

2019

Project Implementation Review (PIR)

**NAMA Peru**

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# Basic Data

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| **Project Information** | |
| UNDP PIMS ID | 4679 |
| GEF ID | 4884 |
| Title | Nationally Appropiate Mitigation Actions in the Energy Sector in Peru |
| Country(ies) | Peru, Peru |
| UNDP-GEF Technical Team | Energy, Infrastructure, Transport and Technology |
| Project Implementing Partner | Government |
| Joint Agencies | *(not set or not applicable)* |
| Project Type | Full Size |

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| **Project Description** |
| The GEF project will strengthen the capacity of the Peruvian government to identify and structure NAMAs in the energy sector, namely to create incentive for investment in new renewable energy facilities connected to the grid (solar, wind, biomass, geothermal and hydro under 20 MW), and the use of renewable energy in isolated systems (solar, biomass, wind and micro-hydro). The project will build upon existing and planned energy sector mitigation efforts, national development policies, and the national NAMA development and implementation framework. The project will establish priorities within the energy sector, define specific NAMAs with clear and achievable mitigation results, and pilot the implementation of four NAMAs in renewable energy generation, both on and off grid. The project will contribute to the country’s attainment of its voluntary mitigation targets in the energy sector, with an expected direct emission reduction of 962,000 tons of CO2 equivalent and an additional indirect emission reduction of 1,600,000 million tons of CO2e. As a positive side effect, NAMAs will generate national benefits related to national economic growth, poverty reduction, competitiveness and energy security. |

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| Other Partners | *(not set or not applicable)* |

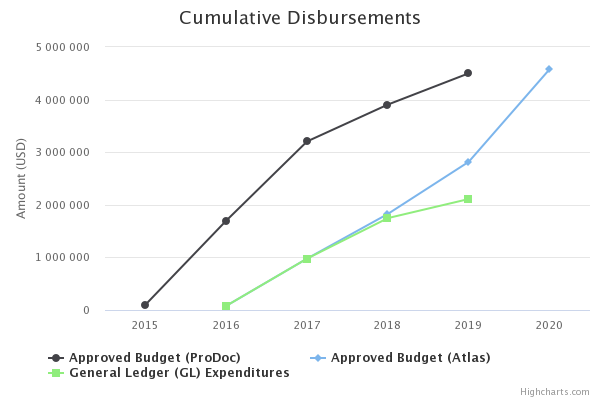
# Overall Ratings

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| Overall DO Rating | Satisfactory |
| Overall IP Rating | Moderately Satisfactory |
| Overall Risk Rating | Low |

# Development Progress

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| **Description** | | | | | | |
| **Objective**  **The objective of the project is to support the government of Peru in the development and implementation of National Appropriate Mitigation Actions in the energy sector** | | | | | | |
| **Description of Indicator** | **Baseline Level** | **Midterm target level** | **End of project target level** | **Level at 30 June 2018** | **Cumulative progress since project start** |
| Baseline emission trends | GHG inventory developed at sectoral and national level | *(not set or not applicable)* | GHG energy inventory sufficiently detailed at the regional and sub-sectoral levels to define clear baseline conditions for NAMA implementation | The Project has developed the official GEI Inventory for the energy sector and sub-sectors for 2014, and the associated Annual Report (RAGEI), both of which have been approved and published by MINAM (see Annex 1 RAGEI 2014 and Annex 2 MINAM approval letter). Additionally, as required for the sector, but not specified in the Prodoc, the Project has also developed preliminary inventories for 2015 and 2016 (Annex 3); however, these will be updated once the adjusted National Energy Balances are provided (currently being updated by MEM). The inventories were developed in coordination with a team of selected technicians in the Energy Efficiency Direction to ensure institutional capacity building and continuation of future annual inventories after the completion of the NAMA Project. These inventories for the energy sector and subsectors have served as inputs for the development of the baseline conditions (BAU) in the design of the 4 energy NAMAs: Electric Transport (Annex 4a and 4b), Grid-Connected Renewable Energy (Annex 5), Energy Efficiency (Annex 6a and 6b), and the preliminary baseline for the Universal Access to Sustainable Energy NAMA (Annex 7). | The Project has developed the official GEI Inventory for the energy sector and sub-sectors for 2014, and the associated Annual Report (RAGEI), both of which have been approved and published by MINAM (Annexes 1 and 2).  The inventories for years 2015 and 2016 were also completed, and the GHG report for 2016 (RAGEI) was prepared by the Project in collaboration with the Planning Group of the Energy Efficiency Direction of MINEM (as part of the capacity building and knowledge transfer). The inventories for 2010-2016 have been updated to include the data from the adjusted National Energy Balance report provided by the Ministry (MINEM). The latest 2016 RAGEI (Annex 3) and updated inventories (Annexes 4a-g) were submitted via email to MINAM on 8 March 2019 and MINAM responded on 13 June 2019 that they are still under revision (Annexes 5a,b).  These inventories for the energy sector and subsectors have served as inputs for the baseline conditions (BAU) in the detailed designs of the 4 energy NAMAs: Electric Transport (Annexes 6a,b), Grid-Connected Renewable Energy (Annex 7), Energy Efficiency (Annexes 8,b), and Universal Access to Sustainable Energy NAMA (Annex 9). |
| Portfolio of NAMAs in the energy generation and end use sectors | No systematic assessment of potential abatement measures in energy sector | *(not set or not applicable)* | Full assessment of mitigation options in energy sector is conducted and portfolio of potential NAMAs is generated | During the diagnostic studies conducted by the Project for the four NAMAs, multiple mitigation options within each sub-sector were evaluated based on various criteria such as: potential for reducing GHG emissions and local pollutants, transformational potential and level of potential impact in the short and medium term, replicability and scalability potential, the cost of implementation and cost per mitigated ton of CO2, concordance with national policies and level of commitment of the government to implement the measures, potential to generate social and environmental co-benefits, probability of success within the timeframe of the Project and the NDCs, and reduced level of risk and identified barriers. As a result of these comprehensive diagnostic assessments, the focus of the 4 energy NAMAs were refined to be included in the detailed designs. The final approved diagnostic studies are published on the Project website for public access (http://namasenergia.minem.gob.pe//es-pe/estudio), and have been uploaded for reference: Electric Transport (Annex 8), Grid-Connected Renewable Energy (Annex 9), Energy Efficiency (Annex 10), and Universal Access to Sustainable Energy (Rural Electrification Annex 11, and Clean cooking Annex 12). | During the diagnostic studies conducted by the Project for the four NAMAs, multiple mitigation options within each sub-sector were evaluated based on various criteria such as: potential for reducing GHG emissions and local pollutants, transformational potential and level of potential impact in the short and medium term, replicability and scalability potential, the cost of implementation and cost per mitigated ton of CO2, concordance with national policies and level of commitment of the government to implement the measures, potential to generate social and environmental co-benefits, probability of success within the timeframe of the Project and the NDCs, and reduced level of risk and identified barriers. As a result, the focus of the 4 energy NAMAs were refined to be included in the detailed designs (Annexes 6-9). The final approved diagnostic studies are published on the Project website for public access (http://namasenergia.minem.gob.pe//es-pe/estudio) and included in Annexes 10-14.    The Mid-Term Evaluation of the Project concluded that the Diagnostic studies completed and Marginal Abatement Cost (MAC) Curves reviewed constitute an important and opportune achievement in order to demonstrate the distribution of abatement costs for different mitigation measures and support the prioritization of activities that result in greater impacts on emissions, as well as the final definition for the NAMA approaches using multiple options criteria (Annex 15a,b). |
| Implementation of NAMAs in off grid and in grid renewable energy generation | No NAMAs in the off grid renewable energy sub sector under implementation | *(not set or not applicable)* | One NAMA in off grid renewable energy generation fully designed and under implementation (on off grid electrification with PV panels), including implementation of MRV mechanisms. | The rural electrification component of the Universal Access to Sustainable Energy NAMA is in full implementation with 67,000 off-grid photovoltaic systems installed through May 2018, and the remainder of the planned 172,890 systems are programmed to be installed by mid-2019 (https://prezi.com/view/TyYqwiQwJtGUHa9btJg3/). The national subsidy to finance up to 80% of the costs of rural electrification projects in the private sector is also in full implementation (FOSE - BT8) and is currently being evaluated by the Project as part of a consultancy to propose possible modifications to the subsidy and business models to promote additional massive rural electrification programs at the national scale. The installation reports submitted by the company in charge of the installation (Ergon) (Annex 13) and the verification reports completed by the local Energy Distribution Companies (Annex 14) have been uploaded for reference. These reports are being considered as part of the MRV protocol, to collect information regarding the number of systems installed, as well as verify their continued use by the families. | The rural electrification component for the NAMA ‘Universal Access to Sustainable Energy´ (formerly ‘Non-Connected RER’) continues its implementation, having installed 132,408 off-grid PV systems by June 2019; and is programmed to reach a total of 199,000 installed and registered by the end of 2019 (Annex 16).    Regarding the Grid-Connected Renewable Energy NAMA, the government of Peru has implemented four renewable energy auctions to date (2010-2016), which generate over 7% of the national demand as of April 2019, or 4.7% if only considering non-conventional renewable energy (solar, wind and biomass) and excluding small (less than 20 MW) hydro projects according to the latest monthly renewable energy bulletin produced by the Ministry of Energy and Mines in April 2019 (Annex 17).    The detailed designs for the Universal Access to Sustainable Energy and Grid-Connected Renewable Energy NAMAs, including the detailed MRV protocols, have been presented to the Directive Committee and formally delivered to MINAM as a part of the tentative sectoral program for the NDC (Annex 18a,b).    The MRV Protocols have been implemented to date to include all RER systems that qualify as part of the mitigation measures. These will be reported to MINAM at the end of 2019 as part of the annual NDC reporting. |
| Implementation of NAMAs in grid connected renewable energy generation | No NAMAs in the off grid renewable energy sub sector under implementation | *(not set or not applicable)* | One NAMA in on grid renewable energy generation and/or efficiency energy fully designed and under implementation including implementation of MRV mechanisms. | The Project has completed the design of the Grid-Connected Renewable Energy (RER) NAMA and this has been presented to the Directive Committee. One of the enabling conditions of the NAMA is to change the regulatory framework for Firm Capacity of non-conventional Renewables, which are currently not allowed to participate in the energy market outside of the biannual renewable energy auctions. A proposal has been developed by the Project as part of the diagnostic study, modified, and submitted to the Minister as a formal proposal from the Energy Efficiency Direction. The Project also submitted a proposal to implement energy blocks for distributors, allowing RER Projects to have a competitive advantage during periods of greatest generation and enable energy -only contracts in the case that the Firm Capacity proposal is not approved. If either of these proposals are approved, it will allow solar and wind energy projects to participate in the energy market via bilaterial contracts with distributors and potentially free market clients, which would significantly increase the share of RER in the energy market considering the competitive costs that these projects offer in Peru. The implementation of the MRV mechanism has also been initiated for the RER projects that have been approved and are currently injecting to the grid via the national renewable energy auction mechanism, however, this will be updated once the verification of the Emissions Factor for the SEIN is completed (currently in the final stage of validation). The Project has contracted the development and third-party verification of the Emission Factor for the grid, which will be used as the official value and methodology for the national emission factor in national inventories and mitigation projects related to grid-connected electricity consumption. The Project has also developed proposals for normative changes to allow renewable energy projects to sign contracts with free and regulated clients, and for new auctions for distributors to include energy blocks favoring renewable energy with a minimum quota of RER for distribution companies. These normative changes are currently under review and consideration by the vice minister and if implemented will help stimulate a greater share of grid-connected RER that will be counted towards the NAMA and NDC. The design document for the Grid-Connected RER NAMA (Anexx 5), the normative changes submitted to the minister for Firm Capacity and Energy Block Auctions, the proposed emission factor for the SEIN and the validation report currently being finalized have been uploaded for reference. The Project is currently starting a pilot project to install eight 3 kW solar PV systems in the Ministry of Energy and Mines and 7 public universities in Peru, to support greater understanding and promotion of solar systems and incorporate them into existing curriculums. The Project also collaborated with NREL to develop a solar map tool for public use in Peru to provide information for development of individual solar systems throughout Peru (https://maps.nrel.gov/rede-peru/). | The government of Peru has implemented four renewable energy auctions to date (2010-2016), which generate over 7% of the national demand as of April 2019, or 4.7% if only considering non-conventional renewable energy (solar, wind and biomass) and excluding small (less than 20 MW) hydro projects according to the latest monthly renewable energy bulletin produced by the Ministry of Energy and Mines in April 2019 (Annex 17).    The detailed design for the Grid-Connected Renewable Energy NAMA, including the detailed MRV protocols, has been presented to the Directive Committee and formally delivered to MINAM as a part of the tentative sectorial program for the NDC (Annex 18a,b).    The MRV Protocols have been implemented to date to include all RER projects that qualify as part of the mitigation measure. These will be reported to MINAM at the end of 2019 as part of the annual NDC reporting. |
| Establishment and operation of MRV protocols | No systematic methodology for monitoring GHG emission reductions in the energy sector | *(not set or not applicable)* | Fully designed and operational MRV protocols and procedures for NAMAs in the energy sector | The MRV protocols have been designed and are in early stages of implementation for three of the four NAMAs: Energy Efficiency, Electric Transport and Grid-Connected Renewable Energy. The MRV protocol for the Universal Access to Sustainable Energy NAMA is currently in development and will be finalized by the third trimester of 2018. Additionally, the Project has developed a document describing general guidelines for MRV Protocol, which has been submitted to MINAM as well as distributed to all relevant actors involved in the four energy NAMAs (Annex 21). This document was approved by MINAM in August of 2017 (Annex 22) and is considered as a contribution to the national MRV Protocol. Indicators have been proposed in the design documents and are summarized in Annexes 23a-23d. | The design of MRV protocols and for the initial operational stage have been completed for all the four NAMA: Electric Transport, Grid-Connected Renewable Energy, Energy Efficiency, and Universal Access to Sustainable Energy.    The designed MRV protocols have been formally submitted to MINAM, as a part of the sectorial tentative program within the NDC mitigation actions, and these were formally received and included as part of the NDC sectoral program (Annex 18a,b). |
| Renewable energy generated by on and off grid sources | Grid connected - 2.7% participation of non-conventional RE Generation in National Grid    Off Grid – No systematic monitoring of off grid RE generation | *(not set or not applicable)* | Grid Connected: 3.5% participation of non-conventional RE Generation in National Grid by 2018.      Off grid – 17 MW additional off-grid generation | In comparison with the target of 3.5% RER expected to be installed by 2018, Peru has exceeded this target with a total participation of 4.5% RER as of May 2018, resulting from the projects that won the first four renewable energy auctions (Annex 24). The participation of RER in the national grid is expected to reach 5% by 2020 with the RER projects that won the fourth RER auction but aren't yet connected to the grid. The projects that are not participating in carbon markets have been considered in the MRV system for the Grid-Connected NAMA, considering that these projects could not have existed without government assistance (Annex 5).  Regarding the off-grid systems, to date, nearly 67,000 off-grid PV systems have been installed as a result of the massive government auction program (Annex 13), and it is estimated that the remaining systems up to 172,890 will be installed by mid-2019 (Annex 14). The Project is currently doing initial estimates of the reductions associated with the installed systems, according to the preliminary baseline and mitigation measures study (Annex 7). | In comparison with the target of 3.5% RER expected to be installed by 2018, Peru has exceeded this target with a total participation of 4.5% RER as of May 2018, and 7.8% contribution from RER (solar, wind, small hydro and biomass) by april 2019, with 4.7% of that due to the non- conventional (solar, wind and biomass) projects that won in the first four renewable energy auctions (Annex 19). The Project has not directly contributed to the first RER Projects developed between 2010 and 2018 as part of the first 4 renewable energy auctions, since these were a result of normative changes already implemented in 2010; however, the Project has contributed to proposals for a fifth RE auction focused on strategic areas of Peru where renewable energy could replace generation from diesel. The Project developed the Terms of Reference for a CAF financed study to develop a portfolio of renewable energy projects at the pre-investment level such as solar projects in Iquitos and the four largest off-grid cities in Loreto, where 100% of the generation is from diesel. The Project also requested technical assistance from the National Renewable Energy Laboratory (NREL) to evaluate the potential for solar energy in Iquitos and the south to replace generation from diesel. Both of these studies will provide information and inputs that will be considered in a potential fifth renewable energy auction.    The projects that won via the Peru's first four renewable energy auction and are not participating in international carbon markets have been considered in the MRV system for the Grid-Connected NAMA, considering that these projects could not have existed without government assistance.    Regarding the off-grid systems, as of June 2019, 132,408 off-grid PV systems have been installed and registered as a result of the massive government auction program; and it is estimated that the remaining systems up to 199,000 will be installed by the end of 2019 (Annex 16a,b).    The Project has already included the estimated GHG reductions linked to the first four auctions in the MRV of the Grid-Connected Renewable NAMA, and reductions linked to the off-grid renewable energy systems are included in the MRV of the Universal Access to Sustainable Energy NAMA. Additionally, the Project is also monitoring the reductions linked to the national clean cooking program. |
| Direct and indirect GHG emissions resulting from the project | N/A | *(not set or not applicable)* | MRV protocols are used to track the following project targets:  Direct emission reductions of 962,000 tons CO2 over 10 years  Indirect emission reductions of 1,600,000 tons CO2 over 10 years | The MRV protocols are being implemented, and to date early estimates indicate that the four energy NAMAs have already exceeded the direct emission reduction target of 962,000 tons CO2 with over 1 million tons of CO2 mitigated in 2017. The actual number of tons mitigated will be updated once the emissions factor developed by the Project is finally validated by UNFCCC (Annexes 18-19). These estimations can be found in the design documents that have been uploaded (Annexes 4-7), with emphasis on the Grid-Connected Renewable Energy NAMA Design, which has the greatest potential for mitigation of the 4 energy NAMAs. | The MRV protocols are being implemented, and to date early estimates indicate that the four energy NAMAs have already exceeded the direct emission reduction target of 962,000 tons CO2 with over 1 million tons of CO2 mitigated in 2017 and 2018.    The actual number of tons mitigated will be updated once the emissions factor developed by the Project is finally validated by UNFCCC. The final emissions factor study and proposed methodology was formally sent to MINAM in September 2018 to submit to UNFCCC, but only received a response from MINAM in june 2019 regarding the revision process (Annexes 20a-d).    The estimations can be found in the design documents that have been uploaded, with emphasis on the Grid-Connected Renewable Energy NAMA Design, which has the greatest potential for mitigation out of the 4 energy NAMAs (Annexes 7 and 9). |
| NEW INDICATOR: Implementation of two NAMAs in energy effciency (energy final use) | No NAMAs in the energy efficiency sub sector under implementation | *(not set or not applicable)* | Two NAMAs in energy efficiency fully designed and under implementation ( final energy use), including implementation of MRV mechanisms | The energy efficiency and electric transport NAMAs are both fully designed and in early stages of implementation, including the MRV mechanisms. In the following sections below, these NAMAs are described in greater detail. | The energy efficiency and electric transport NAMAs are both fully designed and in implementation, including their respective MRV mechanisms. The designs can be found in Annexes 6a,b and 8a,b.    As part of the Energy Efficiency NAMA, there are seven (07) mitigation measures. These have been separated in the MRV protocol to enable individual reporting and the preliminary results for energy efficiency labelling, audits, and minimum standards in the public sector are being updated in the calculation sheets.    The Energy Efficiency Labelling for 9 categories of equipment (washers, dryers, refrigerators, motors, water heaters, boilers, air conditioners, lighting and lighting fixtures) is now implemented nationally (since April 2018). During the second semester of 2018, the Project commenced a market study to compare results with the 2013 market study, to evaluate the impact of the energy efficiency labelling and market evolution of the nine categories of equipment that now have labelling, which is in the last stage of revision.    The minimum energy efficiency standards for the same categories of equipment have been implemented in the public sector and are registered via the public sector purchasing platform. The Project has been meeting with OSCE who is in responsible for monitoring of these purchases to update the registry system to include purchases of less than 8 UIT (approximately US $10,000), this to help improve the tracking of the impact that the minimum efficiency standards are having on energy consumption of the public sector in the MRV system.    Additionally, the Project is completing a study to conduct energy efficiency audits in four public sector entities including typical government office buildings (FONAFE), a military base and two public hospitals. The results of the audits are being used to develop replicable examples and recommendations for the public sector, including recommendations on the regulation regarding energy efficiency audit and ESCO criteria and standards.    The Project is working with first to third tier banks (‘Cajas’, development banks, and international financial entities) to explore preferential financial mechanisms for efficient products (‘green credit’).    The Electric Transport NAMA is in the early stages of implementation for the promotion of electric buses and light vehicles. The Project has developed a proposal for a regulatory change (Supreme Decree) to promote electric transport, and has supported various revisions with the Energy Efficiency Direction of MINEM to finalize the proposed norm, which is expected to be pre-published in the second semester of 2019.    The Project has also supported the evaluation and proposal of technical norms for electric transport charging stations to ensure the implementation of minimum technical and safety standards for the import and installation of charging stations.    The MTC has formulated both a National Transport Policy and National Transport Law with the contributions of the Project and MINEM, both of which include as priority the promotion of low carbon and efficient transport alternatives, which favor electric transport, helping push for the inclusion of electric buses in public tenders.    The Project helped to develop a pilot project for the first electric bus to enter Lima's public transport system in 2019, coordinating an interinstitutional agreement signed by MINEM, MINAM, MTC, ProTransporte y GSEP (Annex 32a). The bus will arrive in 2019, to circulate in the Javier Prado Complementary Corridor in Lima. The data obtained from this pilot will be provided to the Project and included in the MRV system.    The Project has concluded a study to evaluate the emission factors and performance indicators for buses in the public transport sector based on survey, registered and field measurements (Annex 44); and is currently concluding a study evaluating the same parameters for taxis in Lima. These studies will be used to confirm and potentially adjust the emissions factors assumptions used in the MRV systems for the Electric Transport NAMA.    As a result of a request from the NAMA Project (via DGEE) to receive technical assistance from IDB for the promotion of electric vehicles in the public transport sector, the Project is now collaborating with IDB to develop financial and business models for the bus operators in Lima, to help develop viable models and access to competitive financing for electric fleets.    The Project is also in the early stage of collaborating with the Peruvian development bank (COFIDE) for the development of a preferential line of financing with first tier banks for taxis to purchase electric vehicles. |
| **The progress of the objective can be described as:** | | **On track** | | | | |
| **Outcome 1**  **Established national and regional GHG emission BAU reference baseline for the energy sector** | | | | | | |
| **Description of Indicator** | **Baseline Level** | **Midterm target level** | **End of project target level** | **Level at 30 June 2018** | **Cumulative progress since project start** |
| One GHG inventory procedure validated by the relevant energy entities and coherent with InformaGEI and the National Energy Balance by 2014. | Existing legal procedure Supreme Decree N 013-2014-MINAM "Provisions for the elaboration of the National Greenhouse Gas Inventory -INFOCARBONO", whose operation will allow the development of institutional arrangements for the collection, evaluation and systematization of information related to the emission and Removal of greenhouse gases | *(not set or not applicable)* | Procedure validated, approved and implemented by the second quarter of 2016. | The GHG inventory for the energy sector was completed by the Project for 2014, along with the revised procedure and methodology proposed by the Project. Both have been approved and validated by the Environmental Ministry (Anexes 1 and 2). Preliminary inventories have also been developed for 2015 and 2016 (Annex 3), however, to finalize these inventories, the Project is awaiting National Energy Balances for these years, which are currently being updated by the Energy Efficiency Division of the Ministry of Energy and Mines. Once received (in 2018), the inventories for 2015 and 2016 will be finalized. | The Project has developed the official GEI Inventory for the energy sector and sub-sectors for 2014, and the associated Annual Report (RAGEI), both of which have been approved and published by MINAM (Annexes 1 and 2).  The inventories for years 2015 and 2016 were also completed, and the GHG report for 2016 (RAGEI) was prepared by the Project in collaboration with the Planning Group of the Energy Efficiency Direction of MINEM (as part of the capacity building and knowledge transfer). The inventories for 2010-2016 have been updated to include the data from the adjusted National Energy Balance report provided by the Ministry (MINEM). The latest 2016 RAGEI (Annex 3) and updated inventories (Annexes 4a-g) were submitted via email to MINAM on 8 March 2019 and MINAM responded on 13 June 2019 that they are still under revision (Annexes 5a,b). |
| One final report of an inventory based on the approved procedure divided by sub-sector developed during 2014. | Inventory of GHG emissions per selected sub-sector is updated until 2010, based on a formal methodology.  Non-periodically updated inventory to assess the real emissions and impact of mitigation activities. | *(not set or not applicable)* | Updated inventory based on approved procedure using the latest available and required year information. | The annual GHG report has been completed through 2014 for the energy sector, based on the annual inventory for 2014 and has been uploaded to the Project website (www.namasenergia.minem.gob.pe). This report (RAGEI) was submitted to the Environmental Ministry and has been approved (Annexes 1 and 2). | The Project has developed the official GEI Inventory for the energy sector and sub-sectors for 2014, and the associated Annual Report (RAGEI), both of which have been approved and published by MINAM (Annexes 1 and 2).    The inventories for years 2015 and 2016 were also completed, and the GHG report for 2016 (RAGEI) was prepared by the Project in collaboration with the Planning Group of the Energy Efficiency Direction of MINEM (as part of the capacity building and knowledge transfer). The inventories for 2010-2016 have been updated to include the data from the adjusted National Energy Balance report provided by the Ministry (MINEM). The latest 2016 RAGEI (Annex 3) and updated inventories (Annexes 4a-g) were submitted via email to MINAM on 8 March 2019 and MINAM responded on 13 June 2019 that they are still under revision (Annexes 5a,b).    These inventories for the energy sector and subsectors have served as inputs for the baseline conditions (BAU) in the detailed designs of the 4 energy NAMAs: Electric Transport (Annexes 6a,b), Grid-Connected Renewable Energy (Annex 7), Energy Efficiency (Annexes 8,b), and Universal Access to Sustainable Energy NAMA (Annex 9). |
| BAU systematized and publicly available reference baseline reports for the selected sub-sectors during 2014 and for a period no shorter than 2013-2021. | Non-existent updated or systematized national or regional GHG BAU reference baselines. | *(not set or not applicable)* | BAU reference baselines approved and in accordance with procedure and PlanCC outcomes by June 2016. | The BAU scenarios for the four NAMAs and respective sub-sectors have been established for the relevant years corresponding to each NAMA between 2010-2030. These BAU have been presented in the NDC Multisectorial Work Groups and are being included in the updated in the national NDC communications and tentative programmed actions (Annexes 25-26). The Project is currently conducting studies to evaluate the emissions factors for the national grid, firewood for cooking, and the transport sector, in order to determine nationally appropriate values for these sectors that will be considered in the BAU and national inventories (studies currently in progress).  It should be noted that PlanCC was developed as a preliminary stage of NDC development, but with the development of the NAMAs in different sectors, Multisectorial Work Groups, and updated NDC mitigation measures, the PlanCC is now outdated and is being updated with more realistic goals, objectives and mitigation measures. | BAU scenarios for the four NAMAs and respective sub-sectors have been established for the relevant years corresponding to each NAMA between 2010-2030. The BAU scenarios have been presented in the NDC Multisectorial Work Groups and were formally presented to MINAM as part of the national NDC communications and tentative programmed actions.    The project has completed the process of validation of the calculation procedure and the corresponding emission factor of the national grid (SEIN) for the year 2016, having submitted it to UNFCCC for approval (Annexes 20a-d). The Project has also completed studies to evaluate the emission factors for firewood for cooking (Annex 22), and the transport sector (Annex 23), in order to determine nationally appropriate values for these sectors for the BAU and national inventories. These studies either provided new values or confirmed the assumptions used in the development of BAU scenarios and national inventories and have been uploaded to the Project Website for public use and consideration in other related mitigation measures or GEI reduction projects (http://namasenergia.minem.gob.pe//es-pe/estudio).    It should be noted that PlanCC was developed as a preliminary stage of iNDC development, but with the development of the NAMAs in different sectors, Multisectorial Work Groups, and updated NDC mitigation measures, the assumptions and inputs used in the National Climate Change Planning Project to prepare the roadmap for the iNDC (PlanCC) are being updated with realistic goals, objectives and mitigation measure outcomes for the following twelve (12) mitigation measures prioritized in the four NAMAs have been communicated and incorporated as part of the national NDC:    1. Combination of Renewable Energy  2. Distributed generation  3. Supply of Electricity with Renewable Energy in Off-Grid Areas  4. Clean Cooking  5. Transformation of the lighting market in the residential sector  6. Replacement of high pressure sodium vapor (VSAP) street lighting lamps with LED lamps  7. Energy Efficiency Labeling  8. Public Sector Energy Audits  9. Replacement of low efficiency lamps by LED lamps in the public sector  10. Energy Efficiency in the Industrial Sector  11. Replacement of lamps in the commercial sector  12. Promotion of electric vehicles nationwide |
| **The progress of the objective can be described as:** | | **On track** | | | | |
| **Outcome 2**  **Prioritized mitigation options and MACCs are identified, NAMA Design Documents are developed in the selected sub-sectors (new renewable energy sources both connected and non-connected to the grid), and 4 NAMA activities are ready for implementation** | | | | | | |
| **Description of Indicator** | **Baseline Level** | **Midterm target level** | **End of project target level** | **Level at 30 June 2018** | **Cumulative progress since project start** |
| 1 sector wide and 2 sub sectoral MAC curves | Nonexistent mitigation options listed and assessed.  Nonexistent MAC curves in the selected sub-sectors. | *(not set or not applicable)* | Energy sector MAC curve reports and detailed sub sectoral mac curves for on and off grid RE approved by the Project Steering Committee. | The MAC curve was originally developed as part of PlanCC, and the specific values relevant to the 4 Energy NAMAs have been updated as part of the detailed designs (Annexes 4-7). These values serve to support in decision making processes when deciding between financing alternatives for different mitigation measures, but at this stage, the costs of mitigation are more focused on costs of implementation of the selected mitigation measures and not on evaluation of alternatives. | MAC curves were originally developed for PlanCC, and the specific values relevant to the twelve mitigation measures included in the four Energy NAMAs have been updated as part of the detailed designs. These values support the decision-making processes when deciding between financing options for each mitigation measure. At the present stage, mitigation costs are focused more in evaluations of implementation options, enabling conditions, and alternatives. |
| Portfolio of NAMA activities and NAMA factsheets | No portfolio of energy generation and end use NAMAs in place | *(not set or not applicable)* | Portfolio of NAMA activities at the conceptual design level in place for energy generation and end use. | The Project has completed diagnostic studies for the sub-sectors related to energy efficiency in the public and private sectors, electric and hybrid transport, rural electrification, clean cooking, and grid-connected renewable energy (Annexes 8-12). These studies focused on evaluating data gaps, projections, regulatory proposals and enabling conditions to achieve the goals outlined in the NAMAs. These studies have served to support and justify proposed normative changes such as 1) a new procedure to calculate firm capacity for solar and wind energy, allowing them to participate in the energy market via bilateral contracts with free and regulated clients (Annexes 15 and 16); 2) proposed law and supreme decree to promote electric and hybrid transport (Annex 27), 3) the inclusion of clean stoves and additional renewable energy technologies for rural populations in the national energy inclusion fund (Annex 28), and 4) potential changes to the massive government renewable energy auction programs for rural populations (in progress). Additionally, various inter-institutional agreements and acts have been drafted (Annexes 29-32), which support the commitment of the other competent entities in supporting the implementation of the NAMAs, and their respective MRV Protocols. The designs for the Energy Efficiency, Electric Transport and Grid-Connected NAMAs have been completed and presented to the Steering Committees. And finally, a Climate Change Law (Annex 33 and https://busquedas.elperuano.pe/normaslegales/ley-marco-sobre-cambio-climatico-ley-n-30754-1638161-1/) was passed, which includes the mitigation measures associated with the 4 NAMAs as part of the objectives, demonstrating the embeddedness of the NAMAs in both national and international policies. | The Project has completed diagnostic studies for the sub-sectors related to energy efficiency in the public and private sectors, electric and hybrid transport, rural electrification, clean cooking, and grid-connected renewable energy (Annexes 24-28). These studies focused on evaluating data gaps, projections, regulatory proposals and enabling conditions to achieve the goals outlined in the NAMAs. The studies have served to support and justify the proposed normative changes such as: 1) a new procedure to calculate firm capacity for solar and wind energy, allowing them to participate in the energy market via bilateral contracts with free and regulated clients (Annex 29); 2) law and supreme decree to promote electric and hybrid transport (under review); 3) the inclusion of clean stoves and additional renewable energy technologies for rural populations in the national energy inclusion fund (Annexes 30a,b); and 4) potential changes to the massive government photovoltaic rural electrification auction programs (Annexes 31a,b). Additionally, various inter-institutional agreements and acts have been drafted which support the commitment of other competent entities in supporting the implementation of the NAMAs and their respective MRV Protocols (Annexes 32a-g).    Designs for all four NAMAs have been completed and presented to the Project Steering Committee whose comments and remarks have been incorporated to the final published versions that have been published on the Project website (http://namasenergia.minem.gob.pe//es-pe/pagina/disenos) and formally submitted to MINAM as part of the tentative sector program for the NDC (Annexes 6-9).    The Framework Law for Climate Change has been issued and its statutory regulations, currently under elaboration, will include the twelve (12) mitigation measures included in the four NAMAs. |
| Policy and finance instruments for NAMA implementation in two selected sub sectors defined | No systematic assessment of existing and potential policy and finance instruments for on and off grid RE development in Peru | *(not set or not applicable)* | Specific set of policy and financial instruments defined for supporting NAMAs in residential energy efficiency | There are various policy instruments that have been defined as enabling conditions for the NAMAs. These are included in the detailed designs of the NAMAs and have been presented to the respective institutions during technical and directive committee meetings (Annexes 4-7). | There are various policy instruments that have been defined as enabling conditions for the NAMAs. Those are included in the detailed designs of the NAMAs and have been presented to the respective institutions during technical and directive committee meetings.    Some of these have been implemented, pre-published or drafted for institutional review, such as 1) a new procedure to calculate firm capacity for solar and wind energy, allowing them to participate in the energy market via bilateral contracts with free and regulated clients (Annex 29); 2) law and supreme decree to promote electric and hybrid transport and technical norms for electric vehicle charging stations (under review by MINEM); 3) the inclusion of clean stoves and additional renewable energy technologies for rural populations in the national energy inclusion fund (Annexes 30a,b); 4) potential changes to the massive government photovoltaic rural electrification auction programs (Annexes 31a,b), 5) reduction of the ISC tax to 0% for new electric vehicles and increase of the ISC tax for combustible fuels (Annex 33), and 6) Distributed Generation Regulation (pre-publication) to help promote a greater utilization of renewables (Annex 34). |
| 3 formal training sessions by sub-sector, related to the design of mitigation programmes, | Training sessions exist in different sectors but are not coordinated, with no major consistency in the people that assist, no systematic evaluation system and no formal methodology for NAMA development process. | *(not set or not applicable)* | Training sessions developed by year 1, including content and evaluation methodology.  Two annual training sessions (one per sub-sector) conducted during project lifetime | A training session on the LEAP software was conducted in the first year, which is used to establish projections for the energy sector and support the development of the BAU (Annex 34). In the second year, two formal training sessions were conducted regarding the development of the GHG inventories and annual reports. This was given to the representatives of the Ministry of Energy and Mines that will responsible to continue the production of the annual inventories after the completion of the project (long-term sustainability) (Annex 35). In the third year, the Project has organized a workshop and course for the Ministry of Energy and Mines and interested actors in the public and private sector on the solar map tool developed with NREL and the SAM renewable energy planning tool. This workshop will provide tools to the public for utilizing renewable energy resources, and tools for the energy planning division of the Ministry of Energy and Mines to help them consider renewable energy resources in energy sector planning (planned for July 2018). | The Project has developed seven (07) formal training sessions related to the NAMAs and their associated sub-sectors, including 3 sessions related to the GHG inventories and baseline scenarios for all four NAMAs and the associated 12 mitigation measures, 2 sessions focused on the promotion of grid-connected and off-grid renewable energy, and 2 sessions focused on universal access to sustainable energy in rural areas: clean cooking and rural electrification. Additionally, the Project has supported other formal training workshops in energy efficiency audits. Finally, the Project has organized various workshops focused on technical, political and economic enabling conditions for the promotion of electric transport.    A training session on the LEAP software was conducted in February 2017, which was focused on establishing projections for the energy sector and support the development of the BAU (Annex 35a-c). In May and June 2017, two formal training sessions were organized by the Project regarding the development of the GHG inventories in Infocarbono and annual reports (Annex 36a-d). This was given to the representatives of the Ministry of Energy and Mines that will be responsible to continue the production of the annual inventories after the completion of the project (long-term sustainability). In July 2018, the Project organized a workshop and course for the Ministry of Energy and Mines and interested actors in the public and private sector on the solar map tool developed with the technical assistance of NREL (https://maps.nrel.gov/rede-peru) and the SAM renewable energy planning tool (Annex 37a-c). During the workshop training was provided for the public use of renewable energy resources, and for supporting the MINEM planning department staff in the evaluation of different scenarios for renewable energy integration. In February 2019, the Project organized a capacity building mission with the technical assistance of NREL, where actors in both the private and public sectors were trained on renewable energy integration models for isolated grids such as Iquitos (Annex 38). In February 2019, the Project organized two training workshops for rural women in Cusco and Puno, on the use and maintenance of clean cooking stoves and photovoltaic systems. These were conducted as the first pilots for the development of the Women's Energy School (eMujer) and are being used to help finalize the curriculum and replicable program to implement at the national scale (Annexes 39 a,b). |
| Four NAMA detailed designs in place | No NAMA concepts in any of the selected sub-sectors, therefore no potential GHG mitigation potentials, barriers, benefits, financial resources or responsible determined. | *(not set or not applicable)* | NAMA concepts approved by the Project Steering Committee, based on a list of assessed and prioritized mitigation actions; including financing sources and containing coordinated institutional arrangements, and ready to initiate piloting. | The final designs of the NAMAs: Energy Efficiency, Grid-Connected Renewable Energy, and Electric Transport have been presented formally to the Directive Committee and the comments received by the committee have been incorporated in the final versions (Annexes 36 and 37). The fourth NAMA is in the final stage of the detailed design and will be presented to the directive committee in the third quarter of 2018. | The final designs of the four NAMAs: Electric Transport, Grid-Connected Renewable Energy, Energy Efficiency, and Universal Access to Sustainable Energy, have been completed and presented to the Directive Committee whose comments and remarks have been incorporated to the final published versions that have been published on the Project website (http://namasenergia.minem.gob.pe//es-pe/pagina/disenos) and formally submitted to MINAM as part of the tentative sectorial program for the NDC compliance (Annexes 6-9). |
| **The progress of the objective can be described as:** | | **On track** | | | | |
| **Outcome 3**  **Entities related to renewable energy connected to the grid (all technologies excluding large hydro) and (ii) off grid renewable energy sub-sectors are implementing prioritized NAMAs in a piloting phase and contributing to the achievement of Peru’s voluntary mitigation target.** | | | | | | |
| **Description of Indicator** | **Baseline Level** | **Midterm target level** | **End of project target level** | **Level at 30 June 2018** | **Cumulative progress since project start** |
| Implementation of NAMA activity #1 (off grid RE with PV) | Large scale PV program programmed for launch in 2014, but not framed as a NAMA | *(not set or not applicable)* | PV electrification NAMA is fully operational and supports the installation of 170,000 PV panels. Expected installed capacity 17 MW. MRV mechanisms fully in place. | The rural electrification program is currently in implementation and nearly 67,000 home systems have been installed throughout Peru (Annex 13). The remaining systems are programmed to be installed by mid-2019 (Annex 14). These installations are being considered as part of the design and MRV Protocol currently in development. The final MRV Protocol will be completed in the third quarter of 2018.    Additionally, the Universal Access to Sustainable Energy NAMA also incudes a clean cooking mitigation measure, focused on bringing clean cooking stoves to rural families that cook with traditional open fire stoves. The government has already distributed over 200,000 improved cookstoves and 1.5 million LPG stoves, and these will be counted as part of the NAMA within the MRV Protocol. Additionally, the Project has implemented two pre-pilots to evaluate new clean stoves that can be promoted by the government (solar, gasifier and ventilator). The results of the first pre-pilot is included in Annex 38. | The rural electrification component for the NAMA ‘Universal Access to Sustainable Energy´ (formerly ‘Non-Connected RER’) continues its implementation, having installed 132,408 off-grid PV systems by June 2019; and is programmed to reach a total of 199,000 installed and registered by the end of 2019 (Annex 16).    To support the sustainability of the PV panels the Project the Project is developing a Women's Energy School (eMujer) to support training of rural women as promoters of sustainable energy technologies as well as gender equality and increased access of women to clean energy technologies, (Annex 40). The school provides rural women with technical skills regarding the correct and efficient use and maintenance of the PV panels and associated components, as well as helping them to develop microenterprises that offer services and efficient energy consuming products that are compatible with the PV solar panels. To date the Project has developed a pilot course focused on rural electrification with PV panels in Puno and is planning the implementation of other pilot programs in Loreto in 2019 (Annex 41).    The MRV Protocol for the Rural Electrification Mitigation Measure is included in the design document for the Universal Access to Sustainable Energy NAMA, and has been implemented to date to include the off-grid photovoltaic systems installed as part of the government's first Massive Rural Electrification Program. A preliminary field program was implemented to evaluate and field check some of the assumptions used in the MRV system for the Universal Access to Sustainable Energy NAMA (Annex 42). The results of the MRV protocols will be reported to MINAM at the end of 2019 as part of the annual NDC reporting. |
| Implementation of Performance Based Payment System for off Grid RE with PV Systems | Payment mechanisms for off grid PV systems not fully defined, energy and GHG abatement goals not integrated. | *(not set or not applicable)* | Mechanism established for payment upon delivery of off grid PV based energy services, based on independent assessment of compliance with NAMA MRV protocol | The payment mechanism is now in implementation by the local energy distribution companies, however, only recently started given that the massive installation program is in the early stage of implementation. These payments will be reported to the General Direction of Rural Electrification and this report allows monitoring of the number of systems that are still functioning. With the introduction of third generation photovoltaic pre-pay systems, the payment mechanism is expected to improve in efficiency with a lower rate of defaulted payments. The Project is currently conducting a study to propose ways to improve the massive rural electrification programs, which is being considered by DGER (Annex 39). | The payment mechanism is now in implementation by the local energy distribution companies (Annex 43); however, there have been delays of up to 6 months in the revision and billing processes by the companies. The payments will be reported to the General Direction of Rural Electrification and this report allows monitoring of the number of systems that are still in use and functioning. With the introduction of third generation photovoltaic pre-pay systems, the payment mechanism is expected to improve in efficiency with a lower rate of defaulted payments. The Project has completed a study to propose ways to improve the massive rural electrification programs (Annexes 31a,b), and is currently developing a pilot project with DGER to test the proposed changes. The pilot is planned for the second semester of 2019. |
| Implementation of NAMA activity #2 (Renewable Energy and/or Energy Efficiency) | NAMA activity undefined | *(not set or not applicable)* | Energy Efficiency NAMA activity fully operational. MRV mechanisms fully in place. | The Energy Efficiency NAMA is now in implementation with the Energy Efficiency Labelling for 9 categories of equipment (washers, dryers, refrigerators, motors, water heaters, boilers, air conditioners, lighting and lighting fixtures) now implemented nationally (since April 2018) and minimum energy efficiency standard for the same categories of equipment implemented in the public sector. Additionally, the energy service provider (ESCO) registry will be published in 2018 to support the mandatory energy efficiency audits in the public sector every 2 years. The NAMA Project is developing a public campaign to promote the energy efficiency labelling including social media coverage and the development of a website platform that will provide comparative information for consumers and a calculation tool to evaluate their savings with energy efficient (see example here: http://www.topten.info/). The Project is also working with first tier banks to develop preferential financing for efficient products ("green credit") (Annexes 40a-c and Annex 41). During the second semester of 2018, the Project will conduct a market study and compare results with the 2013 market study, to evaluate the impact of the energy efficiency labelling and market evolution of the nine categories of equipment that now have labelling. This market study could not be started before august 2018 in order to ensure sufficient time for the implementation of the energy efficiency labeling. The results of this market study will be incorporated into the MRV system to quantify the level of impact of the first stages of implementation of the NAMA. | The Energy Efficiency NAMA is now in implementation with the Energy Efficiency Labelling for 9 categories of equipment (washers, dryers, refrigerators, motors, water heaters, boilers, air conditioners, lighting and lighting fixtures) now implemented nationally (since April 2018). During the second semester of 2018, the Project commenced a market study to compare results with the 2013 market study, to evaluate the impact of the energy efficiency labelling and market evolution of the nine categories of equipment that now have labelling. This is being used to quantify the level of impact of the first stages of implementation of the energy efficiency NAMA and incorporate them into the MRV system. The NAMA Project is developing a public campaign with the Energy Efficiency Division to promote the energy efficiency labelling including social media coverage and the development of a application or software that provides comparative information for consumers and a calculation tool to evaluate their savings with energy reductions.    The minimum energy efficiency standards for the same categories of equipment have been implemented in the public sector and are registered via the public sector purchasing platform (PeruCompras). The Project has been meeting with OSCE who is responsible for monitoring of these purchases to update the registry system to include purchases of less than 8 UIT (approximately US $10,000), this to help improve the tracking of the impact that the minimum efficiency standards are having on energy consumption of the public sector in the MRV system.    Additionally, the qualification criteria for energy service providers (ESCO) is under evaluation, to support the mandatory energy efficiency audits in the public sector every 2 years. Currently the qualification criteria has been defined for independent contractors, which will be used to ensure quality control in the audit process. The Project is currently completing a study to conduct energy efficiency audits in four public sector entities including typical government office buildings (FONAFE), a military base and two public hospitals. The results of the audits are being used to develop replicable examples and recommendations for the public sector, including recommendations on the regulation regarding energy efficiency audit and ESCO criteria and standards.    The Project is working with first to third tier banks (‘Cajas’, development banks, and international financial entities) to explore preferential financial mechanisms for efficient products (‘green credit’).    As part of the Energy Efficiency NAMA, there are seven (07) mitigation measures. These have been separated in the MRV protocol to enable individual reporting and the preliminary results for energy efficiency labelling, audits, and minimum standards in the public sector are being updated in the calculation sheets. |
| Implementation of NAMA Activity #3 (grid connected Renewable Energy and or Energy Efficiency) | NAMA activity undefined | *(not set or not applicable)* | Electric Transport NAMA fully operational.  MRV mechanisms fully in place | The Electric Transport NAMA is in early stage of implementation via a number of interventions to promote electric transport. The Project has developed a proposal for a regulatory change to promote electric transport (Annex 27). As a result of this initiative, a proposed Law to Promote Electric Transport is currently under review by the Ministry of Energy and Mines, and the Project is continuously meeting with the Ministry of Transport, Ministry of Production and Ministry of Economy and Finances to support their roles in the transition towards electric transport. One of the proposed normative changes was to modify the selective consumption tax on combustible fuels and conventional vehicles, in favor of electric and hybrid vehicles, as part of the green growth strategy of the Ministry of Economy and Finance (MEF). Aligned with this recommendation, MEF recently published a change in the selective consumption tax, to reduce the tax for electric and hybrid vehicles and increase the tax for conventional vehicles and fuels (Annex 42) . an electric bus that has recently started circulation in the Lima public transport system. The data obtained from this pilot are going to be provided to the Project to include in the MRV system as an early evaluation of the system and check of the indicators. The Project is developing ToR for a study to evaluate the emissions factors used for the transport sector, and their applicability to the Peruvian transport sector based on field measurements. The Project is also helping to facilitate a second electric bus pilot project, and has an interinstitutional agreement for its development which is programmed to be signed in august (Annex 30). The buses will arrive in late 2018-early 2019 and will circulate in two of the principal ProTransporte routes. The Project will receive the data from the pilot study to incorporate in the MRV system and also to develop a replicability study to promote the inclusion of electric bus fleets in the upcoming concession calls. As a result of a request from the NAMA Project (via DGEE) to receive technical assistance from IDB for the promotion of electric public transport (Annex 43), the Project is now collaborating with IDB to develop financial and business models for the bus operators in Lima to ensure that they have access to competitive financing for electric fleets. The Project is also in the early stage of developing a preferential line of financing with first tier banks and the Peruvian development bank (Cofide) for taxis to purchase electric vehicles (Annex 41). Initial potential collaborations have been made with a fully female taxi service "Taxi Queen" (Annex 44), and the second company interested in supporting the pilot is Uber. The intention is to provide preferential financing to a minimum of 50% female taxi drivers to promote greater equality of gender in the transport sector. All of the pilots will provide key data for the MRV protocol. | The Electric Transport NAMA is in the early stages of implementation for the promotion of electric buses and light vehicles. The Project has developed a proposal for a regulatory change (Supreme Decree) to promote electric transport, and has supported various revisions with the Energy Efficiency Direction of MINEM to finalize the proposed norm, which is expected to be pre-published in the second semester of 2019.    The Project has also supported the evaluation and proposal of technical norms for electric transport charging stations to ensure the implementation of minimum technical and safety standards for the import and installation of charging stations.    One of the normative changes also proposed in the NAMA Design was to modify the selective consumption tax on combustible fuels and conventional vehicles, in favor of electric and hybrid vehicles, as part of the green growth strategy of the Ministry of Economy and Finance (MEF). Aligned with this recommendation, MEF published a change in the selective consumption tax, to reduce the tax for electric and hybrid vehicles and increase the tax for conventional vehicles and combustible fuels.    The Project is continuously meeting with the Ministry of Transport and Communications (MTC) and the Ministry of Production to support their roles and normative changes to promote electric transport. The MTC has formulated both a National Transport Policy and National Transport Law with the contributions of the Project and MINEM, both of which include as priority the promotion of low carbon and efficient transport alternatives, which favor electric transport, helping push for the inclusion of electric buses in public tenders.    The Project helped to develop a pilot project for the first electric bus to enter Lima's public transport system in 2019, coordinating an interinstitutional agreement signed by MINEM, MINAM, MTC, ProTransporte y GSEP (Annex 32a). The bus will arrive in 2019, to circulate in the Javier Prado Complementary Corridor in Lima. The data obtained from this pilot will be provided to the Project and included in the MRV system. There are also three other pilot projects of electric buses that are being incorporated in the MRV system as a check on the assumptions and indicators.    The Project has concluded a study to evaluate the emission factors and performance indicators for buses in the public transport sector based on survey, registered and field measurements (Annex 44); and is currently concluding a study evaluating the same parameters for taxis in Lima. These studies will be used to confirm and potentially adjust the emissions factors assumptions used in the MRV systems for the Electric Transport NAMA.    As a result of a request from the NAMA Project (via DGEE) to receive technical assistance from IDB for the promotion of electric vehicles in the public transport sector, the Project is now collaborating with IDB to develop financial and business models for the bus operators in Lima, to help develop viable models and access to competitive financing for electric fleets.    The Project is also in the early stage of collaborating with the Peruvian development bank (COFIDE) for the development of a preferential line of financing with first tier banks for taxis to purchase electric vehicles. Various pilot projects are currently in evaluation and the Project is considering the installation of an electric charging station for public access in parallel with the pilot project. All of the pilots will provide key data for the MRV protocol and the Project has already made arrangements with the different entities to ensure that they are sending the required data to incorporate in the MRV tracking systems. |
| Implementation of NAMA Activity #4 (grid connected Renewable Energy) | NAMA activity undefined | *(not set or not applicable)* | On grid NAMA activity fully operational. Must track contribution to increasing RE grid participation to 2.5% by end of project and 5% by 2020. MRV mechanisms fully in place. | The Grid-Connected RER NAMA is in full implementation and data from the first four renewable energy auctions have been incorporated in the MRV system. To date, as a result of the RER auctions, non-conventional renewable energy accounts for nearly 4.5% of the grid-connected electricity generation and including small hydro projects this percentage increases to 7%. Just this NAMA alone has already achieved the ambition for direct GHG emission reductions included in the Prodoc. Additionally, considering that solar and wind energy in Peru are now very competitive with conventional energy resources (gas and hydro), the Project conducted a study to propose normative changes to allow these renewable energy resources to receive firm capacity recognition to allow them to sign contracts with free and regulated users (this is currently not allowed according to existing law, which is a massive barrier for renewable energy development) (Annexes 15 and 16). This study also provided detailed models to evaluate different scenarios of RER participation to support the Planning Team of the Energy Efficiency Division in decisions regarding the contribution of RER, which were used to help justify the proposed normative change for firm capacity of RER (Annex 45). The proposal for firm capacity is currently under evaluation by the Ministry of Energy and Mines (Annexes 15 and 16). It is expected that this will be implemented by the end of 2018 and all new RER projects that enter the Peruvian grid as a result will be counted as part of the Grid-Connected RER NAMA. The new emissions factor procedure that the Project developed is currently being validated as the official national Emission Factor and this validated Procedure will be applied to all calculations of reductions in the MRV system for the grid-connected RER NAMA, Energy Efficiency NAMA, and Electric Transport NAMA, as well as other national initiatives to reduce emissions in the energy sector (Annexes 18 and 19). The Project is also conducting a pilot project to install PV systems in the Ministry of Energy and Mines and 7 public universities across Peru (Annex 20) to provide information on the spatial and temporal variability of solar resources in Peru and support the development of the Distributed Generation Regulation that is programmed to be published in 2018. The distributed generation regulation will help promote grid-connected self generation with PV systems with a financial mechanism (i.e. net metering, net billing, or feed-in-tariff) to help recuperate investment. The Project has developed, in collaboration with NREL, a solar map for Peru (https://maps.nrel.gov/rede-peru/), which serves as the first step towards determining a national potential for solar energy, and to be used for developing an integrated renewable energy map that can be used by all Peruvians (residential, commercial or utility) to develop their PV systems (as well as other renewable energy resources). The Project is planning to incorporate this solar map into a renewable energy map developed with the Ministry of Energy and Mines, which will also include data from the 2017 Census as well as other sources of data produced by the Ministry related to the utilization of clean energy solutions. The Project solicited the data base for the 2017 Census to incorporate in the integrated energy map and this will be provided in the third quarter of 2018 (Annexes 46a and 46b). The Project also submitted to the Ministry of Energy and Mines a proposal to implement energy block auctions with the distributors associated with a quota for renewable energy generation (Annex 17). This would add additional market opportunity for renewables to compete in favorable conditions with conventional sources. | The detailed design for the Grid-Connected Renewable Energy NAMA, including the detailed MRV protocols, has been presented to the Directive Committee and formally delivered to MINAM as a part of the tentative sectorial program for the NDC (Annex 18a,b).    In comparison with the target of 3.5% RER expected to be installed by 2018, Peru has exceeded this target with a total participation of 4.5% RER as of May 2018, and 7.8% contribution from RER (solar, wind, small hydro and biomass) by April 2019, with 4.7% of that due to the non- conventional (solar, wind and biomass) projects that won in the first four renewable energy auctions (Annex 19). The Project has not directly contributed to the first RER Projects developed between 2010 and 2018 as part of the first 4 renewable energy auctions, since these were a result of normative changes already implemented in 2010; however, the Project has contributed to proposals for a fifth RE auction focused on strategic areas of Peru where renewable energy could replace generation from diesel. The Project developed the Terms of Reference for a CAF financed study to develop a portfolio of renewable energy projects at the pre-investment level such as solar projects in Iquitos and the four largest off-grid cities in Loreto, where 100% of the generation is from diesel. The Project also requested technical assistance from the National Renewable Energy Laboratory (NREL) to evaluate the potential for solar energy in Iquitos and the south to replace generation from diesel. Both of these studies will provide information and inputs that will be considered in a potential fifth renewable energy auction.    The projects that won via the Peru's renewable energy auction and are not participating in international carbon markets have been considered in the MRV system for the Grid-Connected NAMA, considering that these projects could not have existed without government assistance.    Additionally, the Project has proposed normative changes to eliminate barriers and create more competitive market conditions for non-conventional renewable energy, such as a new procedure to calculate firm capacity for solar and wind energy, allowing them to participate in the energy market via bilateral contracts with free and regulated clients. This proposal was incorporated in a pre-publication by MINEM in 2018, however, to date it has not been approved (Annex 29).    The MRV Protocols have been implemented to date to include all of the RER projects that won in the first four RER auctions and qualify as part of the mitigation measure and Grid-Connected Renewable NAMA. These will be reported to MINAM at the end of 2019 as part of the annual NDC reporting. |
| Implementation of MRV protocols and tracking of NAMA related GHG emission reductions | MRV protocols for pilot NAMAs not in place | *(not set or not applicable)* | MRV protocols are used to track the following project targets:  Direct emission reductions of 962,000 tons CO2 over 10 years  Indirect emission reductions of 1,600,000 tons CO2 over 10 years | MRV protocols have been designed for the Energy Efficiency, Grid-Connected RER, and Electric Transport NAMAs, and have been proposed for the Universal Access to Sustainable Energy NAMA (Annexes 4-7). These are in early stages of implementation as a result of the first stages of pilot projects and measurement and reporting of previous actions that form part of the four energy NAMAs, but have not yet been accounted for in the NDC registry. For example, the Grid-Connected Renewable Energy NAMA, has already achieved a reduction of over 1 million tons CO2 according to the MRV Protocol, which is greater than the direct emission reduction target of 962,000 tons CO2 specified in the Prodoc. This has been calculated in the MRV Protocol for the NAMA and will be updated with the newly validated emissions factor procedures according to the MRV Protocol outlined in the NAMA design document. | In 2017, the Project developed a document of guidelines for the development of MRV Protocols in the energy sector and these were submitted to MINAM for their approval to use in the development of the MRV Protocols in the detailed designs. MINAM responded with a confirmation that the guidelines were being considered and incorporated in the National MRV Protocol for all NDC Mitigation Measures (Annex 45a,b).    As part of the detailed design process for the four NAMAs, MRV protocols and calculations were developed and included in the documentation formally submitted to MINAM as part of the tentative sectorial program for the NDC. These are in early stages of implementation as a result of the first stages of pilot projects and measurement and reporting of previous actions that form part of the four energy NAMAs, but have not yet been formally accounted for in the NDC registry since MINAM is still finalizing the National MRV Protocol. To help facilitate the reporting process, the Project has divided the MRV systems for the four Energy NAMAs into twelve (12) MRV systems for the 12 different mitigation measures that form part of the 4 NAMAs.    The preliminary results show that the Grid-Connected Renewable Energy Mitigation Measure and NAMA has already achieved a reduction of over 1 million tons CO2 according to the MRV Protocol, which is greater than the direct emission reduction target of 962,000 tons CO2 specified in the ProDoc. These calculations will be updated with the newly validated emissions factor that was developed by the Project, once approved by UNFCCC.    The Project is currently developing a platform to incorporate all of the mitigation measures in one centralized database management system, which will help to ensure the efficiency and sustainability of the MRV implementation through 2030, ensuring that the process is as transparent, traceable, understandable, and automated as possible. This platform will also serve as an example to other NAMAs and mitigation measures implemented by other sectors, to help uniformize the national protocols for monitoring and reporting. |
| **The progress of the objective can be described as:** | | **On track** | | | | |
| **Outcome 4**  **Accurate mechanism for measurement and accounting of actual GHG emission reductions from mitigation actions in the energy generation and end-use sector are in place.** | | | | | | |
| **Description of Indicator** | **Baseline Level** | **Midterm target level** | **End of project target level** | **Level at 30 June 2018** | **Cumulative progress since project start** |
| MRV protocol designed | No MRV protocols in place | *(not set or not applicable)* | MRV protocols for energy sector NAMAs designed and approved by Steering Committee | Three of the four NAMAs (Energy Efficiency, Electric Transport and Grid-Connected Renewable Energy) have been designed along with their respective MRV Protocols and have been presented to the Steering Committee for approval (Annexes 36 y 37). The comments received have been incorporated into the final design documents (Annexes 4-6). The MRV Protocol for the fourth NAMA (Universal Access to Sustainable Energy) is in the final stage of design and will be presented to the Steering Committee in the fourth quarter of 2018 for their approval. | In 2017, the Project developed a document of guidelines for the development of MRV Protocols in the energy sector and these were submitted to MINAM for their approval to use in the development of the MRV Protocols in the detailed designs. MINAM responded with a confirmation that the guidelines were being considered and incorporated in the National MRV Protocol for all NDC Mitigation Measures (Annex 45a,b).    As part of the detailed design process for the four NAMAs, MRV protocols and calculations were developed and included in the documentation formally presented to the Project Steering Committee, and after receiving their comments from the Committee, the final versions were formally submitted to MINAM as part of the tentative sectorial program for the NDC (Annexes 18a,b). These are in early stages of implementation as a result of the first stages of pilot projects and measurement and reporting of previous actions that form part of the four energy NAMAs, but have not yet been formally accounted for in the NDC registry since MINAM is still finalizing the National MRV Protocol. To help facilitate the reporting process, the Project has divided the MRV systems for the four Energy NAMAs into twelve (12) MRV systems for the 12 different mitigation measures that form part of the 4 NAMAs.    The preliminary results show that the Grid-Connected Renewable Energy Mitigation Measure and NAMA has already achieved a reduction of over 1 million tons CO2 according to the MRV Protocol, which is greater than the direct emission reduction target of 962,000 tons CO2 specified in the PRODOC. These calculations will be updated with the newly validated emissions factor that was developed by the Project, once approved by UNFCCC.    The Project is currently developing a platform to incorporate all of the mitigation measures in one centralized database management system, which will help to ensure the efficiency and sustainability of the MRV implementation through 2030, ensuring that the process is as transparent, traceable, understandable, and automated as possible. This platform will also serve as an example to other NAMAs and mitigation measures implemented by other sectors, to help uniformize the national protocols for monitoring and reporting. |
| Implementation of energy sector MRV registry | No energy sector MRV registry | *(not set or not applicable)* | Energy sector MRV registry in place | At least three of the four NAMAs are estimated to be officially registered with MINAM and UNFCCC by the end of 2018, pending the finalization of the national MRV Protocol and Registry Processes, and approval from the Steering Committee, MINAM and other competent entities. | The registration of the four NAMA by the UNFCCC remains pending until it is formulated the National MRV Protocol Registry, however, this is being managed by MINAM as the focal point of the NDC and still hasn't been finalized. The guidelines for the National MRV Protocol for the energy sector were proposed by the Project and have been considered by MINAM in the final design.    However, the designs of the four NAMA have been delivered formally to the MINAM in 2018 to be included in the NDC, and for its subsequent registration as soon as the National Registration Protocol Process is completed in 2019. |
| Mainstreaming of climate change mitigation in Ministry of Finance’s Results Based Budgeting Program | Results Based budgeting program in operation with no CC-related indicators | *(not set or not applicable)* | Climate Change related indicators incorporated in ministry of Finance’s Results Based Budgeting Program | The Ministry of Economy and Finance has incorporated the NAMAs into their Green Growth Strategy (Annex 47), Institutional Operational Plans (POI) for 2017 and 2018 (Annexes 48a and 48b), financing of capacity building programs for rural electrification via the Administrative Council of Resources for Training in Electricity (CARELEC), and the inclusion of energy efficiency audits in public budgets according to Ministerial Resolution N° 186-2016-MEM-DM. | The Ministry of Economy and Finances has approved several RbB plans (PPR) that are directly or indirectly linked to the mitigation measures of the four NAMAs. The Project has evaluated the relevant programs, which have been included as part of the financial sources of NAMA activities:  • ‘Budgeted Program 0046’: Access and use of rural electrification (Universal Access to Sustainable Energy NAMA)  • ‘Budgeted Program 0118’: Accesso of rural houses with subsistence economies to local markets (Universal Access to Sustainable Energy NAMA)  • ‘Budgeted Program 0093’: Productive development of business (Energy Efficiency NAMA).  • ‘Budgeted Program 0096’ Management of air quality (Energy Efficiency NAMA), eco-efficient improvement in the public sector.  • ‘Budgeted Program 0137’: Development of science, technology, and technological innovation (All four NAMAs)  • ‘Budgeted Program 0138’: Reduction of costs, time and security risks in the transport system (Electric Transport NAMA)  • ’Budgeted Program 0145’: Quality improvement in electricity services (Universal Access to Sustainable Energy NAMA) .    In addition, the NAMAs have been incorporated in the Green Growth Strategy, Institutional Operative Plans for 2017 and 2018, funding for capacity building for rural electrification via CARELEC; and is evaluating alternatives for the financing and implementation of audits of energy efficiency in the public sector. |
| Application of MRV procedures | No MRV procedures in mlace for Energy sector NAMAs | *(not set or not applicable)* | MRV procedures implemented in all energy related NAMA activities | The MRV procedures are currently being implemented for the Grid-Connected RER NAMA to account for the RER Projects that won the RER Auctions and are now contributing to the grid, and for Electric Transport NAMA for the electric pilot bus. The MRV for the Energy Efficiency NAMA will commence after the completion of the market evaluation study in the fourth quarter of 2018, and the MRV for the Universal Access to Sustainable Energy NAMA will commence in 2019 with the completion of the MRV Protocol design and incorporation of the results of the studies on existing improved cooking stoves, implementation of the first massive rural electrification program, and completion of the emissions factor study for firewood. | The Project has divided the MRV systems for the four Energy NAMAs into twelve (12) MRV systems for the 12 different mitigation measures that form part of the 4 NAMAs and has already incorporated data regarding the first phases of implementation for the 12 mitigation measures.    The preliminary results show that the Grid-Connected Renewable Energy Mitigation Measure and NAMA has already achieved a reduction of over 1 million tons CO2 according to the MRV Protocol, which is greater than the direct emission reduction target of 962,000 tons CO2 specified in the PRODOC. These calculations will be updated with the newly validated emissions factor that was developed by the Project, once approved by UNFCCC.    The Project is also incorporating data from the first electric transport pilot projects (buses and taxis).    The MRV for the Energy Efficiency NAMA has incorporated information regarding preliminary estimations for the energy efficiency standards in the public sector and will incorporate results from the market study of the energy efficiency labelling and energy efficiency audits in the public sector once the studies are completed in the third quarter of 2019.    The MRV for the Universal Access to Sustainable Energy NAMA has incorporated preliminary calculations of the impact of the national clean cooking (LPG and improved biomass stoves) and rural electrification programs, however, the results will be modified once the field measurement campaign is implemented in the second semester of 2019.    The Project is currently developing a platform to incorporate all of the mitigation measures in one centralized database management system, which will help to ensure the efficiency and sustainability of the MRV implementation through 2030, ensuring that the process is as transparent, traceable, understandable, and automated as possible. This platform will also serve as an example to other NAMAs and mitigation measures implemented by other sectors, to help uniformize the national protocols for monitoring and reporting. |
| **The progress of the objective can be described as:** | | **On track** | | | | |

# Implementation Progress



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| Cumulative GL delivery against total approved amount (in prodoc): | 46.89% |
| Cumulative GL delivery against expected delivery as of this year: | 46.89% |
| Cumulative disbursement as of 30 June (note: amount to be updated in late August): | 2,109,927 |

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| **Key Financing Amounts** | |
| PPG Amount | 45,000 |
| GEF Grant Amount | 4,500,000 |
| Co-financing | 32,010,000 |

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| **Key Project Dates** | |
| PIF Approval Date | Apr 16, 2012 |
| CEO Endorsement Date | Apr 9, 2014 |
| Project Document Signature Date (project start date): | Oct 19, 2015 |
| Date of Inception Workshop | Jun 15, 2016 |
| Expected Date of Mid-term Review | Jul 1, 2019 |
| Actual Date of Mid-term Review | Jul 1, 2019 |
| Expected Date of Terminal Evaluation | Sep 9, 2019 |
| Original Planned Closing Date | Dec 31, 2019 |
| Revised Planned Closing Date | *(not set or not applicable)* |

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| **Dates of Project Steering Committee/Board Meetings during reporting period (30 June 2018 to 1 July 2019)** |
| 2019-01-07 |

# Critical Risk Management

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| Current Types of Critical Risks | Critical risk management measures undertaken this reporting period |

# Adjustments

**Comments on delays in key project milestones**

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| **Project Manager: please provide comments on delays this reporting period in achieving any of the following key project milestones: inception workshop, mid-term review, terminal evaluation and/or project closure. If there are no delays please indicate not applicable.** |
| There were delays in the execution of the Mid-Term Review due to two failed processes to contract the consultant. There were also delays once the consultant was contracted due to overlapping with the Christmas holiday, thus it was difficult for the Consultant to coordinate and program interviews. Finally, there were delays in the final review and approval by the National Director as he was very busy with transfer activities for the new incoming Director (fifth Director during the 3 years of the Project). Having said that, the Project team made every effort to support the consultant during the Mid-Term Review, providing contacts, holding various meetings, responding in a timely manner to all information requests, and ensuring that the Director was present in all meetings and presentations of the preliminary results. Additionally, the Project prepared a Response Management Plan in response to the recommendations included in the Mid-Term Review, and sent this to the Steering Committee for their comments and approval. The final approved Response Management Plan was submitted to UNDP and GEF. |

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| **Country Office: please provide comments on delays this reporting period in achieving any of the following key project milestones: inception workshop, mid-term review, terminal evaluation and/or project closure. If there are no delays please indicate not applicable.** |
| Despite having had a delay in the validation of the final version of the final report by the National Project Directorate, the Management Plan has gone through a process of review and collection of comments from the Project Board, ensuring that they are incorporated the interests of all project stakeholders. |

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| **UNDP-GEF Technical Adviser: please provide comments on delays this reporting period in achieving any of the following key project milestones: inception workshop, mid-term review, terminal evaluation and/or project closure. If there are no delays please indicate not applicable.** |
| After some delays to deliver the MTR it is now implemented and Management Response sent. |

# Ratings and Overall Assessments

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| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **Project Manager/Coordinator** | Satisfactory | *- IP Rating provided by UNDP-GEF Technical Adviser and UNDP Country Office only -* |
| Overall Assessment | The Project has advanced significantly over the last year in terms of achieving major Project milestones. Most notably, the detailed designs for the four Energy NAMAs (including the 12 associated mitigation measures) have been formally submitted to MINAM as part of the Sectoral Tentative Programming for the NDC, and were formally received and included in the updated NDC communication. These 12 mitigation measures that are being monitored and reported within the 4 NAMAs are considered to have the greatest potential to contribute to Peru's NDC commitments in the short and medium term, given their high probability of implementation, and large magnitude of expected results. Just the preliminary reductions associated with one of the four NAMAs for one year of monitoring has exceeded the target emission reduction included in the PRODOC for the entire Project. The Project has immense potential to create transformational changes in the Peruvian Energy Sector with the promotion of a culture and political framework that supports both the private and public sector in the development of an energy efficiency culture and transition towards electrification of the transport sector, the gradual replacement of conventional generation with a greater share of renewable generation, and support in closing the energy gap in rural communities via greater use of renewable energy for off-grid electrification and clean cooking stoves. In this way, it is also a challenging Project, as it aims to support paradigm shifts, which are always accompanied with resistance from the incumbent conventional sectors and government entities hesitant to change business-as-usual. The Project has helped initiate key sector changes, primarily due to its strategic integration within the Ministry of Energy and Mines via the Energy Efficiency Direction, allowing for greater institutional support and capacity to convene workshops, meetings and presentations with public and private sector actors, helping to advance key regulatory changes such as modification of the firm capacity for renewables allowing them access to the Peruvian energy market, increasing the target for the participation of renewable energy in the national energy plan, normative changes to promote electric transport and associated infrastructure, energy efficiency audits in the public sector, inclusion of GHG emissions in the selection criteria for clean cooking stoves, among others. This Project is an extremely ambitious Project by design, both in scope and objectives, given that it aims to develop and implement four Nationally Appropriate Mitigation Measures (NAMAs) in the Peruvian Energy Sector in less than 5 years. Other Projects with the objective of developing and implementing only one NAMA have achieved less with more time. However, there have been quite a few challenges in the development of the Project, which has led to the rating of Satisfactory due to various factors, some which are manageable by the Project and others which are outside of the realm of control of the Project, as described below.    NAMAs are also a relatively new concept in the Climate Change arena, both nationally and internationally, and to date have not been clearly defined by UNFCCC. Therefore, and reasonably so, there is a fair amount of uncertainty regarding their application and integration in national policies and NDC implementation programs. The Project was also designed before Peru finalized and presented its iNDC in the Paris COP21 conference, and therefore did not include the most recent information regarding Peru's Nationally Determined Contributions for the Energy Sector. For this reason, certain aspects and indicators for the Project have not been met because they depend on other entities, such as the MINAM finalizing the national MRV registry so that the energy NAMAs and associated mitigation measures can be formally registered both in the national database and with UNFCCC. This is principally due the early stage of NDC developing and reporting, and if anything the Project has helped advance the national MRV registry process by providing MRV guidelines for the energy sector, detailed designs and templates for MRV reporting that can be replicated in other sectors.    It should also be mentioned that the Project started 7 months after its planned start date due to administrative delays including delays in contracting key Project personnel such as the Project Coordinator. This has impacted the execution of the Project relative to the chronogram detailed in the PRODOC, as the project has lost a significant period of implementation time. The Mid-Term Evaluation for the Project has been completed and also noted that the Project has made significant advances and is contributing immensely to the NDC and sustainable development of the country. However, it also noted that there have been delays, for which they recommended an extension of the Project by at least 6 months, to compensate for the 7 months lost in the beginning of the Project and more to compensate for the other delays mentioned previously. This extension would primarily be focused on ensuring the knowledge transfer, capacity building and long-term sustainability of the Project through completion, as well as through the NDC commitment period through 2030.    There have also been delays due to changes in government (3 Presidents, 4 Ministers, 4 Vice-Ministers, and 5 changes in the Project Directors since the beginning of the Project), which has resulted in changes in sectorial priorities, staff and specialists, priorities for the Energy Efficiency Division, and inertia in developing multi-sectorial agreement and support regarding the 4 Energy NAMAs, from the Energy Efficiency Direction, Ministry of Energy and Mines, and other ministries and competent entities such as the Ministry of Transport and Communications, Ministry of Sanitation and Housing, Ministry of Production, Ministry of Development and Social Inclusion, Environmental Ministry, and the Ministry of Women and Vulnerable Populations. However, despite these challenges, the Project has advanced with the same objectives and vision without changing course and this has allowed the Project to maintain a generally consistent pace and long-term vision, which has gradually integrated into the vision of the Energy Efficiency Direction and Ministry of Energy and Mines. Over the life of the Project the objectives and vision of the NAMAs have been included into the overarching vision and activities promoted by the Direction, which is evidenced by the Institutional Operational Program (POI), and the pre-publication of norms that promote the objectives of the four energy NAMAs. The products that the Project has developed to date, such as diagnostic studies, proposed regulatory changes, and pilot projects, have been used by various Ministries to help justify transformational normative changes.    One of the biggest challenges that the Project still faces is the difficulty in contracting qualified consultants for the planned studies, pilots and initiatives included in the annual plans. For various processes, the Project has to extend the call two or three times to ensure it received a sufficient number of proposals. This is partly due to the complexity and specific nature of a number of the services that the Project is contracting, as well as the lack of experience in these sectors in Peru. While the experience can often be found outside of Peru, the proposals are often expensive compared with local companies, are not submitted with all required documentation, or lack local representation to support local logistics. For these reason, there have been delays in initiating a number of services for lack of sufficient number of qualified bidders, and time required to adequately develop terms of references to ensure that the results will be appropriate, aligned with industry best practices, defensible, and ultimately useful for advancing the goals and agendas of the NAMAs. The Project has learned multiple lessons on how to better design Terms of Reference, and how to manage consultants to minimize contracting problems, and this has helped to improve the execution of planned activities in 2019.    Despite these delays and challenges, the Project is nearly at 50% execution of the annual work plan for 2019, showing that we are managing the delays and challenges. At the moment, only a couple of the planned activities or services included in the 2019 Work Plan are not expected to be implemented, and this is due to Direction taking on some of the tasks internally in the Energy Efficiency Direction, that were originally planned to be covered by the Project. We expect that by the end of 2019, the execution will be aligned with the majority of planned activities, with only minor adjustments. The Project has accumulated a momentum that, although took time to achieve, is now well underway and the Project is now well on track to achieve the ambitious targets and indicators included in the Project Document, the designs of the Energy NAMAs and associated Monitoring, Reporting and Verification Systems, various Sustainable Development Goals, and the NDC commitments. | |
| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **UNDP Country Office Programme Officer** | Satisfactory | Moderately Satisfactory |
| Overall Assessment | NAMA´s Energy Project has important progress to contribute reductions of GHG emissions in energy sector.    Inventories of GHG for energy sector have been updated with the Project support, capacities have been generated with the Project to update the emissions in the Ministry, working with different directions to prepare inventories.  Contributing to Peruvian NDC´s, 12 mitigation measures of Energy Sector are promoted by four NAMAS of the Project.    Its goals related to NAMA´s design have been achieved, MRV´s have been designed and MRV protocols have been formally submitted to MINAM as part of sectorial programs to be included the MRV protocols in the NDC´s.    The Project is contributing with Government efforts to promote sustainable public transport sector in Peru, promoting partnerships for example with IDB to develop financial and business models for the bus operators in Lima. Therefore, regulations have been proposed and approved to promote the use of electric cars.    According to Project estimations, it will be reduced 1 million tons of GHG, they only can be measure when the NAMAs are implement. It should be relevant to have an alternative of which actions specifically will have real impact in the emissions, maybe it is some issue to review since the project design, the NAMAS per se does not reduce emissions.    At Outcome 1, Baseline scenarios has been updated and emission factors for firewood for cooking, and the transport sector have been evaluating with the Project support providing this information for NDC´s roadmaps and national communications.  Regarding to Outcome 2, it is relevant the Project progress to propose procedures, laws among other national instruments for support NAMAs implementation and to prepare studies that promote new technologies for different NAMAs.    The Project in this period has had progress to promote in gender approach. The Energy School for Women propelling the role of women in energy sector. In rural areas for examples women have been trained to contribute with use and maintenance of photovoltaic systems and cooking stoves. Women´s lead as energy services managers has been reinforced in their communities contributing with a best technology adoption and use. It is an important milestone to shown linkage between women and mitigation of GHG, and which must be reinforced in other sectors to ensure sustainability and appropriation.    Finally, the stakeholder engagement promoted by the Project has contribute to achieve results. They have participated in discussions, workshops, interviews, surveys are involved in the NAMA´s design or implementation. | |
| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **GEF Operational Focal point** | *(not set or not applicable)* | *- IP Rating provided by UNDP-GEF Technical Adviser and UNDP Country Office only -* |
| Overall Assessment | *(not set or not applicable)* | |
| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **Project Implementing Partner** | Satisfactory | *- IP Rating provided by UNDP-GEF Technical Adviser and UNDP Country Office only -* |
| Overall Assessment | Over the last 3 years, the NAMA project has progressively integrated itself in the General Direction of Energy Efficiency (DGEE) of the Ministry of Energy and Mines. The Project has maintained a strong and clear vision related to the four areas of the Energy NAMAs (Energy Efficiency, Electric Transport, Grid-Connected Renewable Energy and Universal Access to Sustainable Energy), which over the years has supported the evolution of the DGEE, the Ministry of Energy and Mines and the national goals defined by the current government in the transition towards a new paradigm of energy efficiency, clean transport and sustainable energy.  The 12 mitigation measures included in the four energy NAMAs developed by this Project have been included in the updated NDC communication by the Environmental Ministry, Peru’s UNFCCC focal point, regarding the national priorities as part of the Paris Agreement framework for Peru. The reductions in GHG emissions associated with the 4 NAMAs are considered among the most significant contributions towards achieving Peru’s NDC goal.  The NAMA Project has helped to bridge information and technology gaps, identify areas for improvement, propose normative changes, promote campaigns, programs and initiatives in the public and private sectors, stimulate the use of new and innovative technologies, create financial mechanisms to improve access to efficient and sustainable energy technologies, and build capacities in the public and private sectors to ensure transformational change and the long-term sustainability of the mitigation measures and Monitoring, Reporting and Verification (MRV) systems.  Various products of the Project such as diagnostic studies, proposals for normative changes related to renewable energy or electric transport, pilot studies to promote new technologies such as clean cooking stoves, tools or platforms to promote a greater use of renewable energies, focused workshops, fairs, conferences, among others, continue to support the Ministry not only in the DGEE, but also in other directions such as the Rural Electrificacion Direction (DGER), Electricity Direction (DGE), and the Vice Ministry of Electricity.  I have watched the Project develop and grow since the beginning of the Project, and have seen the tremendous contributions that the Project has given to the DGEE and made in helping to advance Peru’s progress towards a more sustainable energy future. As Director of the DGEE and the NAMA Project, and I am committed to supporting the Project and ensuring that it achieves its goals and key indicators as outlined in the Project Document and Energy NAMA Designs, eliminating barriers where possible, and implementing activities according to the agreed work plans and budgets. We are grateful for the support and financing provided by this Project, which has often allowed us to fill gaps where our budgets and human resources may have fell short. I look forward to seeing the advances over the next year and ensuring that the Project leaves a clean transfer of knowledge, and a sustainable legacy for the DGEE to continue. But we also have much work to do, and hope we will be able to count on future support from similar GEF projects that would compliment and continue the efforts and technical assistance that we have received to date from this Project, ensuring that we continue the path that this Project has started through 2030 and beyond. | |
| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **Other Partners** | *(not set or not applicable)* | *- IP Rating provided by UNDP-GEF Technical Adviser and UNDP Country Office only -* |
| Overall Assessment | *(not set or not applicable)* | |
| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **UNDP-GEF Technical Adviser** | Satisfactory | Moderately Satisfactory |
| Overall Assessment | NAMAS PERU 2019  The objective of the project is to support the government of Peru in the development and implementation of National Appropriate Mitigation Actions in the energy sector. This is the third PIR of the NAMA Project Peru, which has progressively advanced in implementation and in achieving project targets and outcomes.  The project is closely aligned with NDC commitments and has been instrumental to set the path and strategy for Peru to achieve its voluntary targets. The project has defined 12 mitigation measures in the four sectors it approaches (RE in and off grid, Energy Effciency Standards and Labels and E-mobility). It has established the technical assessments, studies and analysis to propose, based on a solid technical basis, the regulatory and policy derisking measures to advance on NDC implementation.  Project has undertaken this year a midterm review and has, very well evidenced, progressed towards the achievements of its main objective, showing a clear speed up on implementation. Project has already delivered and displayed the detailed GHG energy inventory, key to defined the clear baseline conditions for NAMA implementation. The definition of the 12 mitigation priority options was based in detailed diagnostic studies and Marginal Abetment Cost (MAC) curves using multiple parameters. The project has fully designed the MRV protocols (based on the 12 measures) and procedures for registry (on going) and is helping advancing MRV reporting that can be replicated in other sectors.  The preliminary results of the Grid-Connected Renewable Energy NAMA show that it has already achieved a reduction of over 1 million tons CO2, which is greater than the direct emission reduction target of 962,000 tons CO2 specified in the ProDoc. The accurate figures of the emissions factor are being defined and once they are set (for off and on grid) the final CO2 emissions reductions can be precisely reported. The off-grid NAMA in renewable energy generation is fully designed and under implementation including implementation of MRV mechanisms. Peru has already exceeded the target of 3.5% RER installed with a total participation of 4.5% RER as of May 2018 due to auctions already planned and implemented without direct influence of the project. However, project is more directly supporting a fifth RE auction focused on strategic areas of Peru where renewable energy could replace generation from diesel, which can bring even more impacts in terms of emissions.  The off grid NAMA - ‘Universal Access to Sustainable Energy´ (formerly ‘Non-Connected RER’) - it’s on implementation, having installed 132,408 off-grid PV systems by June 2019 and programmed to reach a total of 199,000 installed and registered by the end of 2019. No direct numbers related to the MW additionally generated were reported (target 17 MW). The 2 NAMAs in energy efficiency were also fully designed and are under implementation and the energy efficiency labelling NAMA is developing tools to inform and support consumer decisions. Mechanisms to track public purchases of equipment and guidances for EE audits and ESCO criteria are also being developed.  The E-mobility NAMA developed a pilot project for the first electric bus to enter Lima's public transport system in 2019, coordinating an important interinstitutional agreement signed by MINEM, MINAM, MTC, ProTransporte y GSEP. Specially this NAMA should closely interact with the design team of the newly approved GEF7 E-mobility project that will be implemented by the Ministry of Environment: “Enhancing sustainability in Electric mobility for low carbon urban transport with Extended Producer Responsibility (EPR) approach in batteries and vehicle components” . The stakeholder engagement and baseline analysis activities to come must build upon what has been already structured and achieved by this NAMA, to guarantee complementarity and effectiveness.  Outcome 1 - Established national and regional GHG emission BAU reference baseline for the energy sector- has been practically achieved. It is feeding back the National Climate Change Planning Project to prepare and update the roadmap for the iNDC (PlanCC) with realistic goals, objectives and mitigation measures outcomes for twelve (12) mitigation measures prioritized in the four NAMAs.  Besides the design of the 4 NAMAs, under outcome 2, project undertook a series of capacity development activities and trainings related to energy sector planning and RE integration, GHG inventories and baseline scenarios and promotion of grid-connected and off-grid renewable energy (solar map). The capacity development activities related to universal access to sustainable energy in rural areas, took a creative and inclusive approach in structuring 2 sessions for training woman on energy themes (maintenance, efficient cook stoves, etc). The project has conceptualized the ‘ eMujer School’, a gender focused approach to build capacity of woman to work in the new developed energy sector in those areas.  Project is also being instrumental in proposing derisking policies and normative changes such as: 1) a new procedure to calculate firm capacity for solar and wind energy (to facilitate the participation of a wider variety of actors in the free and regulated energy market); 2) law and supreme decree to promote electric and hybrid transport (under review); 3) the inclusion of clean stoves and additional renewable energy technologies for rural populations in the national energy inclusion fund and 4) potential changes to the massive government photovoltaic rural electrification auction programs.  Outcome 3 is fully on track as the four NAMAS are in implementation and entities related to renewable energy connected to the grid and off grid are implementing prioritized NAMAs in a piloting phase. The partnerships with national and regional development banks such as IDB and the Peruvian Development Bank (COFIDE) aim to help develop viable models to promote electric fleets and to access competitive financing to promote some basic infrastructure needed to make e-mobility a reality. The outcomes derived from the activities shall present opportunities for new resource mobilization aiming at upscaling investments (public and private) and in structuring financial mechanisms and technical assistance with other financing partners.  Outcome 4 is related to the development of accurate mechanisms for measurement and accounting of actual GHG emission reductions from mitigation actions and project has structured the MRV system for the four NAMAs, which shall be registered after MINAM´s finalizes the revision. The National MRV Protocol Registry is a requisite for the registration of the four NAMAs by the UNFCCC. Project also intends to build a platform to incorporate all mitigation measures in one centralized database management system. This can ensure the efficiency and sustainability of the MRV implementation through 2030. Climate change related indicators were incorporated in ministry of Finance’s Results Based Budgeting Program.  Given the relevant achievements and clear speed up of implementation, RTA in line with project team considers Satisfactory the Development Objective rating of the project, which is on track to fully achieve its end-of-project targets by project closure. A well-structured exit strategy could likely contribute to the achievement of transformational change by project closure and exceed its end-of-project targets.  The Mid-Term Evaluation for the Project has been completed and noted that the Project has made significant advances and is contributing immensely to the NDC and sustainable development of the country. Despite acceleration in implementation project has spent a little less than 50% of its budget and an extension to compensate the delays in the beginning of the implementation and to establish a sustainable exit strategy for the project is recommended. The extension should be focused on ensuring knowledge transfer, capacity building and the establishment of the Woman Energy School. In parallel, project should assess the social impacts and benefits of the four NAMAs and connect the impacts of NAMAs in MW of RE generated and CO2 emissions avoided to poverty reduction, health improvement, job generation and woman empowerment. The Sustainable development Goals Agenda (SDGs) trespass the whole spectrum of activities of the four NAMAs and SDG agenda indicators should be used and monitored (as well tagged in each NAMA) to clarify the link on SDGs reporting with the mitigation measures.  Other key element that should be addressed as Social and Environmental safeguard measure related to the EE NAMA is the correct disposal of appliances and equipment generated by the Labelling scheme. Project should facilitate the debate on enforcement of the right disposal of the replaced appliances and the analysis of possible impacts of this program in this subject. Peru is already strengthening the Extended Producer Responsibility (EPR) approach with the new GEF7 E-mobility project, hence the EE NAMA should analyze the needed regulatory and legal measures to guarantee that possible negative externalities are correctly addressed.  In line with UNDP Program Officer, RTA considers project Implementation Progress as Moderately Satisfactory, mainly due to overall budget reminiscent. However, I recognize all efforts of project team in the complex and time demanding engagement with consultancies in many procurement processes, governmental and research institutions and other diverse stakeholders. The project is managed well and once a clear Plan of activities and budget is structured for extension it shall be more efficiently and effectively managed and be presented as good or outstanding practice.  In order to deliver the final remaining outcomes and activities to structure a sustainable finalization of project, Implementing Partner (IP) shall evaluate the pros to engage a Responsible Party in implementation. An IP may enter into a written agreement with other organizations, known as responsible parties, to provide goods and/or services to the project, carry out project activities and/or produce outputs using the project budget. Implementing partners use responsible parties to take advantage of their specialized skills, to mitigate risk and to relieve administrative burdens. Responsible parties are directly accountable to the implementing partner in accordance with the terms of their agreement or contract. There are two approaches to engage civil society organizations, including NGOs and foundations, as well as duly accredited academia and state-sponsored actors as responsible parties: Collaborative advantage (programmatic activities that are uniquely positioned in terms of their value, legitimacy and/or access to particular groups of beneficiaries or geographic areas) or Competitive selection (also used for private sector) with which organizations provide specific project inputs and/or undertake well-defined project activities. This last modality the selection can be based on: quality-based fixed budget selection, a competitive procurement or Direct contracting using the UNDP policy for justifying direct contracting. | |

# Gender

**Progress in Advancing Gender Equality and Women's Empowerment**

This information is used in the UNDP-GEF Annual Performance Report, UNDP-GEF Annual Gender Report, reporting to the UNDP Gender Steering and Implementation Committee and for other internal and external communications and learning.  The Project Manager and/or Project Gender Officer should complete this section with support from the UNDP Country Office.

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| **Gender Analysis and Action Plan:** *not available* |
| **Please review the project's Gender Analysis and Action Plan. If the document is not attached or an updated Gender Analysis and/or Gender Action Plan is available please upload the document below or send to the Regional Programme Associate to upload in PIMS+. Please note that all projects approved since 1 July 2014 are required to carry out a gender analysis and all projects approved since 1 July 2018 are required to have a gender analysis and action plan.** |
| [Annex\_40\_Propuesta\_Escuela\_Energetica\_Mujeres.pdf](https://undpgefpims.org/attachments/4679/213487/1727236/1740897/Annex_40_Propuesta_Escuela_Energetica_Mujeres.pdf)  [Annex\_41a\_Brochure eMujer - previo 19 jun.pdf](https://undpgefpims.org/attachments/4679/213487/1727236/1740897/Annex_41a_Brochure%20eMujer%20-%20previo%2019%20jun.pdf)  [Annex\_41b\_Cuaderno eMujer - previo 19 jun.pdf](https://undpgefpims.org/attachments/4679/213487/1727236/1740897/Annex_41b_Cuaderno%20eMujer%20-%20previo%2019%20jun.pdf)  [Annex\_41c\_Cocinas Limpias 21x21 ALTA Curvas.pdf](https://undpgefpims.org/attachments/4679/213487/1727236/1740897/Annex_41c_Cocinas%20Limpias%2021x21%20ALTA%20Curvas.pdf)  [Annex\_41d\_Energia Solar ALTA Curvas.pdf](https://undpgefpims.org/attachments/4679/213487/1727236/1740897/Annex_41d_Energia%20Solar%20ALTA%20Curvas.pdf)  [Annex\_41e\_A construir\_Cocinas Limpias previo 21 jun.pdf](https://undpgefpims.org/attachments/4679/213487/1727236/1740897/Annex_41e_A%20construir_Cocinas%20Limpias%20previo%2021%20jun.pdf)  [Annex\_41f\_A construir\_Energia solar previo 21 jun.pdf](https://undpgefpims.org/attachments/4679/213487/1727236/1740897/Annex_41f_A%20construir_Energia%20solar%20previo%2021%20jun.pdf) |

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| **Please indicate in which results areas the project is contributing to gender equality (you may select more than one results area, or select not applicable):** |
| Contributing to closing gender gaps in access to and control over resources: Yes |
| Improving the participation and decision-making of women in natural resource governance: Yes |
| Targeting socio-economic benefits and services for women: Yes |
| Not applicable: No |

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| **Atlas Gender Marker Rating** |
| **GEN1:** some contribution to gender equality |

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| **Please describe any experiences or linkages (direct or indirect) between project activities and gender-based violence (GBV). This information is for UNDP use only and will not be shared with GEF Secretariat.** |
| The Women's Energy School (eMujer) being developed and implemented by the Project helps to empower women in rural communities, giving them access to education and marketable skills that will allow them greater access to incomes and sustainable work. This helps to reduce their dependence on men, which is often associated with a greater prevalence of mistreatment. Globally, it has been shown that greater access to education and marketable skills helps to reduce the amount of gender-based violence, so we hope that with the growth and sustained implementation of eMujer, the positive impact that it will have on reducing gender-based violence will be continuously improving and measurable. |

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| **Please specify results achieved this reporting period that focus on increasing gender equality and the empowerment of women.**    **Please explain how the results reported addressed the different needs of men or women, changed norms, values, and power structures, and/or contributed to transforming or challenging gender inequalities and discrimination.** |
| Despite the Project not having a Gender Analysis and Action Plan, in order to Promote gender equality in the energy sector and increase the access of women to clean energy technologies, the Project conducted analyses of gender considerations in each of the four NAMAs and associated sub-sectors, and the recommendations and indicators were integrated in all four of the NAMA Designs. During the last year the Project has formally submitted the final detailed designs of the 4 Energy NAMAs, each of which includes the consideration of gender equality in the diagnostic, design and as part of the indicators in the Monitoring, Reporting and Verification systems.    The Project has also contracted a gender and energy specialist to focus on the development and implementation of the Women's Energy School (eMujer), which has the objective of promoting gender equality, and improved access of women to technical training, education and job opportunities in the energy sector. In the last year the Project initiated the Women's Energy School (eMujer), which was designed as part of the Universal Access to Sustainable Energy NAMA to promote empowerment and capacity building of rural women in Peru as promoters of sustainable energy technologies (Annex 40). The school has the following three objectives: 1) Promote the empowerment and insertion of rural women in society, based on the development of their skills and abilities in the energy sector, helping them to become promoters of clean energy technologies in their communities; 2) Promote the correct and efficient use and maintenance of clean technologies in the energy sector with technical training programs for women which helps to provide job opportunities and reverse the stereotypical gender roles and assumption that only men do technical work, and 3) Promote the employability of rural women and their entrepreneurship in the clean technologies market in the energy sector.    To date, the Project has developed two pilot courses focused on rural electrification (Puno) and clean cooking (Cusco), and is planning the implementation of other pilot programs in Cajamarca and Loreto and as well as follow-up courses in Puno and Cusco to complete the three modules (Introduction, Technical Capacity Building, and Business Development) in 2019. The Project is currently finalizing promotional materials, and proposals for the massification of the school at the national level.    The results from the initial pilot projects were very positive and promising regarding the potential of the model to replicate at the national scale. The level of interest and participation of the local women in the courses was better than expected and demonstrated the need, interest and benefits of this type of initiative. The goal for the Project is to ensure that eMujer is sustainable and continues to grow and be implemented after the Project is completed. The long-term concept of eMujer is that the structure and model can be replicated and expanded to other areas of sustainable development, such as transport, agriculture, sanitation, among others. |

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| **Please describe how work to advance gender equality and women's empowerment enhanced the project's environmental and/or resilience outcomes.** |
| With the empowerment of women in the energy sector in rural areas of Peru, local women that participate in the course will become promoters of clean energy technologies, not only incorporating them in their own houses to improve their personal living conditions and health, but also helping to support the long-term adoption and sustainability of these technologies in their communities, by promoting their use and offering maintenance and sales services. This has a multiplying effect on the environment and health impacts that the sustainable energy technologies offer, resulting in greater reduction of GHG emissions, local contaminants and related health impacts. It also helps to ensure that the most remote communities in Peru are able be less dependent on imported fossil fuels and more autonomous, utilizing locally available renewable energy resources such as solar energy for electricity instead of combustible fuels, and cleaner more efficient cooking solutions. |

# Social and Environmental Standards

**Social and Environmental Standards (Safeguards)**

The Project Manager and/or the project’s Safeguards Officer should complete this section of the PIR with support from the UNDP Country Office. The UNDP-GEF RTA should review to ensure it is complete and accurate.

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| **1) Have any new social and/or environmental risks been identified during project implementation?** |
| No |

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| **If any new social and/or environmental risks have been identified during project implementation please describe the new risk(s) and the response to it.** |
| *(not set or not applicable)* |

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| **2) Have any existing social and/or environmental risks been escalated during the reporting period? For example, when a low risk increased to moderate, or a moderate risk increased to high.** |
| No |

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| **If any existing social and/or environmental risks have been escalated during implementation please describe the change(s) and the response to it.** |
| Social and Environmental safeguard measure related to the EE NAMA is the correct disposal of appliances and equipment generated by the Labelling scheme. Project should facilitate the debate on enforcement of the right disposal of the replaced appliances and the analysis of possible impacts of this program in this subject. Peru is already strengthening the Extended Producer Responsibility (EPR) approach with the new GEF7 E-mobility project, hence the EE NAMA should analyze the needed regulatory and legal measures to guarantee that possible negative externalities are correctly addressed. |

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| **SESP:** [SESP Template NAMA Acceso Universal.docx](https://undpgefpims.org/attachments/4679/213487/1668570/1724825/SESP%20Template%20NAMA%20Acceso%20Universal.docx)  **Environmental and Social Management Plan/Framework:** *not available* |
| **For reference, please find below the project's safeguards screening (Social and Environmental Screening Procedure (SESP) or the old ESSP tool); management plans (if any); and its SESP categorization above. Please note that the SESP categorization might have been corrected during a centralized review.** |
| *(not set or not applicable)* |

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| **3) Have any required social and environmental assessments and/or management plans been prepared in the reporting period? For example, an updated Stakeholder Engagement Plan, Environmental and Social Impact Assessment (ESIA) or Indigenous Peoples Plan.** |
| No |

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| **If yes, please upload the document(s) above. If no, please explain when the required documents will be prepared.** |
| *(not set or not applicable)* |

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| **4) Has the project received complaints related to social and/or environmental impacts (actual or potential )?** |
| No |

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| **If yes, please describe the complaint(s) or grievance(s) in detail including the status, significance, who was involved and what action was taken.** |
| *(not set or not applicable)* |

# Communicating Impact

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| **Tell us the story of the project focusing on how the project has helped to improve people’s lives.**  **(This text will be used for UNDP corporate communications, the UNDP-GEF website, and/or other internal and external knowledge and learning efforts.)** |
| Three years have passed since the creation of the Project “Nationally Appropriate Mitigation Actions (NAMA) in the Energy Generation and Final Use Sectors in Peru”, which seeks to support the government of Peru in the development and implementation of Nationally Appropriate Mitigation Actions (NAMA) in the energy sector as part of Peru's commitment to reduce 30% of emissions of greenhouse gases by 2030 relative to business-as-usual. Although the Project has made significant advances towards the goals and indicators outlined in the Project Document, it is early to be able to determine the direct and indirect impacts of the Project.    In the initial stages of the Project, diagnostic studies were conducted for each sub-sector, including revision of the regulatory framework, key sector barriers, greenhouse gas emission abatement costs by mitigation measure, key indicators, areas with the greatest gap or need for improvement, opportunities for co-benefits, among others, which were used to develop, design and finalize the following four NAMAs:    NAMA 1: Energy Efficiency  NAMA 2: Grid-Connected Renewable Energy  NAMA 3: Universal Access to Sustainable Energy  NAMA 4: Electric Transport    The detailed designs for the four NAMAs were presented to the Project Steering Committee and key actors in the sector, both private and public, for their final inputs, and the final versions were formally submitted to the Environmental Ministry, the National Focal Point for UNFCCC, to be included in the updated NDC communication for Peru. These NAMA Designs have been used as examples to other NAMAs and sectors in Peru, helping to create replicable models and tools to further advance Peru’s NDC goals. The Project has also developed guideline documents for the energy sector inventories and MRV protocols, which have been sent to MINAM and incorporated into the national protocols.    The four Energy NAMAs are now in the implementation stage. While it is quite early to determine their impacts, the Project has developed Monitoring, Reporting and Verification (MRV) tools to manage data related to the four energy NAMAs, and to track the progress of the 12 associated mitigation measures. These tools are also designed to help guarantee the sustainability of the project and the implementation of the NAMAs through 2030. The Project is helping advance the enabling conditions and key activities identified in the Detailed Designs. This includes proposing various normative changes that are currently under revision or have been pre-published for public comments, and will help eliminate the identified barriers, close gaps, or help incentivize or promote sustainable energy transitions.    The Project is also developing or supporting various pilots related to electric transport, energy efficiency, renewable energy, clean cooking, rural electrification and heating solutions, with the intention to create examples that can be replicated and applied at the national scale, or used to justify regulatory changes. For example, one of the pilot projects is focused on designing innovative clean cooking stoves that function with dung in the high elevation remote areas of Peru where there is a scarcity of firewood, as well as provide water heating as a secondary benefit. These stoves are being certified to enable their inclusion in national clean cooking programs, being implemented by the Social Development and Compensation Fund Project (FONCODES).    To promote gender equality the Project is developing a Women's Energy School “eMujer”, which promotes improved living conditions of rural women in Peru by providing technical training on the proper use and maintenance of sustainable energy technologies for rural communities and greater access of women to markets and employment opportunities. The School includes an entrepreneurial training module, and thus transforming the role of rural women from energy users into agents of social change in their communities. The Project has already implemented two pilots using the proposed curriculum for clean cooking and rural electrification with solar energy, and had the participation of over 90 women in rural communities in Cusco and Puno. It is now planning the second phase of pilots in Cajamarca and Loreto.    To ensure the sustainability of the Project in the long term, the Project is currently developing guides, manuals, tools and platforms to ensure knowledge transfer and management of information and data related to the four Energy NAMAs. This will help ensure the implementation of the Energy NAMAs through 2030 by the competent entities. To achieve this, the last year of the Project will be dedicated to capacity building, training, diffusion, campaigns, workshops and the development of informational material, for both the public and private sector.    We envision that the Project “Nationally Appropriate Mitigation Actions (NAMA) in the Energy Generation and Final Use Sectors in Peru”, will be considered a very pioneering project that has helped lead the way towards achieving Peru’s NDC goals, with concrete results and innovative approaches, and useful tools that can be replicated in other sectors and countries. |

**Knowledge Management, Project Links and Social Media**

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| **Please describe knowledge activities / products as outlined in knowledge management approved at CEO Endorsement /Approval.**    **Please also include: project's website, project page on the UNDP website, blogs, photos stories (e.g. Exposure), Facebook, Twitter, Flickr, YouTube, as well as hyperlinks to any media coverage of the project, for example, stories written by an outside source. Please upload any supporting files, including photos, videos, stories, and other documents using the 'file lirbary' button in the top right of the PIR.** |
| Promotional and Communication Activities from June 2018 - June 2019    The Project is recognized on the website of the Ministry of Energy and Mines:  https://www.gob.pe/minem    On the website of General Direction of Energy Efficiency of the Ministry of Energy and Mines  http://eficienciaenergetica.minem.gob.pe/    And on the Interactive Energy Efficiency System webpage.  http://eficienciaenergetica.minem.gob.pe/SIEE    All videos are compiled on the YouTube channel of the project.  https://www.youtube.com/channel/UCcRzmdg4HLQpyWiE58CjTew    Video: Knowing the NAMA Project (1.48 min)  Produced and published on MINEM YouTube.  https://www.youtube.com/watch?v=kRqEoVfY14w    The following publications show various published articles related to the implementation of the NAMAs and evidence of their public diffusion:    NAMA 1: ENERGY EFFICIENCY  1. Energy Efficiency Labeling video  https://www.youtube.com/watch?v=B2hub-4gWP4  2. Clean and Efficient Technologies Fair, in Piura  On October 2018, MEM and UNDP organized the Fair of Clean and Efficient Technologies in Piura  More than 15 media (newspapers, websites and TV channels) diffuses de activity.  We highlight the following published notes:    Peru will host the international conference and solar exhibition  Peruvian news agency Andina, October, 2018  https://www.gob.pe/institucion/minem/noticias/20035-mem-y-pnud-organizaran-feria-de-tecnologias-limpias-y-eficientes-en-piura  https://andina.pe/agencia/galeria.aspx?GaleriaId=4872&FotoId=538481  Regional Government of Piura website, October, 2018  http://www.regionpiura.gob.pe/index.php?pag=17&id=16531  America Economía wesite, October 2018  https://www.americaeconomia.com/negocios-industrias/peru-sera-la-nueva-sede-de-la-conferencia-internacional-y-exhibicion-solar  Video of Fair of Clean and Efficient Technologies in Piura  Produced by MINEM (October, 2018)  https://www.youtube.com/watch?v=r5y2Q67TYvc    NAMA 2: RENEWABLE ENERGY IN INTERCONNECTED SYSTEMS:    1. INSTALLATION OF SOLAR PANELS  In October, the General Director of Energy Efficiency (DGEE) of the Ministry of Energy and Mines presented the installation of the solar panel to promote the use of renewable energy.  Two TV channels (TV Peru and Canal N) broadcasted the interview:  https://www.youtube.com/watch?v=3LCaQeS78j8  https://www.youtube.com/watch?v=xBX5b2NU3\_s    2. Consolidation of non-conventional renewable energies in Peru.  Article of the Director of the General Directorate of Energy Efficiency of the Ministry of Energy and Mines.  published in the Minem Blog, April, 2018  http://blog.minem.gob.pe/articulo/280519173305la-consolidacion-de-las-energias-renovables-no-convencionales-en-el-peru    NAMA 3: UNIVERSAL ACCESS TO SUSTAINABLE ENERGY  1. Presentation of the Energy School for Women “eMujer”  EM promotes Energy Schools for Women in rural communities of Cusco and Puno  Andina News Agency, March 2019  https://andina.pe/agencia/noticia-mem-promueve-escuelas-energeticas-para-mujeres-comunidades-rurales-cusco-y-puno-744098.aspx  Minem and NAMAs Proyect Websites  http://www.minem.gob.pe/\_detallenoticia.php?idSector=12&idTitular=8963  http://namasenergia.minem.gob.pe//es-pe/subpagina/namaaccesouniversal/noticia/mem-promueve-escuelas-energeticas-para-mujeres-en-comunidades-rurales-de-cusco-y-puno    2. TV Interview the NAMA GHG Specialist (Alfonso Cordova) talking about the benefits of clean cooking stoves in Peru, and the initial results of the NAMA Project's studies and pre-pilot project to promote new clean cooking stove technologies.  Broadcast on National TVPeru (June, 2018)  https://www.youtube.com/watch?v=xXfvVw6cDNU    NAMA 4: ELECTRIC TRANSPORT    1. Government will promote the entry of electric cars  Diario El Peruano and Andina News Agency, September 2018  https://elperuano.pe/noticia-gobierno-promovera-ingreso-autos-electricos-71164.aspx    2. Government works regulatory framework to promote the use of electric cars  Andina News Agency, September, 2018  https://andina.pe/agencia/noticia-gobierno-trabaja-marco-regulatorio-para-promover-uso-autos-electricos-725492.aspx    3. E-Motor 2018  On November 2018, MEM and PNUD organize eMotor, the first public fair for electric vehicles in Peru.  66 notes were published through mass media.  GOB.pe, November 2018  https://www.gob.pe/institucion/minem/noticias/22687-mem-y-pnud-organizan-e-motor-la-primera-feria-publica-de-vehiculos-electricos-en-el-peru  Energiminas Magazine, November 2018  https://www.energiminas.com/mem-y-pnud-organizan-el-e-motor-2018-la-feria-publica-de-vehiculos-electricos-en-el-peru/  Expreso (newspaper and website), November 2018  https://www.expreso.com.pe/economia/primera-feria-de-vehiculos-electricos-en-el-peru/  Peruvian news agency Andina, October, 2018  https://andina.pe/agencia/noticia-ministro-ismodes-inaugura-hoy-primera-feria-exhibicion-vehiculos-electricos-733646.aspx  MEM and PNUD organize E-Motor, the first public fair for electric vehicles in Peru  Broadcast on news TV channel “Canal N”  https://www.youtube.com/watch?v=xm36Wb9AOoU    4. In the framework of the E-Motor 2018 fair, MINEM, MINAM and other institutions sign agreement to develop a pilot project that will introduce electric bus in the Public Transportation System in Lima.  Minem website, October 2018  http://www.minem.gob.pe/\_detallenoticia.php?idSector=12&idTitular=8779  Launch of the first electric bus in circulation in the city of Lima  Minem YouTube, November 2018  https://www.youtube.com/watch?time\_continue=2&v=2wHVlzYf2d4    5. In June 2019, the General Director of Energy Efficiency (DGEE) of the Ministry of Energy and Mines and Taxi Directo presents the first electric taxi in Lima.  ATV news, June 2019  https://www.atv.pe/actualidad/informe-especial-autos-electricos-llegan-lima-383879    Promotional Activities through June 2018:    The Project has a website: http://namasenergia.minem.gob.pe/    Additionally, the Project is recognized on the website of the website of the Ministry of Energy and Mines: http://eficienciaenergetica.minem.gob.pe/    The following publications show various publicized articles related to the implementation of the NAMAs and evidence of their public diffusion:    Knowing the NAMA Project  https://www.youtube.com/watch?v=kRqEoVfY14w    TV Interview the NAMA GHG Specialist (Alfonso Cordova) talking about the benefits of clean cooking stoves in Peru, and the initial results of the NAMA Project's studies and pre-pilot project to promote new clean cooking stove technologies.  https://www.youtube.com/watch?v=xXfvVw6cDNU    TV Interview of a representative of DGEE (Claudia Espinoza) talking about the results of the diagnostic studies conducted by the project, and initiatives of the DGEE to promote Electric Transport in Peru  https://www.youtube.com/watch?v=DD9ifObQ1aQ    Promotion of Renewable Energy in February - June 2018:    1. MEM shows in Peru the advances of Peru in the field of renewable energies  http://mineriaenergia.com/minem-muestra-en-alemania-los-avances-del-peru-en-materia-de-energias-renovables/    2. Peru evaluates regulations to promote renewable energies  https://www.pv-magazine-latam.com/2018/06/29/peru-estudia-aprobar-regulaciones-para-fomentar-las-renovables/    3. MEM to redesign regulatory framework to promote greater generation with renewable energies  https://gestion.pe/economia/mem-redisenaria-marco-normativo-generar-energias-renovables-233837    4. MEM: Renewable energies are in a position to compete with conventional technologies  http://www.minem.gob.pe/\_detallenoticia.php?idSector=9&idTitular=8543    5. Renewable energies are in a position to compete with conventional technologies. Mining and Energy Magazine, Energiminas Magazine, ProActive Portal, Mining Horizon  http://mineriaenergia.com/energias-renovables-estan-en-condiciones-de-competir-con-tecnologias-convencionales-estima-viceministro-de-electricidad/  https://www.energiminas.com/minem-energias-renovables-estan-en-condiciones-de-competir-con-tecnologias-convencionales/  https://proactivo.com.pe/mem-energias-renovables-estan-en-condiciones-de-competir-con-tecnologias-convencionales/  http://www.horizonteminero.com/2018/06/28/mem-energias-renovables-ya-pueden-competir/    6. MEM prepares new renewable energy promotion scheme by the end of the year  https://gestion.pe/economia/mem-alista-nuevo-esquema-promocion-energias-renovables-ano-227895?href=tepuedeinteresar    Promotion of electric vehicles at the Efficiency Technology Fair - March 2018    1. Vice Minister of Energy, Raúl García Carpio, inaugurates the International Forum and Conference on Energy Efficiency organized by MEM. Twitter MEM  https://twitter.com/MemPeru/status/970674839940976642    2. MEM announces incentives for electric vehicles. TV Perú  https://www.facebook.com/noticias.tvperu/videos/1890622314294977/    3. Did you know that there are transport options that take care of the environment. FanPage MEM  https://www.facebook.com/MEMPeruOficial/videos/795261977341922/    4. Know the costs and performances of electric vehicles in Peru. Agencia Andina.  https://andina.pe/agencia/noticia-conoce-los-costos-y-rendimientos-los-vehiculos-100-electricos-el-peru-702273.aspx    5. From Monday electric vehicles in Lima. Publimetro.  https://publimetro.pe/actualidad/noticia-desde-este-lunes-vehiculos-electricos-y-solares-lima-71382    6. Ministry of Energy and Mines organizes fair of efficient technologies. La República  http://larepublica.pe/tecnologia/1203930-ministerio-de-energia-y-minas-organiza-feria-de-tecnologias-eficientes    7. MEM will exhibit first 100% electric car that will enter Peru. Gestión  https://gestion.pe/tecnologia/mem-exhibira-primer-auto-100-electrico-ingresara-peru-228538    8. They present electric vehicles in an international forum for energy efficiency. Diario Correo  https://diariocorreo.pe/economia/vehiculos-electricos-foro-internacional-eficiencia-energetica-805317/    9. Government will exhibit the first 100% electric vehicle that will arrive in Peru. Diario La República, El Gas, Gas y Energía.  http://larepublica.pe/economia/1205964-gobierno-exhibira-el-primer-vehiculo-100-electrico-que-llegara-al-peru  https://elgasnoticias.com/mem-exhibira-primer-vehiculo-100-electrico/  https://www.connuestroperu.com/economia/gas-y-energia/56232-mem-se-evalua-la-entrega-de-bonos-para-impulsar-la-adquisicion-de-vehiculos-electricos    10. Electric cars: Government prepares voucher to buy this type of vehicles: Canal N, América TV, Diario El Comercio, Diario El Peruano, Radio Nacional, Diario Extra, Diario El Men.  http://canaln.pe/actualidad/autos-electricos-gobierno-prepara-bono-comprar-este-tipo-vehiculos-n312976  http://www.americatv.com.pe/noticias/actualidad/autos-electricos-gobierno-prepara-bono-comprar-este-tipo-vehiculos-n312977  https://elcomercio.pe/lima/transporte/gobierno-evalua-otorgar-subsidio-compra-autos-electricos-noticia-502214  http://elperuano.pe/noticia-bonos-para-vehiculos-electricos-64483.aspx  http://www.radionacional.com.pe/informa/politica/gobierno-evalua-otorgar-bonos-para-adquirir-vehiculos-electricos  http://www.extra.pe/actualidad/bonazo-para-comprar-tu-auto/  http://elmen.pe/2018/03/06/gobierno-dara-bono-de-3-y-5-mil-dolares-para-tu-auto-electrico/    11. 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# Partnerships

**Partnerships & Stakeholder Engagment**

Please select yes or no whether the project is working with any of the following partners. Please also provide an update on stakeholder engagement. This information is used by the GEF and UNDP for reporting and is therefore very important!  All sections must be completed by the Project Manager and reviewed by the CO and RTA.

|  |
| --- |
| **Does the project work with any Civil Society Organisations and/or NGOs?** |
| Yes |

|  |
| --- |
| **Does the project work with any Indigenous Peoples?** |
| Yes |

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| --- |
| **Does the project work with the Private Sector?** |
| Yes |

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| --- |
| **Does the project work with the GEF Small Grants Programme?** |
| No |

|  |
| --- |
| **Does the project work with UN Volunteers?** |
| Yes |

|  |
| --- |
| **Did the project support South-South Cooperation and/or Triangular Cooperation efforts in the reporting year?** |
| No |

|  |
| --- |
| **CEO Endorsement Request:** [Peru 4679 NAMA CEO Endorsement Resubmission Feb 24.doc](https://undpgefpims.org/attachments/4679/213487/1708953/1668867/Peru%204679%20NAMA%20CEO%20Endorsement%20Resubmission%20Feb%2024.doc) |
| **Provide an update on progress, challenges and outcomes related to stakeholder engagement based on the description of the Stakeholder Engagement Plan as documented at CEO endorsement/approval (see document below). If any surveys have been conducted please upload all survey documents to the PIR file library.** |
| As part of the Stakeholder Engagement Process, the Project has continuously conducted multi-sectorial meetings, conferences, workshops, events, etc. with private and public sector entities, during the process of development, design and implementation of the NAMAs, with the objective of discussing and aligning on common national agendas, seeking inputs from the various perspectives of the sector, and developing alliances to improve the implementation. Examples include local representatives to support in the call for participants in the Women's Energy School, diffusion of information regarding the school, arrangements with local actors for all of the logistical requirements, translators, daycare, etc. In the case of more centralized and politically focussed activities, consultants were contracted to specifically focus on stakeholder engagement with key actors in the sector to conduct interviews, surveys, studies, workshops, etc. Therefore, the Project has continuously been involved in the Stakeholder Engagement Process, in a punctual and strategic manner, directly linked to the annual work plans and enabling conditions defined in the NAMA design documents. |

# Annex - Ratings Definitions

**Development Objective Progress Ratings Definitions**

(HS) Highly Satisfactory: Project is on track to exceed its end-of-project targets, and is likely to achieve transformational change by project closure. The project can be presented as 'outstanding practice'.

(S) Satisfactory: Project is on track to fully achieve its end-of-project targets by project closure. The project can be presented as 'good practice'.

(MS) Moderately Satisfactory: Project is on track to achieve its end-of-project targets by project closure with minor shortcomings only.

(MU) Moderately Unsatisfactory: Project is off track and is expected to partially achieve its end-of-project targets by project closure with significant shortcomings. Project results might be fully achieved by project closure if adaptive management is undertaken immediately.

(U) Unsatisfactory: Project is off track and is not expected to achieve its end-of-project targets by project closure. Project results might be partially achieved by project closure if major adaptive management is undertaken immediately.

(HU) Highly Unsatisfactory: Project is off track and is not expected to achieve its end-of-project targets without major restructuring.

**Implementation Progress Ratings Definitions**

(HS) Highly Satisfactory: Implementation is exceeding expectations. Cumulative financial delivery, timing of key implementation milestones, and risk management are fully on track. The project is managed extremely efficiently and effectively. The implementation of the project can be presented as 'outstanding practice'.

(S) Satisfactory: Implementation is proceeding as planned. Cumulative financial delivery, timing of key implementation milestones, and risk management are on track. The project is managed efficiently and effectively. The implementation of the project can be presented as 'good practice'.

(MS) Moderately Satisfactory: Implementation is proceeding as planned with minor deviations. Cumulative financial delivery and management of risks are mostly on track, with minor delays. The project is managed well.

(MU) Moderately Unsatisfactory: Implementation is not proceeding as planned and faces significant implementation issues. Implementation progress could be improved if adaptive management is undertaken immediately. Cumulative financial delivery, timing of key implementation milestones, and/or management of critical risks are significantly off track. The project is not fully or well supported.

(U) Unsatisfactory: Implementation is not proceeding as planned and faces major implementation issues and restructuring may be necessary. Cumulative financial delivery, timing of key implementation milestones, and/or management of critical risks are off track with major issues and/or concerns. The project is not fully or well supported.

(HU) Highly Unsatisfactory: Implementation is seriously under performing and major restructuring is required. Cumulative financial delivery, timing of key implementation milestones (e.g. start of activities), and management of critical risks are severely off track with severe issues and/or concerns. The project is not effectively or efficiently supported.