards and Labels in Peru	Optimistic Scenario
GEF ID	4128	
Agency Project ID	PIMS 3791	
Country	Peru	
Region	LCR	
GEF Agency	UNDP	
Date of Council/CEO Approval	June 19, 2012	Month DD, YYYY (e.g., May 12, 2010)
GEF Grant (US\$)	2,000,000	
Date of submission of the tracking tool	June 15, 2017	Month DD, YYYY (e.g., May 12, 2010)
Is the project consistent with the priorities identified in National Communications, Technology Needs Assessment, or other Enabling Activities under the UNFCCC?	1	Yes = 1, No = 0
Is the project linked to carbon finance?	0	Yes = 1, No = 0
Cumulative cofinancing realized (US\$)		
Cumulative additional resources mobilized (US\$)	4,800,000	additional resources means beyond the cofinancing committed at CEO endorsement

### Objective 1: Transfer of Innovative Technologies

#### Please specify the type of enabling environment created for technology transfer through this project

National innovation and technology transfer policy	Yes = 1, No = 0
Innovation and technology centre and network	Yes = 1, No = 0
Applied R&D support	Yes = 1, No = 0
South-South technology cooperation	Yes = 1, No = 0
North-South technology cooperation	Yes = 1, No = 0
Intellectual property rights (IPR)	Yes = 1, No = 0
Information dissemination	Yes = 1, No = 0
Institutional and technical capacity building	Yes = 1, No = 0
Other (please specify)	

Number of innovative technologies demonstrated or deployed

#### Please specify three key technologies for demonstration or deployment

Area of technology 1	
Type of technology 1	specify type of technology
Area of technology 2	
Type of technology 2	specify type of technology
Area of technology 3	
Type of technology 3	specify type of technology

Status of technology demonstration/deployment

- 0: no suitable technologies are in place
- 1: technologies have been identified and assessed
- 2: technologies have been demonstrated on a pilot basis
- 3: technologies have been deployed
- 4: technologies have been diffused widely with investments
- 5: technologies have reached market potential

Lifetime direct GHG emissions avoided	tonnes CO <sub>2</sub> e (see Special Notes above)
Lifetime direct post-project GHG emissions avoided	tonnes CO <sub>2</sub> e (see Special Notes above)
Lifetime indirect GHG emissions avoided (bottom-up)	tonnes CO <sub>2</sub> e (see Special Notes above)
Lifetime indirect GHG emissions avoided (top-down)	tonnes CO <sub>2</sub> e (see Special Notes above)

Objective 2: Energy Efficiency		
Please specify if the project targets any of the following areas		
Lighting	1	Yes = 1, No = 0
Appliances (white goods)	1	Yes = 1, No = 0
Equipment	1	Yes = 1, No = 0
Cook stoves	1	Yes = 1, No = 0
Existing building		Yes = 1, No = 0
New building		Yes = 1, No = 0
Industrial processes		Yes = 1, No = 0
Synergy with phase-out of ozone depleting substances		Yes = 1, No = 0
Other (please specify)		
Policy and regulatory framework	5	0: not an objective/component 1: no policy/regulation/strategy in place 2: policy/regulation/strategy discussed and proposed 3: policy/regulation/strategy proposed but not adopted 4: policy/regulation/strategy adopted but not enforced 5: policy/regulation/strategy enforced
Establishment of financial facilities (e.g., credit lines, risk guarantees, revolving funds)	0	0: not an objective/component 1: no facility in place 2: facilities discussed and proposed 3: facilities proposed but not operationalized/funded 4: facilities operationalized/funded but have no demand 5: facilities operationalized/funded and have sufficient demand
Capacity building	5	0: not an objective/component 1: no capacity built 2: information disseminated/awareness raised 3: training delivered 4: institutional/human capacity strengthened 5: institutional/human capacity utilized and sustained
Lifetime energy saved	92,245,192,000	MJ (Million Joule, IEA unit converter: <a href="http://www.iea.org/stats/unit.asp">http://www.iea.org/stats/unit.asp</a> ) Fuel savings should be converted to energy savings by using the net calorific value of the specific fuel. End-use electricity savings should be converted to energy savings by using the conversion factor for the specific supply and distribution system. These energy savings are then totaled over the respective lifetime of the investments
Lifetime direct GHG emissions avoided	715,070	tonnes CO2eq (see Special Notes above)
Lifetime direct post-project GHG emissions avoided		tonnes CO2eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (bottom-up)	5,929,989	tonnes CO2eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (top-down)		tonnes CO2eq (see Special Notes above)

**Objective 3: Renewable Energy**

**Please specify if the project includes any of the following areas**

Heat/thermal energy production	Yes = 1, No = 0
On-grid electricity production	Yes = 1, No = 0
Off-grid electricity production	Yes = 1, No = 0

Policy and regulatory framework	0: not an objective/component 1: no policy/regulation/strategy in place 2: policy/regulation/strategy discussed and proposed 3: policy/regulation/strategy proposed but not adopted 4: policy/regulation/strategy adopted but not enforced 5: policy/regulation/strategy enforced
Establishment of financial facilities (e.g., credit lines, risk guarantees, revolving funds)	0: not an objective/component 1: no facility in place 2: facilities discussed and proposed 3: facilities proposed but not operationalized/funded 4: facilities operationalized/funded but have no demand 5: facilities operationalized/funded and have sufficient demand
Capacity building	0: not an objective/component 1: no capacity built 2: information disseminated/awareness raised 3: training delivered 4: institutional/human capacity strengthened 5: institutional/human capacity utilized and sustained

**Installed capacity per technology directly resulting from the project**

Wind	MW
Biomass	MW el (for electricity production)
Biomass	MW th (for thermal energy production)
Geothermal	MW el (for electricity production)
Geothermal	MW th (for thermal energy production)
Hydro	MW
Photovoltaic (solar lighting included)	MW
Solar thermal heat (heating, water, cooling, process)	MW th (for thermal energy production, 1m <sup>2</sup> = 0.7kW)
Solar thermal power	MW el (for electricity production)
Marine power (wave, tidal, marine current, osmotic, ocean thermal)	MW

**Lifetime energy production per technology directly resulting from the project (IEA unit converter: <http://www.iea.org/stats/unit.asp>)**

Wind	MWh
Biomass	MWh el (for electricity production)
Biomass	MWh th (for thermal energy production)
Geothermal	MWh el (for electricity production)
Geothermal	MWh th (for thermal energy production)
Hydro	MWh
Photovoltaic (solar lighting included)	MWh
Solar thermal heat (heating, water, cooling, process)	MWh th (for thermal energy production)
Solar thermal power	MWh el (for electricity production)
Marine energy (wave, tidal, marine current, osmotic, ocean thermal)	MWh

Lifetime direct GHG emissions avoided	tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime direct post-project GHG emissions avoided	tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (bottom-up)	tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (top-down)	tonnes CO <sub>2</sub> eq (see Special Notes above)

Objective 4: Transport and Urban Systems		
<b>Please specify if the project targets any of the following areas</b>		
Bus rapid transit		Yes = 1, No = 0
Other mass transit (e.g., light rail, heavy rail, water or other mass transit; excluding regular bus or minibus)		Yes = 1, No = 0
Logistics management		Yes = 1, No = 0
Transport efficiency (e.g., vehicle, fuel, network efficiency)		Yes = 1, No = 0
Non-motorized transport (NMT)		Yes = 1, No = 0
Travel demand management		Yes = 1, No = 0
Comprehensive transport initiatives (Involving the coordination of multiple strategies from different transportation sub-sectors)		Yes = 1, No = 0
Sustainable urban initiatives		Yes = 1, No = 0
Policy and regulatory framework		0: not an objective/component 1: no policy/regulation/strategy in place 2: policy/regulation/strategy discussed and proposed 3: policy/regulation/strategy proposed but not adopted 4: policy/regulation/strategy adopted but not enforced 5: policy/regulation/strategy enforced
Establishment of financial facilities (e.g., credit lines, risk guarantees, revolving funds)		0: not an objective/component 1: no facility in place 2: facilities discussed and proposed 3: facilities proposed but not operationalized/funded 4: facilities operationalized/funded but have no demand 5: facilities operationalized/funded and have sufficient demand
Capacity building		0: not an objective/component 1: no capacity built 2: information disseminated/awareness raised 3: training delivered 4: institutional/human capacity strengthened 5: institutional/human capacity utilized and sustained
Length of public rapid transit (PRT)		km
Length of non-motorized transport (NMT)		km
Number of lower GHG emission vehicles		
Number of people benefiting from the improved transport and urban systems		
Lifetime direct GHG emissions avoided		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime direct post-project GHG emissions avoided		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (bottom-up)		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (top-down)		tonnes CO <sub>2</sub> eq (see Special Notes above)

Objective 5: LULUCF		
<b>Area of activity directly resulting from the project</b>		
Conservation and enhancement of carbon in forests, including agroforestry		ha
Conservation and enhancement of carbon in nonforest lands, including peat land		ha
Avoided deforestation and forest degradation		ha
Afforestation/reforestation		ha
Good management practices developed and adopted		0: not an objective/component 1: no action 2: developing prescriptions for sustainable management 3: development of national standards for certification 4: some of area in project certified 5: over 80% of area in project certified
Carbon stock monitoring system established		0: not an objective/component 1: no action 2: mapping of forests and other land areas 3: compilation and analysis of carbon stock information 4: implementation of science based inventory/monitoring system 5: monitoring information database publicly available
Lifetime direct GHG emission avoided		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect GHG emission avoided		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime direct carbon sequestration		tonnes CO <sub>2</sub> eq (see Special Notes above)
Lifetime indirect carbon sequestration		tonnes CO <sub>2</sub> eq (see Special Notes above)

Objective 6: Enabling Activities		
<b>Please specify the number of Enabling Activities for the project (for a multiple country project, please put the number of countries/assessments)</b>		
National Communication		
Technology Needs Assessment		
Nationally Appropriate Mitigation Actions		
Other		
Does the project include Measurement, Reporting and Verification (MRV) activities?		Yes = 1, No = 0



Annex IX

## National Laboratories Evaluation Results

## Resultado de la Evaluación de Laboratorios Nacionales

- De una muestra de 26 entidades visitadas (de un total de 63 evaluadas a nivel nacional), se puede inferir que la mayor parte están dedicadas a la capacitación de estudiantes (fines didácticos, académicos); sin embargo, existen universidades e institutos (PUCP, UNI, TECSUP, SENATI) que ofrecen servicios a terceros en diversos ensayos y pruebas lo más cercano a normas internacionales y nacionales, no llegando a ensayos desarrollados bajo estándares como la Norma ISO 17025: Competence of Testing and Calibration Laboratories.

En el caso de fabricantes (INDURAMA, BSH BOSCH, SOLE, DELCROSA), realizan ensayos como parte de su proceso de control de calidad de acuerdo a normas internacionales, según lo indicado por sus casas matrices.

- Como resultado del estudio, se ha logrado identificar:  
Tres organizaciones (UNI-FIEE, PUCP – FIE - FIME y DELCROSA) con mayor potencial para realizar pruebas de eficiencia energética en motores eléctricos. Sin embargo, se considera que para este producto hay otras organizaciones con calificación media que también, según su propio interés y capacidad de inversión, podrían aunarse a este grupo.

Dos organizaciones (INDURAMA y BSH) con mayor potencial para realizar pruebas de eficiencia energética en refrigeradoras.

Tres organizaciones (PUCP - FIME, TECSUP-Lima y TECSUP-Arequipa) con mayor potencial para realizar pruebas de eficiencia energética en calderas industriales por el método indirecto (anализador de gases).

Como se puede ver el resultado

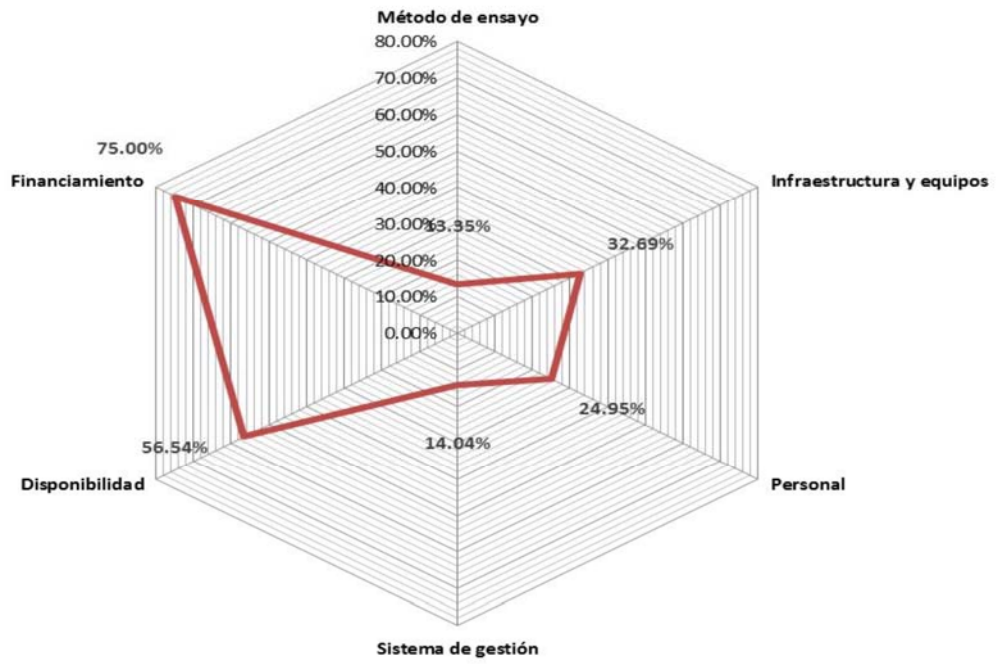
Item	EMPRESA	Método de ensayo	Infraestructura y equipos	Personal	Sistema de gestión	Disponibilidad	Financiamiento	DEPARTAMENTO	TIPO	PROMEDIO	CALIFICACIÓN
1	BSCH-R (CALLAO)	67%	75%	65%	56%	35%	75%	CALLAO	FABRICANTE	62%	ALTO
2	INDURAMA-R (LIMA)	59%	67%	65%	65%	35%	75%	LIMA	FABRICANTE	61%	ALTO
3	PUCP-ME (LIMA)	36%	56%	56%	28%	75%	75%	LIMA	UNIVERSIDAD	54%	MEDIO
4	UNI-ME (LIMA)	36%	56%	56%	18%	75%	75%	LIMA	UNIVERSIDAD	53%	MEDIO
5	DELCROSA-ME (LIMA)	30%	46%	56%	19%	75%	75%	LIMA	FABRICANTE	50%	MEDIO
6	TECSUP-ME (LIMA)	21%	44%	19%	9%	75%	75%	LIMA	INSTITUTO	40%	MEDIO
7	UDEP-ME (PIURA)	14%	49%	46%	18%	35%	75%	PIURA	UNIVERSIDAD	39%	MEDIO
8	SENATI-ME (PIURA)	0%	42%	0%	38%	75%	75%	PIURA	INSTITUTO	38%	MEDIO
9	TECSUP-CI (AREQUIPA)	14%	28%	9%	9%	75%	75%	AREQUIPA	INSTITUTO	35%	BAJO
10	AEI INGENIEROS-ME (LIMA)	0%	30%	9%	18%	75%	75%	LIMA	FABRICANTE	34%	BAJO
11	PUCP-CI (LIMA)	21%	35%	19%	19%	35%	75%	LIMA	UNIVERSIDAD	34%	BAJO
12	UTP-ME (LIMA)	0%	37%	38%	19%	35%	75%	LIMA	UNIVERSIDAD	34%	BAJO
13	TECSUP-CI (LIMA)	0%	35%	9%	9%	75%	75%	LIMA	INSTITUTO	34%	BAJO
14	UNPRG-ME (LAMBAYEQUE)	0%	18%	19%	9%	75%	75%	LAMBAYEQUE	UNIVERSIDAD	33%	BAJO
15	TECSUP-ME (AREQUIPA)	14%	38%	19%	9%	35%	75%	AREQUIPA	INSTITUTO	32%	BAJO
16	UNMSM-ME (LIMA)	0%	17%	19%	0%	75%	75%	LIMA	UNIVERSIDAD	31%	BAJO
17	LAB. ENERGIA N°5-CI (LIMA)	7%	20%	9%	0%	75%	75%	LIMA	UNIVERSIDAD	31%	BAJO
18	UNAC-ME (CALLAO)	0%	20%	0%	9%	75%	75%	CALLAO	UNIVERSIDAD	30%	BAJO
19	UTEC-ME (LIMA)	7%	37%	19%	0%	35%	75%	LIMA	UNIVERSIDAD	29%	BAJO
20	TECSUP-R (AREQUIPA)	0%	4%	9%	9%	75%	75%	AREQUIPA	INSTITUTO	29%	BAJO
21	UCSM-ME (AREQUIPA)	0%	22%	28%	9%	35%	75%	AREQUIPA	UNIVERSIDAD	28%	BAJO
22	UNSA-ME (AREQUIPA)	7%	22%	28%	0%	35%	75%	AREQUIPA	UNIVERSIDAD	28%	BAJO
23	SENATI-ME (AREQUIPA)	7%	22%	28%	0%	35%	75%	AREQUIPA	INSTITUTO	28%	BAJO
24	UNSA-CI (AREQUIPA)	7%	20%	28%	0%	35%	75%	AREQUIPA	UNIVERSIDAD	27%	BAJO
25	SENATI-ME (LIMA)	0%	0%	0%	0%	75%	75%	LIMA	INSTITUTO	25%	BAJO
26	SOLE-CA (LIMA)	0%	10%	0%	0%	35%	75%	LIMA	FABRICANTE	20%	BAJO

### Resultados: Diagnóstico de Laboratorios a Nivel Nacional

N°	CAMPOS EVALUADOS	
1	Método de ensayo	13.35%
2	Infraestructura y equipos	32.69%
3	Personal	24.95%
4	Sistema de gestión	14.04%
5	Disponibilidad	56.54%
6	Financiamiento	75.00%

**TOTAL**

**36.09%**





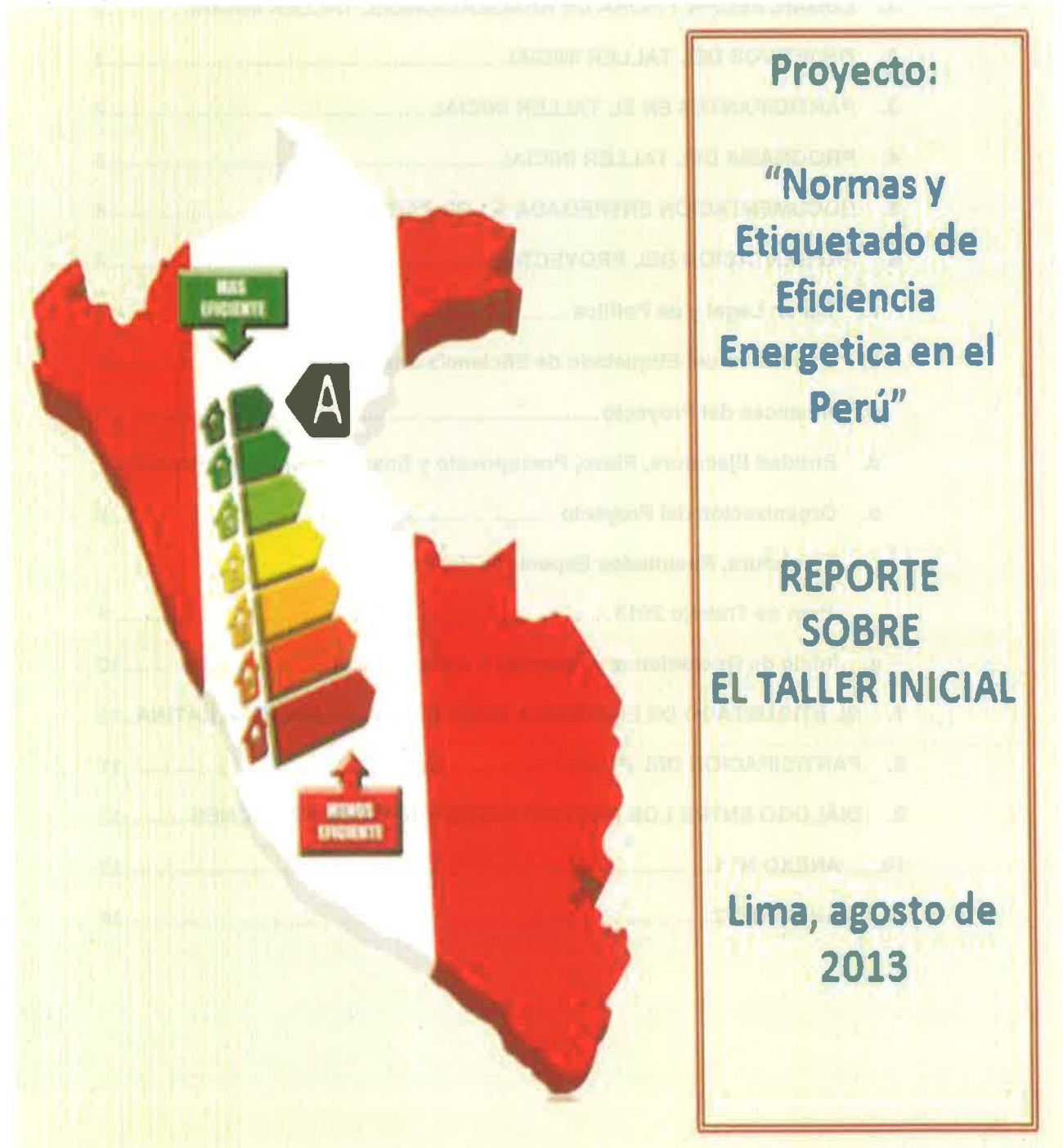


PERÚ

Ministerio  
de Energía y Minas

Viceministerio  
de Energía

Dirección General  
de Eficiencia Energética



**Proyecto:**  
**“Normas y  
Etiquetado de  
Eficiencia  
Energetica en el  
Perú”**

**REPORTE  
SOBRE  
EL TALLER INICIAL**

**Lima, agosto de  
2013**



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de Eficiencia Energética

*"Año de la Inversión para el Desarrollo Rural y la Seguridad Alimentaria"  
"Decenio de las Personas con Discapacidad en el Perú"*

## **REPORTE SOBRE EL TALLER INICIAL DEL PROYECTO: "NORMAS Y ETIQUETADO DE EFICIENCIA ENERGÉTICA EN PERÚ"**

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## **REPORTE SOBRE EL TALLER INICIAL DEL PROYECTO: "NORMAS Y ETIQUETADO DE EFICIENCIA ENERGÉTICA EN PERÚ"**

### **1. LUGAR, FECHA Y HORA DE REALIZACIÓN DEL TALLER INICIAL**

El Taller se llevó a cabo en las instalaciones del Hotel Plaza El Bosque (Av. Paz Soldán 167 San Isidro), el día 12 de agosto de 2013 de 11:30 a 14:00 horas.

### **2. OBJETIVOS DEL TALLER INICIAL**

De acuerdo a lo dispuesto en los acápites 76 y 77 del Documento del Proyecto (PRODOC), el Taller Inicial se realizó con los siguientes objetivos:

- a. Crear conciencia en los involucrados sobre la importancia del proyecto y su relación con las políticas de desarrollo nacional, sectorial y regional y con los compromisos internacionales del país.
- b. Informar a los principales involucrados sobre los objetivos, estructura, organización, presupuesto, plan de trabajo y resultados esperados del proyecto.
- c. Discutir los papeles, funciones y responsabilidades de las entidades involucradas y programar reuniones del Comité Directivo del proyecto.
- d. Informar a los involucrados sobre el papel, servicios de apoyo y responsabilidades del PNUD en el desarrollo del proyecto.

### **3. PARTICIPANTES EN EL TALLER INICIAL**

Se cursaron invitaciones a representantes de seis entidades públicas, de tres universidades, de cinco entidades privadas y del PNUD.

La invitación fue acogida mayoritariamente, asistiendo 30 participantes (ver Anexo N°1) que representaban a los principales involucrados en el proyecto, 14 del sector público, 8 del sector privado, 3 de universidades y 5 del PNUD y del Proyecto, de acuerdo al siguiente desglose:

- a. Ministerio de Energía y Minas....7
- b. Ministerio de la Producción.....3
- c. Ministerio del Ambiente.....1
- d. MINCETUR.....0
- e. INDECOPI.....2
- f. SUNAT – ADUANAS.....1
- g. Cámara de Comercio de Lima...12
- h. Sociedad Nacional de Industrias.3

- i. Ass. Peruana de Consumidores... 1
- j. CENERGIA..... 2
- k. LEED GREEN ASSOCIATE..... 1
- l. Universidad Católica del Perú.....2
- m. Universidad del Pacífico.....1
- n. Universidad Nac. De Ingeniería.....0
- o. PNUD.....1
- p. Proyecto PNUD 77443.....4

Cabe destacar que entre los participantes se encontraban los integrantes del Comité Directivo del Proyecto integrado por representantes de los Ministerios de Energía y Minas, de la Producción y del Ambiente, del Instituto de Defensa del Consumidor y de la Propiedad Intelectual (INDECOPI) y del Programa de las Naciones Unidas para el Desarrollo (PNUD).

Por otro lado es de notar que los representantes de la Sociedad Nacional de Industrias pertenecen al Comité de Línea Blanca de dicha Institución y que el representante de la Cámara de Comercio de Lima pertenece a la Comisión de Medio Ambiente de la Cámara.

#### **4. PROGRAMA DEL TALLER INICIAL**

El Taller Inicial fue presidido por el Director Nacional del Proyecto y Director General de Eficiencia Energética, Sr. José Eslava y por el Oficial de Programas del PNUD, Sr. Jorge Álvarez y el Programa desarrollado fue el siguiente:

- 11:30 horas Recepción y registro de participantes
- 12:00 horas Apertura del Taller, Sr. José Eslava, Director Nacional del Proyecto
- 12:10 horas Presentación del Proyecto, Sr. Juan Carlos Lam, Coordinador Nacional del Proyecto
- 12:30 horas Programas de Etiquetado de Eficiencia Energética en América Latina, Sr. Wolfgang Lutz, Consultor Internacional del Proyecto
- 12:50 horas El papel del PNUD en el desarrollo del proyecto, Sr. Jorge Álvarez, Oficial de Programa del PNUD
- 13:00 horas Diálogo entre participantes
- 13:50 horas Conclusiones del Taller
- 14:00 horas Clausura del Taller





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## 5. DOCUMENTACIÓN ENTREGADA A LOS PARTICIPANTES

A cada participante se le entregó un USB conteniendo los siguientes documentos:

- a. Decreto Supremo N° 064-2010-EM, Política Energética Nacional del Perú 2010-2040
- b. Ley N° 27345, Ley de Promoción del USO Eficiente de la Energía
- c. Decreto Supremo N° 053-2007-EM, Reglamento de la Ley de Promoción del Uso Eficiente de la Energía
- d. Documento del Proyecto (PRODOC), suscrito por el PNUD y la Agencia Peruana de Cooperación Internacional y el Ministerio de Energía y Minas, en representación del gobierno peruano
- e. Presupuesto 2013 de los recursos aportados por el Fondo para el Medio Ambiente Mundial (GEF), por Componentes y Actividades del Proyecto.
- f. Plan de Trabajo 2013
- g. Reporte de Avance del Proyecto al primer semestre del 2013

Así mismo, se les entregó copias de:

- a. Exposición del Ing° Wolfgang Lutz, Consultor Internacional del Proyecto, sobre los Programas de Etiquetado en América latina
- b. Exposición del Econ. Juan Carlos Lam, sobre las características, importancia y aspectos principales del proyecto de etiquetado de eficiencia energética en el Perú.

## 6. PRESENTACIÓN DEL PROYECTO

Complementando la información entregada, se expuso a los participantes los principales aspectos del proyecto:

### a. Marco Legal y de Política

El Proyecto es consistente con la política energética nacional expresada en los siguientes documentos:

- Acuerdo Nacional
- Plan Estratégico de Desarrollo Nacional al 2021
- Política Energética Nacional al 2040
- Plan Referencial del uso Eficiente de la Energía 2009-2018
- Plan de Eficiencia Energética 2013-2022

Asimismo, el Proyecto coadyuva a los objetivos de la política energética, en especial con los siguientes:

- Matriz energética diversificada con énfasis en fuentes renovables y la eficiencia energética.

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- Desarrollo sostenible, garantizando la seguridad energética y minimizando el impacto ambiental.
- Acceso universal al suministro energético
- Mayor eficiencia en la cadena productiva y en el uso de la energía
- Autosuficiencia en la producción de energéticos

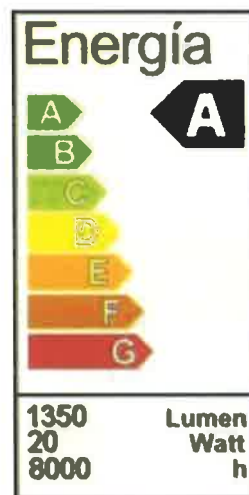
Finalmente, cabe señalar que el Proyecto responde al mandato de la Ley de Promoción del Uso Eficiente de la Energía (Ley N° 27345) y su Reglamento, que disponen el etiquetado obligatorio de los equipos y artefactos que consumen energéticos y, por otro lado, permitirá avanzar en el cumplimiento de los compromisos del Perú en la Convención Marco de las Naciones Unidas sobre el Cambio Climático, con los Objetivos de Desarrollo del Milenio y con el Plan de Acción del Programa País 2012-2016 acordado entre el Gobierno Peruano y el PNUD.

**b. Beneficios del Etiquetado de Eficiencia Energética**

La etiqueta de eficiencia energética es el elemento más expresivo del que puede disponer el consumidor para conocer el grado de eficiencia energética de los equipos que consumen energéticos para su funcionamiento, permitiendo una decisión más racional sobre su adquisición la misma que actualmente se basa exclusivamente en el costo de inversión inicial. Por otro lado, el etiquetado de eficiencia energética estimula a los fabricantes a diseñar equipos que alcancen mayores niveles de calificación.

Las normas y etiquetas de eficiencia energética están entre las herramientas de políticas disponibles más efectivas para los programas de eficiencia energética de cualquier gobierno.

La eficiencia en términos de ahorro de energía y de costo para el consumidor se identifica por un código de colores y letras que van desde el color verde y la letra A para los equipos mas eficientes, hasta el color rojo y la letra G para los menos eficientes, tal como se puede apreciar a la etiqueta adjunta correspondiente a una lámpara ahorradora.





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La implementación del etiquetado obligatorio de eficiencia energética, tal como lo dispone la ley da como resultado la reducción de la inversión requerida para plantas de energía adicionales y reduce el consumo de combustibles, liberando recursos y generando beneficios ambientales y sociales. Por el lado de los consumidores, si bien deberán pagar un adicional por equipos más eficientes, el ahorro en energéticos durante su vida útil compensará sustancialmente la mayor inversión inicial, mejorará el acceso a usuarios marginales y mejorará la confiabilidad y cobertura del sistema interconectado de energía eléctrica.

En resumen podemos señalar que los **beneficios principales del etiquetado de eficiencia energética** son los siguientes:

- Ahorro económico para los consumidores en la facturación de energía.
- Mitigación del calentamiento global, mediante la reducción de emisiones de CO<sub>2</sub>.
- Contribución a la seguridad energética y a la accesibilidad al suministro energético.
- Fomento de la competitividad y el desarrollo tecnológico.
- Liberación de recursos para infraestructura social.

#### c. Alcances del Proyecto

El Proyecto propuesto se enfocará mayoritariamente en el desarrollo de capacidades de la entidades públicas que tienen la responsabilidad de implementar el etiquetado obligatorio de eficiencia energética dispuesto por Ley; en el desarrollo de estrategias de transformación del mercado hacia equipos de mayor eficiencia energética basado en Normas y Reglamentos de Etiquetado, en la concientización de los consumidores y la aceptación y participación de los productores, importadores e intermediarios.

El alcance del proyecto se definió en el PRODOC e incluye el desarrollo de las Regulaciones Técnicas para los siguientes equipos:

- Refrigeradores, congeladores y refrigeradores – congeladores
- Motores Eléctricos
- Calentadores de agua (termas)
- Aires acondicionados
- Lavadoras de ropa
- Calderas industriales

El proyecto servirá de pauta para la posterior incorporación de otros equipos que consumen energéticos y, paralelamente, deberá observar una adecuada coordinación con el Proyecto PNUMA/FMAM "Transformación del Mercado de Iluminación en Perú" y con la promoción de la eficiencia energética en edificios residenciales y comerciales.

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Paralelamente el Proyecto deberá observar una adecuada coordinación con el Proyecto PNUMA/FMAM "Transformación del Mercado de Iluminación en Perú" y con la promoción de la eficiencia energética en edificios residenciales y comerciales.

**d. Entidad Ejecutora, Plazo, Presupuesto y financiamiento del Proyecto**

- **Entidad Ejecutora:** Dirección General de Eficiencia Energética del Ministerio de Energía y Minas.
- **Plazo de Ejecución:** Cuatro años (2013-2016).
- **Presupuesto y Financiamiento:**

Aportes del Fondo para el Medio Ambiente Mundial: US\$ 2 000 000

Aportes del Ministerio de Energía y Minas : US\$ 4 300 000

Aportes del Ministerio del Ambiente : US\$ 500 000

**Presupuesto Total : US\$ 6 800 000**

Los recursos aportados por el Fondo para el Medio Ambiente Mundial (GEF) presentan la siguiente programación (en miles de US\$):

PROGRAMACIÓN PRESUPUESTAL DE RECURSOS GEF					
(Miles de US\$)					
Año	2013	2014	2015	2016	Total
Componente 1	132	184	154	35	505
Componente 2	135	173	125	88	521
Componente 3	40	48	56	70	214
Componente 4	26	100	128	95	349
Componente 5	4	5	6	5	20
Componente 6	61	110	110	110	391
<b>TOTAL</b>	<b>398</b>	<b>620</b>	<b>579</b>	<b>403</b>	<b>2000</b>



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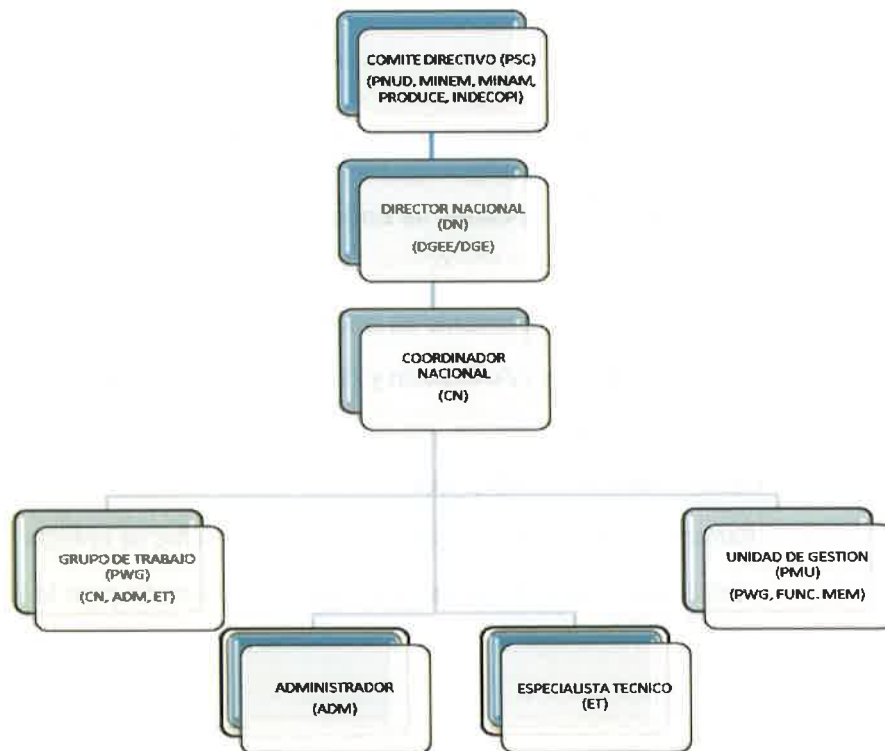
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#### e. Organización del Proyecto

- **Comité Directivo del Proyecto:** Órgano principal, encargado de la supervisión de la ejecución del proyecto, de la aprobación de los Planes de Trabajo y de facilitar la cooperación entre las entidades gubernamentales y con el sector privado.
- **Director Nacional:** representante del gobierno y de la entidad ejecutora y cuya responsabilidad principal es la asegurar que la ejecución del proyecto se realice de acuerdo al Documento del Proyecto (PRODOC).
- **Coordinador Nacional:** encargado de la gestión operacional del proyecto de acuerdo con el PRODOC y las directrices y procedimientos del PNUD.
- **Grupo de Trabajo:** Es el equipo básico de operación del Proyecto, integrado por el Coordinador Nacional, el Administrador y el Especialista Técnico del Proyecto
- **Unidad de Gestión:** Órgano conformado por el Grupo De Trabajo y los especialistas de la DGEE del MINEM, que permite coordinar los aspectos técnicos y normativos del proyecto



**f. Estructura, Resultados Esperados del Proyecto y Plan de Trabajo 2013**

Aparte del componente de gestión, la estructura del proyecto considera cinco componentes principales los mismos que se indican a continuación con los resultados esperados por cada componente:

Componentes	Resultados
Desarrollo de capacidades de entidades públicas y privadas claves	Capacidades mejoradas de entidades claves, públicas y privadas para diseñar, implementar y hacer cumplir el Programa de Normas y Etiquetado Obligatorio
Estrategia de implementación de transformación de mercado	Estrategia de transformación de mercado implementada con la participación del sector público y privado, basado en información consolidada sobre la estructura del mercado
Marco Legal y Regulatorio fortalecido	Marco legal fortalecido para las Normas y Etiquetado Obligatorio y los Reglamentos Técnicos finales aprobados.
Concientización del consumidor y de los oferentes	Aumento en los niveles de conciencia del consumidor y aceptación del programa de Normas y etiquetado.
Monitoreo, evaluación y gestión del conocimiento	Información y conocimientos sobre Normas y Etiquetado generados y difundidos.

El Plan de Trabajo para el 2013 pone énfasis en los tres primeros componentes esperando realizar las siguientes actividades:

**Desarrollo de Capacidades de Entidades Públicas y Privadas**

- . Dos talleres o seminarios de capacitación
- . Diagnóstico y fortalecimiento de laboratorios
- . Sistema de Control, Verificación y Fiscalización del etiquetado
- . Desarrollo del sitio web del Proyecto

**Transformación de Mercados**

- . Estructura del mercado y base de datos de consumo de energía
- . Estrategia preliminar de transformación del mercado para la aplicación del etiquetado obligatorio.





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### **Fortalecimiento del Marco Legal y Regulaciones Técnicas**

- . Alineamiento del Proyecto con Políticas y Normas nacionales y sectoriales
- . Actualización y Desarrollo de Guías y Reglamentos Técnicos de Etiquetado
- . Taller sobre propuesta final de Reglamentos Técnicos

### **g. Inicio de Operaciones y Avances a Julio de 2013**

El proyecto inició sus operaciones en marzo de 2013 con la contratación del Coordinador Nacional y la Administradora del Proyecto y en mayo de 2013 quedó conformado el Grupo de Trabajo con la contratación del Especialista Técnico del Proyecto.

Las principales actividades llevadas a cabo en el período de marzo a julio de 2013 son las siguientes:

- Absolución de consultas del INDECOPI y del Congreso de la República en relación al proyecto de Lineamientos Generales de Etiquetado, los mismos que ya debieron ser aprobados por el INDECOPI según lo dispuesto en la Ley de Promoción del Uso Eficiente de la Energía.
- Se instaló el Comité Directivo del proyecto, integrado por representantes del PNUD, del INDECOPI y de los Ministerios de la Producción, del Ambiente y de Energía y Minas.
- Se acondicionó el ambiente de trabajo para la Unidad de Gestión del proyecto con escritorios modulares y se adquirieron 2 laptops para complementar los equipos de cómputo y de impresiones proporcionados por el MINEM.
- Se diseñó el logo del proyecto y se confeccionaron los primeros elementos de promoción del proyecto (banner y tríptico).
- Se elaboraron TDR básicos para los estudios de mercado, base de datos, diagnóstico de laboratorios, sistema de verificación y actualización y desarrollo de Reglamentos Técnicos.
- Se convocó el concurso para contratación de un consultor internacional para la Revisión, Actualización y Desarrollo de los Anteproyectos de Reglamentos Técnicos y de la Guías Preliminares de Etiquetado y de Estándares Mínimos de Eficiencia Energética, desarrollados anteriormente por el MINEM.
- Se convocó el concurso para contratar a la empresa que tendrá a su cargo el Diseño y Desarrollo del Sitio Web del Proyecto y su manual de Identidad Visual.
- Se elaboró y se presentó al PNUD la reprogramación 2013 del Presupuesto, del Plan de Trabajo, y del plan de Adquisiciones del proyecto

## 7. EL ETIQUETADO DE EFICIENCIA ENERGÉTICA EN AMÉRICA LATINA

De acuerdo a la exposición del consultor internacional, Ing° Wolfgang Lutz, las Normas y Etiquetado han asumido un papel importante en los Programas de Eficiencia Energética de América Latina, en donde los pioneros han sido Brasil (1984) y México (1992) y actualmente la mayoría de los países latinoamericanos cuenta con programas de etiquetados implementados o en vía de ejecución.

Las características principales de los referidos Programas son los siguientes:

- Existe influencia tecnológica y programática de EE.UU. y de la Unión Europea.
- Existe una marcada diferencia entre los Programas de Etiquetado de América del Sur (donde predomina el modelo europeo) y los de México y países del Caribe (donde predomina el modelo americano)
- Los Programas de Etiquetado voluntario tienden a convertirse en obligatorios
- Varios Programas carecen de mecanismos de verificación y existen problemas de fiscalización de programas obligatorios
- La alineación de las normas de algunos países con las de EE.UU y la de otros con las normas europeas, no facilita la armonización regional en América Latina, pareciendo más factible la armonización sub regional.
- En algunos casos faltan lineamientos políticos explícitos en favor de los Programas de Etiquetado de Eficiencia Energética y muchos carecen de fondos suficientes dependiendo excesivamente de la cooperación internacional.
- Se viene incrementando la gama de artefactos y equipos incluidos en los Programas de Etiquetado y el otorgamiento de etiquetas de calidad para los productos que se adhieren a un programa de excelencia.

## 8. PARTICIPACIÓN DEL PNUD

El señor Jorge Álvarez, Oficial de Programa del PNUD y miembro del Comité Directivo del Proyecto, resaltó el compromiso que tiene su institución en la reducción de las emisiones de CO2 y por ende en el uso eficiente de la energía, la importancia del Programa de Etiquetado, por sus impactos económicos, ambientales y sociales y la necesidad de la participación activa de todos los involucrados tanto del sector público como del sector privado.

Señaló que tanto la Oficina del País como la Unidad Coordinadora Regional del PNUD tienen la responsabilidad de apoyar el desarrollo del proyecto a través de los servicios e informaciones técnica y administrativas que brinda la entidad que representa, aclarando que la finalidad del PNUD no es dirigir proyectos, sino promover su ejecución y acompañar a los diversos actores (Estado, sociedad civil, instituciones locales, etc.) hasta que sean ellos mismos quienes se encarguen por completo de su ejecución y posterior operación.





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## 9. DIÁLOGO ENTRE LOS PARTICIPANTES Y RECOMENDACIONES

Luego de las exposiciones, y de la presentación de cada uno de los participantes, se dio inicio al diálogo del taller, actuando como moderador el Director Nacional del Proyecto.

Los representantes del sector empresarial y de los consumidores expresaron su interés en seguir participando en el desarrollo del proyecto y de coadyuvar en su pronta implementación.

El representante de la PUCP y el de ADUANAS mostraron su preocupación por el sistema de verificación y por la participación equitativa de los laboratorios en las pruebas de ensayo.

Los representantes del proyecto expresaron su preocupación por la demora en la aprobación de los Lineamientos Generales del etiquetado de Eficiencia Energética y plantearon la necesidad de ampliar la conformación del Consejo Directivo

Por su lado el INDECOPI señaló la importancia para el proyecto de la participación plena del Perú en la Comisión Internacional de Electrotécnica (IEC)

Finalizado el diálogo, se llegó a las siguientes conclusiones y recomendaciones:

- a. Se recomienda incluir en el Comité Directivo del proyecto a representantes del Ministerio de Comercio Exterior y Turismo, teniendo en cuenta que dicho Ministerio dirige las negociaciones comerciales internacionales del Estado, y a representantes de ADUANAS, teniendo en cuenta que dicho organismo sería el primer eslabón en el Sistema de Control, Verificación y Fiscalización de las normas de etiquetado.
- b. Se recomienda apoyar la participación del Perú, como miembro pleno, en la Comisión Internacional de Electrotécnica (IEC), por ser la organización internacional de normalización en los campos eléctrico, electrónico y tecnologías relacionadas. Muchas de sus normas se desarrollan conjuntamente con la ISO, entidad que aprueba normas de aceptación internacional.
- c. Dado el tiempo transcurrido, se recomienda a PRODUCE emitir su opinión final sobre el Proyecto de Lineamientos Generales de Etiquetado, a fin de que se proceda a su aprobación por parte de INDECOPI. La representante de PRODUCE se compromete a dar respuesta en esta semana.
- d. Se recomienda que el Sistema de Control, Verificación y Fiscalización del Programa de Etiquetado Obligatorio sea consensuado con todos los involucrados antes de su aprobación.
- e. Se recomendó velar por la participación de los laboratorios en el marco de una real y justa competencia.



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## 10. ANEXO N° 1

### RELACIÓN DE INVITADOS Y DE PARTICIPANTES AL TALLER INICIAL DEL PROYECTO "NORMAS Y ETIQUETADO DE EFICIENCIA ENERGÉTICA EN PERÚ"



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**RELACION DE INVITADOS AL TALLER INICIAL**

**PROYECTO PNUD: 00061206 – 00077443**

- A. Ministerio de Energía y Minas, Av. Las Artes Sur 260 San Borja**
1. José Eslava, DGEE y Comité Directivo del Proyecto
  2. Carlos Tamayo, DGE y Comité Directivo del Proyecto
  3. Félix Bernabel
  4. José Rodríguez
  5. Katherine Alvarez
  6. Guillermo Tardillo
  7. Carlos Cáceres
- B. Ministerio del Ambiente, Av. Javier Prado Oeste 1440 San Isidro**
1. Ysabel Zamora Ramos, Comité Directivo Tania del Proyecto
  2. Regina Cáterin Ortega Gordillo
- C. Ministerio de la Producción, Calle Uno Oeste N° 060 – Urb. Corpac – San Isidro**
1. Graciela Victoria Lázaro Ortega, Comité Directivo del Proyecto
  2. Victoria Yolanda Rivera Chale, Comité Directivo del Proyecto
  3. Julia Canchucaja, Dirección de Normas Técnicas y Supervisión Industrial
- D. Ministerio de Comercio Exterior y Turismo, Calle Uno Oeste 050 Ur. Córpac – San isidro**
1. José Brandes, Director de Asuntos Multilaterales y Negociaciones Comerciales
- E. INDECOPI, Calle de la Prosa 104 – San Borja**
1. Abelardo Aramayo, Comité Directivo del Proyecto
  2. Rosario Uría Toro, Comité Directivo del Proyecto
- F. Superintendencia Nacional de Administración Tributaria, Av. Garcilaso de la Vega 1472**
1. Rafael García Melgar, Superintendente Nacional adjunto de Aduanas
- G. Centro de Conservación de la Energía y el Ambiente (CENERGIA)**
1. Jorge Aguinaga
  2. Freddy Apaza
- H. PNUD, Av. Del Ejército 750 – Magdalena del Mar**
1. Jorge Alvarez, miembro del Comité Directivo
  2. James Leslie, miembro del Comité Directivo
- I. Proyecto PNUD 77443**
1. Juan Carlos Lam Alvarez
  2. Walter Carrasco
  3. Karina Zumaeta
  4. Wolfgang Lutz

**5.**

- J. Cámara de Comercio de Lima, Av. Giuseppe Garibaldi 396**
  - 1. Samuel Gleiser Katz, Presidente**
- K. Sociedad Nacional de Industrias, Los Laureles 365 San Isidro**
  - 1. Luis Salazar,**
  - 2. Raúl Coronel, Presidente del Comité de Línea Blanca**
  - 3. Luis Tenorio**
  - 4. Juan Carlos Marquina**
  - 5. Pedro Palacios**
- L. Leed – Falabella**
  - 1. Marcelo Toledo**
  - 2. Eva Vásquez**
- M. Asociación Peruana de Consumidores y Usuarios (ASPEC)**
  - 1. Crisólogo Cáceres**
- N. Universidad Católica del Perú**
  - 1. Raúl del Rosario**
  - 2. Abraham Dávila**
- O. Universidad Nacional de Ingeniería**
  - 1. Carlos Medina**
  - 2. Alberto Sandoval**
- P. Universidad del Pacífico**
  - 1. Claudia Lam Medina**

MEM	7
MINAM	2
PRODUCE	3
MINCETUR	1
ADUANAS	1
INDECOPI	2
PNUD	2
PYOYECTO	4
UNIVERSIDADES	5
SNI	5
CCL, ASPEC	2
CENERGIA	2
LEED FALABELLA	2
<b>TOTAL</b>	<b>38</b>

"Año de la Inversión para el Desarrollo Rural y la Seguridad Alimentaria"  
 "Decenio de las Personas con Discapacidad en el Perú"

WALKER INICIAL DEL PROYECTO "MÓDULOS Y ETIQUETADO DE EFICIENCIA ENERGÉTICA EN PERÚ"  
 LISTA DE PARTICIPANTES

Lugar: Sala Los Olivos del Pisco del Bosque Hotel  
 Dirección: Av. Pío Soldán Nro. 167 (alt. Cdta. 32 de la Av. Arequipa) San Isidro  
 Fecha: 12 de Agosto de 2013  
 Hora: 11:30 am

Nº	INVITADO	INSTITUCIÓN/EMPRESA	CORREO ELECTRÓNICO	FIRMA
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2	Álvarez Katy	DGEE	kathy.alvarez@cenegia.gob.pe	[Firma]
3	Álvarez Lam Jorge	PNLID	jorge.lam@pnlid.gob.pe	[Firma]
4	Apaza Ríos Freddy	CENEGIA	freddy.apaza@cenegia.gob.pe	[Firma]
5	Aramayo Bealle Abelardo	INDECOPI	abelardo.aramayo@indecopi.gob.pe	[Firma]
6	Bernabel Badillo Félix	DGEE	felix.badillo@cenegia.gob.pe	[Firma]
7	Canchucaya Ruiz Julia Inés	MINISTERIO DIRECTOR DE REGULACIONES	inés.canchucaya@regulaciones.gob.pe	[Firma]
8	Carrazco Chacón Walter	Especialista del Proyecto	walter.carrazco@cenegia.gob.pe	[Firma]
9	Devita Abraham	Profesor Principal - PUCP	abraham.devita@pucp.edu.pe	[Firma]
10	Del Rosario Raúl	Laboratorio de Eficiencia de la Pontificia Universidad Católica del Perú	raul.delrosario@pucp.edu.pe	[Firma]
11	Esalva Armas José	DGEE - Ministerio de Energía y Minas	jose.esalva@cenegia.gob.pe	[Firma]
12	Francisco Alvarado Jerry	Representante de la Asociación Peruana de Consumidores y Usuarios	francisco.alvarado@consumidores.gob.pe	[Firma]
13	García Mejar Rafael Edoardo	Superintendente Nacional Adjunto de Acuñadas	rafael.garcia@superintendente.gob.pe	[Firma]
14	Lam Álvarez Juan Carlos	Coordinador Nacional del Proyecto	juan.lam@pnlid.gob.pe	[Firma]
15	Lizaso Oruaga Graciela Victoria	Ministerio de la Producción	graciela.lizaso@produccion.gob.pe	[Firma]
16	Leslie James	PNLID	leslie.james@pnlid.gob.pe	[Firma]
17	Lutz Wolfgang	Consultor Internacional del Proyecto	wolfgang.lutz@consultor.gob.pe	[Firma]



"Año de la Inversión para el Desarrollo Rural y la Seguridad Alimentaria"  
"Decenio de las Personas con Discapacidad en el Perú"

TALLER TÉCNICO DEL PROYECTO "NORMAS Y ETIQUETADO DE EFICIENCIA ENERGÉTICA EN PERÚ"

Lugar: Sala Los Olivos del Plaza del Bosque Nobel  
Dirección: Av. Paz Soldán 1160, 167 (Alt. Cdra. 32 de la Av. Arequipa) San Isidro  
Fecha: 22 de Agosto de 2013  
Hora: 11:30 am

Nº	IRIVINDO	INSTITUCIÓN/EMPRESA	CORREO ELECTRÓNICO	FIRMA
18	Javier	Comisión de Medio Ambiente de la DCI.	javier.boitard@com.pe	
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20	Morjan Zarmela	INDECOPI	cmorjan@indecopi.gob.pe	
21	Ortega Gerardo Regina Cervera	Ministerio del Ambiente	OrtegaGerardo@minam.gob.pe	
22	Palacios Pedro	Sociedad Nacional de Industrias Comité de Ines Blanca	PalaciosPedro@com.pe	
23	Paz Soldán Miguel	Sociedad Nacional de Industrias Comité de Ines Blanca	miguel.pazsoldan@com.pe	
24	Rodríguez Vázquez José Luis	DOEE	jrodriguez@doee.gob.pe	
25	García Rodríguez Alberto	Decano Facultad de Ingeniería Eléctrica y Electrónica de la UNH		
26	Terrillo Hidalgo Guillermo	DOEE	gta-elfb@cominerecib.com.pe	
27	Tenorio Luis	Sociedad Nacional de Industrias Comité de Ines Blanca		
28	Telada Zolera Marcelo	Saga Fútbolo		
29	Vásquez Eva	Coordinadora LEED - Gerencia Corporativa de Proyectos Inmobiliarios - Palabla Perú	Evavazquez@palabla.com.pe	
30	Zavala de la Cruz Juan Carlos	MINDETUR Director General de Políticas y Regulaciones	JZavala@detur.mt.gob.pe	
31	Zumeta Ilustración Erika Karra	Administradora de Proyecto	Kzumeta@cominerecib.com.pe	

32 Caceres Guiseppe Oscar  
33 CAMEDINA LIANDIA  
34. Puerto de la Cruz R.  
A U I M E M  
UNIVERSIDAD DE LA PALABLA  
MEH  
Página 2



PERÚ

Ministerio  
de Energía y Minas

Viceministerio  
de Energía

Dirección General  
de Eficiencia Energética

*"Año de la Inversión para el Desarrollo Rural y la Seguridad Alimentaria"*  
*"Decenio de las Personas con Discapacidad en el Perú"*

## 11. ANEXO N° 2

### GALERÍA FOTOGRÁFICA

*"Año de la Inversión para el Desarrollo Rural y la Seguridad Alimentaria"*  
*"Decenio de las Personas con Discapacidad en el Perú"*







PERÚ

Ministerio de Energía y Minas

Viceministerio de Energía

Dirección General de Eficiencia Energética

*"Año de la Inversión para el Desarrollo Rural y la Seguridad Alimentaria"*  
*"Decenio de las Personas con Discapacidad en el Perú"*



*"Año de la Inversión para el Desarrollo Rural y la Seguridad Alimentaria"*  
*"Decenio de las Personas con Discapacidad en el Perú"*





PERÚ

Ministerio  
de Energía y Minas

Viceministerio  
de Energía

Dirección General  
de Eficiencia Energética

*"Año de la Inversión para el Desarrollo Rural y la Seguridad Alimentaria"  
"Decenio de las Personas con Discapacidad en el Perú"*





Annex XI

Co-financing letters



"DECENIO DE LAS PERSONAS CON DISCAPACIDAD EN EL PERU"  
"AÑO DE LA CONSOLIDACIÓN ECONOMICA Y SOCIAL DEL PERU"

Lima, 29 DIC. 2010

**OFICIO N° 417 -2010-MINEM-VME**

Señora  
**Rebeca Arias**  
Representante Residente  
**Programa de las Naciones Unidas para el Desarrollo - PNUD**  
Presente.-

Asunto: Proyecto PNUD/GEF/MINEM: Normativa y Etiquetado en Eficiencia Energética – Perú – (Energy Efficiency Standards and Labels in Peru)

De mi consideración:

Tengo el agrado de dirigirme a usted, para saludarla, y confirmar el interés del Ministerio de Energía y Minas en la ejecución del Proyecto en mención, para lo cual se ha asignado a la Dirección General de Eficiencia Energética, a cargo del Ing. Luis Haro, como responsable de la implementación del mismo.

Asimismo, manifestarle que por ser un tema de prioridad para el Ministerio, la contrapartida para la implementación del Proyecto corresponde al presupuesto asignado a la Dirección General de Eficiencia Energética (\$ 4'300,000 dólares americanos), por los próximos cuatro años.

Es importante señalar, que lo anteriormente señalado como presupuesto, corresponde a un mínimo de aporte por parte del MINEM, dado que, en dicho presupuesto no están considerando algunas acciones que la Dirección General ejecutará a lo largo de los siguientes años.

Del mismo modo, referirle que dicho presupuesto podrá ser incrementado a lo largo del desarrollo del Proyecto, con aportes valorizados del presupuesto que el sector privado tenga asignado al tema de la eficiencia energética.

Sin otro particular, aprovecho la oportunidad para expresarle mi especial consideración y estima.

Atentamente,

**DANIEL CAMAC GUTIERREZ**  
VICE MINISTRO DE ENERGIA

www.minem.gob.pe

Av. Las Artes Sur 260  
San Borja, Lima 41, Perú  
T: (511) 618 8700  
Email: webmaster@minem.gob.pe

**Ministry of Energy and Mines**

December 29, 2010

Mrs  
Rebeca Arias  
Resident Representative  
UNDP

Subject: Energy Efficiency Standards and Labeling Project in Peru - PNUD GEF MINEM

Dear Mrs. Arias:

I hereby confirm the interest of the Ministry on Energy and Mines to participate in the implementation of the abovementioned project. We have designated the General Direction of Energy Efficiency as the main responsible party of the implementation. The Direction is run by Mr. Luis Haro.

This project is priority for the Ministry and we have designated US\$4,300,000 for the next four years. This for implementation of the project and the financing is from the General Direction of Energy and Efficiency.

It is important to notice that this previous mentioned budget is the minimum support by the MINEM. Additionally, there are other actions MINEM will provide during the next years that are not contemplated in the budget. Saying this, the budget could be increased during the development of the project with budget valued contributions that the private sector will have assigned to energy efficiency.

Sincerely,

Daniel Camac Gutierrez  
Vice Minister



PERÚ

Ministerio  
del Ambiente

Viceministerio  
de Desarrollo Estratégico  
de Recursos Naturales

"Año de la Consolidación Económica y Social del Perú"  
"Decenio de las Personas con Discapacidad en el Perú"

CARGO

Lima, 25 de noviembre de 2010

CARTA N° 207 2010-DGCCDRH-DVMDERN/MINAM

Señora  
**Rebeca Arias**  
Coordinadora Residente Naciones Unidas  
Representante Residente PNUD  
Complejo Javier Pérez de Cuellar  
Av. Del Ejército 750  
Magdalena del Mar.-

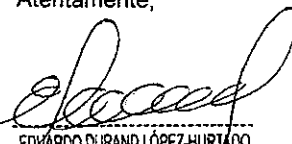
Asunto: Proyecto de Eficiencia Energética y Etiquetado en el Perú / Energy Efficiency Standards and Labels in Peru.

Es grato dirigirme a usted con relación al Proyecto del asunto, el mismo que implementa el Ministerio de Energía y Minas y creemos que es de gran importancia para contribuir con el cumplimiento de uno de los objetivos de la Política Energética Nacional del Perú 2010-2040, de contar con una matriz energética diversificada con énfasis en las fuentes renovables y en la eficiencia energética.

Consideramos que el Ministerio del Ambiente puede contribuir con el desarrollo de este proyecto mediante la articulación de los lineamientos ambientales nacionales con actividades directrices y orientadoras en temas de eficiencia energética para lo cual en los próximos cinco años destinaríamos una contrapartida de US\$ 500 000 de proyectos ya concertados y a ser ejecutados por el MINAM. De este monto, US\$ 400 000 son financiados con recursos provenientes del Fondo para el Programa Especial del Banco sobre Energía Sostenible y Cambio Climático (Fondo SECCI BID) y US\$ 100 000 son la contrapartida del MINAM.

Es propicia la ocasión para expresarle los sentimientos de mi consideración.

Atentamente,

  
EDUARDO DURAND LÓPEZ-HURTADO  
Director General de Cambio Climático,  
Desertificación y Recursos Hídricos  
MINISTERIO DEL AMBIENTE

RMG/

www.minam.gob.pe  
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Av. Javier Prado Oeste 1440  
San Isidro, Lima 27, Perú  
T: (511) 611 6000



Ministry of the Environment

Lima, November 25, 2010

Mrs  
Rebeca Arias  
Resident Representative  
UNDP

Subject: Energy Efficiency Standards and Labeling Project in Peru - PNUD GEF

Dear Mrs. Arias:

In relation to the abovementioned project which is implemented by the Ministry of Energy and Mines, we would like to state our interest and relevance with the accomplishments of the National Energy Policy of Peru 2010-2040. This project is aligned with the objectives with emphasis in renewable energy and energy efficiency.

The Ministry of Environment will contribute with the development of this project by formulating activities and national initiatives related to energy efficiency topics. We have designated US\$500,000 of our budget to projects that will be implemented by MINAM. US\$400,000 are resources from the Fund "Sustainable Energy and Climate Change Bank Special Programme" (Fondo SECC BID) and US\$100,000 are MINAM resources ( Ministry of the Environment).

Sincerely,

Eduardo Durand Lopez-Hurtado

General Director Climate Change

Ministry of the Environment