


VALIDATION ASSESSMENT REPORT

Electrification of Vanuatu's Inhabited Islands through Solar Power ITMO Programme



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Mitigation Activity Name	Electrification of Vanuatu's Inhabited Islands through Solar Power ITMO Programme
Client	United Nations Development Programme (UNDP)
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Estimated Emission Reduction	34,811 tCO _{2e} over the crediting period
Crediting period	01-September-2022 to 31-December-2030

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SECTION A. Executive summary

AENOR has carried out the validation of the Mitigation Activity (MA) programme *Electrification of Vanuatu's Inhabited Islands through Solar Power ITMO Programme* under the Article 6.2 of the Paris Agreement (PA) for Internationally Transferred Mitigation Outcomes (ITMO). The programme supports Vanuatu to roll out decentralized solar power installations that can supply reliable, scalable, and low-cost electricity across all of Vanuatu's inhabited islands (sectoral scope 1: Energy industries (renewable - / non-renewable sources)). The MA aims to achieve direct total GHG emissions reductions of 34,811 tCO₂e over 8.33 years by enabling private sector led roll out of standalone solar systems such as home systems and productive use systems that can supply reliable, low-cost solar powered electricity to rural communities across Vanuatu. The programme expects to supply solar powered electricity to the rural population of Vanuatu. As of 2019, over 11,000 rural household have no access to electricity and modern energy systems.

The programme start date is 1 September 2022. The crediting period is from 1 September 2022 to 31 December 2030, 8 years and 4 months (8.33 years). The estimated ex-ante net GHG emissions reductions at validation for the 8.33-year programme span is 34,811 tCO₂e, at an average of 4,179 tCO₂e/year.

The purpose of the validation was to determine the conformance of the MA programme with respect to the principles and criteria set by Article 6.2 of the Paris Agreement, the Implementing agreement to the Paris agreement between the Swiss Confederation and the Republic of Vanuatu, Vanuatu's Nationally Determined Contribution (NDC) /9/, and the GHG calculation methodology (CDM AMS-I.L *Electrification of rural communities using renewable energy* v03.0) /8/. The process was performed through a combination of desk review and communications with relevant personnel. The scope was defined as follows: programme boundaries and activities; its baseline scenario and additionality; ex-ante estimation of GHG emission reductions, monitoring plan, and sustainable development contributions.

During the validation, 7 corrective action requests (CARs) and 12 clarification requests (CLs) were raised. All these issues were closed through corrections, clearer explanations and provision of additional supporting evidence.

Once all issued detected were resolved, AENOR carried out this final validation report with an objective opinion of the level to which the MA programme meets all the validation criteria.

The program is still being designed and some matters have not been closed such as the identification of investors. As a result of this environment some assumptions were considered by the PP. AENOR assessed as positive because they are defined to achieve the final goals of the program, but it was not able to confirm some of them such as the number of consumers of each defined category or the technical data of the equipment to be installed. Therefore, once all these matters are determined, they must be confirmed and determinate if they require a reassessment.

Hence, with the information available, the audit team concludes that the programme complies with all the principles set by Article 6.2 of the Paris Agreement. The cumulative estimated ex-ante net GHG emissions reductions or removals of 34,811 tCO₂e over the crediting period (01-September-2022 to 31-December-2030) and the average of 4,179 tCO₂e/year have been quantified in accordance with the CDM methodology AMS-I.L *Electrification of rural communities using renewable energy* v03.0, and, based on the assumptions used by the MA programme proponent (PP), are accurate and free of material error.

SECTION B. Validation method and criteria

B.1. Scope and criteria of the validation

The purpose of the validation audit activity was to conduct an independent assessment of the MA programme in order to determine whether the programme complies with the validation criteria as set out in the guidance documents listed below, including the monitoring procedures, and that the GHG emission reductions estimated ex-ante in the Mitigation Activity Design Document (MADD) are materially accurate for the approaches applied.

The scope of the validation audit was to validate the design and emissions reductions of the proposed MA in Vanuatu against the principles of Article 6.2 of the PA, the identified methodology and associated tools.

The scope was defined as follows:

- Programme activities.
- Programme boundaries.
- Additionality.
- Baseline scenario.
- Ex-ante estimation of GHG emission reductions.
- Double counting.
- Monitoring plan.
- Sustainable development contributions.

The validation was performed against the criteria set by the following documents:

- Article 6.2 of the Paris Agreement.
- Implementing agreement to the Paris agreement between the Swiss Confederation and the Republic of Vanuatu. /7/
- Vanuatu's enhanced Nationally Determined Contributions (NDC) 2020-2030, November 2020. /10/
- CDM AMS-I.L Small-scale Methodology: Electrification of rural communities using renewable energy, Version 03.0. /8/

B.2. Validation process

The validation was performed through a combination of document review and interviews with relevant personnel. At all times, the programme was assessed for conformance to the criteria described in section B.1 of this report. Findings were issued to ensure that the programme was in full conformance to all requirements.

A detailed review of all programme documentation was conducted to ensure consistency with and identify any deviation from the validation criteria, including the methodology (CDM AMS-I.L v03.0). For a list of all documents received from the client and assessed for this validation, see Appendix 1.

AENOR carried out a deep and meticulous review of the MADD /1/ and spreadsheet /2/ in order to verify the correct application of the methodology (formulae, equations) and checked that data required calculating the GHG reductions were appropriately provided in the MADD and/or spreadsheet. Based on the assessment carried out, AENOR confirms with a reasonable level of assurance that the claimed ex-ante emission reductions are free from material errors, omissions, or misstatements for the approaches considered.

AENOR confirms that due to the initial stage in the design of the programme, the data used to the ex-ante estimated net anthropogenic GHG emission reductions have been obtained from estimation of the PP based on his experience and knowhow in previous similar projects, such as the pilot project in the Lelepa island, and the evidence presented for the ex-ante estimated net anthropogenic GHG emission reductions have not been obtained from reliable sources, although the audit team has been able to crosscheck that the information provided is consistent and conservative against other public and reliable sources. Therefore, there is a clear audit trail that contains the evidence and records that validate the stated figure in this validation report since:

- Sufficient evidence available: the PP has provided 100% of data used in the calculations to achieve the final estimated amount of GHG emission reductions.
- Nature of evidence: the raw data were collected from sources provided by the PP. They are detailed in the programme documents and have been provided to the validation team and were checked during the interviews.
- Cross-checked evidence: AENOR cross-checked the collected information through interviews reproducing calculations and against other public and reliable sources available.

Hence, AENOR confirms that the stated figures in the MADD are correct and confirms that is able to certify the ex-ante net anthropogenic GHG reductions based on the assumptions considered by the project proponent.

Several validation findings were raised in the form of CLs, CARs and OBS and submitted to the PP, which addressed them either by providing to the audit team with the requested information or by making the appropriate corrections or clarifications. Updated versions of the documentation were submitted by the PP and the audit team reassessed them against the validation criteria. This process was repeated iteratively until all findings were fully closed. Specifically, 7 CARs, 12 CLs and 1 OBS were raised. All findings issued during the validation process and the inputs for their closure are described in Appendix 2 of this report.

Due to the early stage in the design of the programme, a forward action request (FAR) has been raised during the validation process that will be verified once the programme is implemented.

B.3. Internal quality control

Following the completion of the assessment process by the validation team, all documentation underwent an internal quality control through a technical review before submission to the client. The technical reviewer is a qualified member of AENOR, independent from the team that carried out the validation of the MA programme. The technical reviewer appointed for the technical review is qualified in the technical area and sectoral scope of the MA.

B.4. Validation team members

Role	Last name	First name	Desk/document review	Interviews	Validation findings
Lead Auditor	Arribas Alonso	Luis Javier	X	X	X
Auditor	Arroyo Bovea	Marina	X	X	X

B.5. Technical reviewer and approver of the validation and certification report

No.	Role	Last name	First name
1.	Technical reviewer & Approver	Fuentes	Jose Luis

B.6. Interviews

No.	Interviewee		
	Last name	First name	Affiliation
1	Soezer	Alexandra	Carbon Technical Advisor, UNDP
2	Fernández	Luz	Project Coordinator, UNDP
3	Garae	Antony	Ministry climate change Vanuatu. Energy Department.

4	Iercet	Ian	Ministry climate change Vanuatu. Energy Department.
5	de Coulon	Guy	Powerblox business development
6	Parzefall	Markus	Powerblox project manager, monitoring, data
7	Müller	Benjamin	Powerblox business modeling

SECTION C. Validation findings

C.1. Mitigation activity details

The MA “ *Electrification of Vanuatu’s Inhabited Islands through Solar Power ITMO Programme*” is a decentralized solar power installations programme (sectoral scope 1). The ITMO programme will provide to supply solar powered electricity to the rural population of Vanuatu through the installation of standalone solar systems such as home systems and productive use systems that can supply reliable, low-cost solar powered electricity to rural communities across Vanuatu. This will lead to achieve direct total GHG emissions reductions of 34,811 tCO₂e over 8.33 years. The programme expects to lead to the installation of solar systems on over 11,000 rural that had no access to electricity and modern energy systems in 2019.

The MA proponent is the United Nations Development Programme (UNDP) and the Department of Energy, Ministry of Climate Change. The owner of the mitigation activity is the Vanuatu Ministry of Climate Change, Department of Energy. The Department of Energy (DoE) is responsible for the coordination of programme in Vanuatu and for ITMO reporting to Department of Climate Change and the United Nations Framework Convention on Climate Change (UNFCCC). UNDP will oversee the day-to-day management and communicate matters relating to the development and operation of the ITMO programme. DoE will facilitate implementation through coordination and enabling environment and the execution of MRV practices.

It is expected that the programme start date is 1 September 2022. The crediting period is from 1 September 2022 to 31 December 2030, 8 years and 4 months (8.33 years). The estimated ex-ante net GHG emissions reductions at validation for the 8.33-year programme span are 34,811 tCO₂e, at an average of 4,179 tCO₂e/yr.

C.2. Compliance of the mitigation activity with the methodology

The programme uses the CDM small-scale methodology AMS-I.L Electrification of rural communities using renewable energy v03.0. The following table summarizes the applicability conditions of the methodology and the compliance assessment carried out by the audit team:

Applicability condition		Assessment
1	electrification of a community achieved through the installation of renewable electricity generation systems that displace fossil fuel use	The ITMO programme will supply electricity to Vanuatu’s inhabited islands through the installation of solar power systems that displace fossil fuel use.
2	Implementation of individual, renewable energy systems	Implementation of individual installations or modular and scalable renewable greenfield energy systems (solar systems) .
3	Installation or extension of an isolated mini-grid which distributes electricity generated only from renewable energy systems	The programme does not consider this option , and the emission reductions are calculated using the equations of the previous option, individual renewable generation systems.

Applicability condition		Assessment
4	Greenfield individual, renewable energy system projects or mini-grid activities	Installation of new solar power systems that displace baseline fossil fuel systems
5	Rehabilitation (or refurbishment) of individual, renewable energy systems	The programme does not consider this option
6	consumers that were not connected to a national/regional grid prior to project implementation are supplied with electricity from the project activity	Many communities and islands in Vanuatu don't have access to energy. Apart from three isolated grids, no other islands have formalized energy distribution systems. According to the information available in 2019, over 11,000 rural household have no access to electricity and modern energy systems.
7	a fraction of consumers that are supplied with electricity from a fossil fuel based mini-grid prior to the implementation of the project are now supplied with electricity from the project activity	Port Vila, Vanuatu's capital and largest city, is electrified through a central grid system, powered mainly by diesel and a small portion of wind power. There are two other islands in Vanuatu that each have a hydro-powered mini-grid.
8	At least 75 per cent (by number) of the consumers connected to the project renewable electricity generation system(s) shall be households	Many communities and islands in Vanuatu don't have access to energy. Apart from three isolated grids, no other islands have formalized energy distribution systems. According to the information available in 2019, over 11,000 rural household have no access to electricity and modern energy systems.
9	Project equipment shall comply with applicable international standard or comparable national, regional or local standards/guidelines	The programme will accept solar energy technologies that have been successfully applied in Vanuatu or other countries with similar climatic conditions
10	renewable electricity generation systems intended for permanent installation and is not applicable to portable systems	It is assumed that the programme does not considers portable systems. In other case, the new approaches should be reassessed.
11	The aggregate installed capacity of the renewable energy generating systems shall not exceed 15 MW	It is assumed that the aggregate installed capacity of the renewable energy generating systems considered by the programme shall not exceed 15 MW. In other case, the new approaches should be reassessed.
12	For projects involving the installation of hydro power plants with reservoirs the requirements prescribed under "AMS-I.D.: Grid connected renewable electricity generation" shall be followed	It is assumed that the programme does not considers hydro power plants with reservoirs. In other case, the new approaches should be reassessed.

AENOR, based on records provided, verified the applicability conditions of the methodology. The audit team deems that the PP has selected the most appropriate existing methodology.

The programme boundary, as per the methodology, encompasses the project renewable electricity generation systems and the physical sites of the consumers served by the project activity. The programme will be implemented in the rural population of Vanuatu where is estimated over 11,000 rural household have no access to electricity and modern energy systems. AENOR deems that the programme boundary is correctly defined and in compliance with the applicable methodology.

C.3. Baseline scenario

As per the methodology, the PP has considered as the baseline the continuation of the current practice, i.e. in the absence of the project activity, the end users would have had continued suppressed demand of energy or used fossil fuel based lighting and stand-alone fossil fuel based (Petrol/diesel) electricity generators for appliances other than lighting.

Based on the evidence provided, the audit team considers that this is the most common practice in Vanuatu currently and, thus, the baseline scenario identified complies with CDM methodology AMS-I.L v03.0.

C.4. Additionality

According to the PP, the ITMO programme is not included in the conditional or in the unconditional NDC of Vanuatu. Therefore, it is not part of the NDC baseline and, thus, the ITMO programme is additional to Vanuatu's NDC. Reducing GHG emissions from the installation of renewable electricity generation systems that displace fossil fuel use, such as in fuel-based lighting systems or stand-alone power generators is only possible through the cooperative approaches under Article 6.2 of the Paris Agreement.

According to the "Eligible Sectors and Sub-sectors Aligned to Conditional NDC" /6/, the Government of Vanuatu (GoV) confirmed that the "Electrification of Vanuatu's Inhabited Islands through Solar Power ITMO Programme" is eligible for ITMOs generation /4/.

Thus, AENOR deems that the additionality of the programme is appropriately justified and in accordance with the validation criteria.

C.5. Quantification of GHG emission reductions and removals

Procedures for quantifying the GHG emission reductions generated by the programme during the crediting period were conducted in accordance with the CDM methodology AMS-I.L v03.0. The validation team performed an intensive review of all input data, parameters, formulas, calculations, conversions, statistics and resulting output data to ensure consistency with the validation criteria.

Furthermore, the validation team reproduced 100% of the calculations to ensure accuracy of the results. Conversion factors, formulas, and calculations were provided by the PP in spreadsheet format to ensure all formulas were accessible for review.

The PP estimated the ex-ante emission reductions using approaches considered in section 5.2.1. of the methodology for "Greenfield and/or rehabilitation of individual renewable generation systems".

Baseline emissions

The baseline emissions for the entire programme are calculated considering for each tranche of annual amount of renewable electricity consumed per consumer during the crediting period as:

$$BE_y = BE_{55,y} + BE_{250,y} + BE_{250 plus,y}$$

Where:

$$BE_y = \text{Baseline emissions in year } y \text{ (t CO}_2\text{)}$$

$BE_{55,y}$ = Aggregate baseline emissions for consumers that consumed equal to or less than 55 kWh of renewable electricity from project renewable electricity systems in year y (t CO₂)

$BE_{250,y}$ = Aggregate baseline emissions for consumers that consumed more than 55 kWh but equal to or less than 250 kWh of renewable electricity from project renewable electricity systems in year y (t CO₂)

$BE_{250 plus,y}$ = Aggregate baseline emissions for consumers that consumed more than 250 kWh of renewable electricity from project renewable electricity systems in year y (t CO₂)

For consumers that consumed equal to or less than 55 kWh, baseline emissions are calculated as:

$$BE_{55,y} = \sum_x^N EG_{x,y} \times EF_{CO_2,55}$$

Where:

$EG_{x,y}$ = Electricity delivered by project renewable electricity generation system to consumer x, where the electricity delivered to that facility is equal to or less than 55 kWh in year y (MWh)

$EF_{CO_2,55}$ = 6.8 (t CO₂/MWh)

x = Consumer supplied with renewable electricity from operating project renewable electricity generation systems consuming equal to or less than 55 kWh in year y

N = Number of consumers in the project activity consuming equal to or less than 55 kWh/year

For consumers that consumed more than 55 kWh but equal to or less than 250 kWh, baseline emissions are calculated as:

$$BE_{250,y} = \sum_z^M ((EG_{z,y} - 0.055) \times EF_{CO_2,250} + C)$$

Where:

$EG_{z,y}$ = Electricity delivered by project renewable electricity generation system to consumer z in year y, where the electricity delivered to the facility is more than 55 kWh but equal to or less than 250 kWh in year y (MWh)

$EF_{CO_2,250}$ = 1.3 (t CO₂/MWh)

Z = Consumer supplied with renewable electricity from operating project renewable electricity generation systems consuming more than 55 kWh but equal to or less than 250 kWh in year y

C = 0.374 (t CO₂), a constant calculated as (0.055 MWh x 6.8 t CO₂/MWh)

M = Number of facilities in the project activity consuming more than 55 kWh but equal to or less than 250 kWh/year

For facilities that consumed more than 250 kWh baseline emissions are calculated as:

$$BE_{250 plus,y} = \sum_w^P ((EG_{w,y} - 0.250) \times EF_{CO_2,250 plus} + D)$$

Where:

$EG_{w,y}$ = Electricity delivered by project renewable electricity generation system to consumer w in year y such that the electricity delivered to the facility is more than 250 kWh in year y (MWh)

$$EF_{CO2,250\ plus} = 1.0 \text{ (t CO}_2\text{/MWh)}$$

w = Consumer supplied with renewable electricity from operating project renewable electricity generation systems consuming more than 250 kWh in year y

D = 0.6275 (t CO₂), a constant calculated as (0.055 MWh x 6.8 t CO₂/MWh + 0.195 MWh x 1.3 t CO₂/MWh)

P = Number of consumers in the project activity consuming more than 250 kWh/year

The following table summarizes the parameters and assumptions used by the PP for the estimation of the baseline emissions and the assessment of the audit team:

Parameter	Value	Type	Source of validated value
$EG_{x,y}$	55 kWh/year	Monitored value	Estimated by the PP considering the maximum consumption of this category
$EF_{CO2,55}$	6.8 t CO ₂ /MWh	Default value	Methodology AMS.I.L v03.0
N	6,600	Monitored value	Estimated by the PP
$EG_{z,y}$	212.12 kWh/year	Monitored value	Estimated by the PP
$EF_{CO2,250}$	1.3 t CO ₂ /MWh	Default value	Methodology AMS.I.L v03.0
C	0.374 t CO ₂	Default value	Methodology AMS.I.L v03.0; calculated as (0.055 MWh x 6.8 t CO ₂ /MWh)
M	3,300	Monitored value	Estimated by the PP
$EG_{w,y}$	727.27 kWh/year	Monitored value	Estimated by the PP
$EF_{CO2,250,plus}$	1.0 t CO ₂ /MWh	Default value	Methodology AMS.I.L v03.0
D	0.6275 t CO ₂	Default value	Methodology AMS.I.L v03.0; calculated as (0.055 MWh x 6.8 t CO ₂ /MWh + 0.195 MWh x 1.3 t CO ₂ /MWh)
P	1,100	Monitored value	Estimated by the PP

Project emissions

According to the AMS.I.L v03.0, the project emissions of the programme are considered zero because the technologies applied are solar energy systems, and the methodology only considers project emissions in the case of geothermal power plants and hydro power plants.

Leakage emissions

As per methodology AMS-I.L v03.0, if the energy generating equipment is transferred from another activity leakage is to be considered.

In the case of the programme, it is assumed that all installations are new, therefore, leakage can be considered negligible.

Emission reduction

The estimated ex-ante net GHG emission reduction to be achieved by the programme during the crediting period was estimated using the following equation:

$$ER_y = BE_y - PE_y$$

Where:

ER_y = Emission reductions in year y (tCO_{2e}).

BE_y = Baseline emissions in year y (tCO_{2e}).

PE_y = Project emissions in year y (tCO_{2e}).

The result achieved by the PP are summarized in the following table:

Year	Estimated baseline emissions (tCO _{2e})	Estimated project emissions (tCO _{2e})	Estimated net GHG emission reductions (tCO _{2e})
2022	1,379	0	1,379
2023	4,179	0	4,179
2024	4,179	0	4,179
2025	4,179	0	4,179
2026	4,179	0	4,179
2027	4,179	0	4,179
2028	4,179	0	4,179
2029	4,179	0	4,179
2030	4,179	0	4,179
Total	34,811	0	34,811

AENOR reproduced calculations in the spreadsheets /3/ to achieve the same results and deems they are depicted clearly and correctly in the provided sheets. Formulae used are in compliance with the methodology.

Based on the information reviewed, it can also be confirmed that the sources used are obtained from the methodology applied or from estimations of the PP which shall be verified after the implementation of the programme to assess that the estimations are consistent with the monitored values. All assumptions and data indicated in the MADD and all relevant sources were checked and are listed in this validation report.

In essence, the methodology was correctly applied following the requirements. All values in the MADD are considered reasonable in the context of the proposed ITMO programme. Hence, the calculation of baseline and project emission and the estimated net GHG emission reductions are considered correct.

C.6. Double counting

According to the PP, double counting is avoided through an ITMO registry system established by the Government of Vanuatu in order to track the ITMOs issued/transferred/cancelled from each ITMO activity and established protocols for corresponding adjustment in the national inventory system.

Specifically, the requirements of the “Implementing Agreement to the Paris Agreement between the Swiss Confederation and the Republic of Vanuatu” /7/ include provisions to prevent the registration of MA under more than one national or international carbon crediting scheme, whether voluntary or otherwise, to avoid double counting. In addition, MA shall demonstrate at verification that there is no double counting nor double claiming.

AENOR did not find any evidence of potential double counting during the validation.

C.7. Monitoring plan

The audit team checked all parameters presented in the monitoring plan within the MADD against the requirements of the methodology AMS-I.L *Small-scale Methodology: Electrification of rural communities using renewable energy*, v03.0 (section 6.1) and found that they are appropriate.

The parameters fixed at validation are:

Parameter	Value	Source of validated value
$EF_{CO_2,55}$	6.8 t CO ₂ /MWh	Methodology AMS.I.L v03.0
$EF_{CO_2,250}$	1.3 t CO ₂ /MWh	Methodology AMS.I.L v03.0
C	0.374 t CO ₂	Methodology AMS.I.L v03.0; calculated as (0.055 MWh x 6.8 t CO ₂ /MWh)
$EF_{CO_2,250,plus}$	1.0 t CO ₂ /MWh	Methodology AMS.I.L v03.0
D	0.6275 t CO ₂	Methodology AMS.I.L v03.0; calculated as (0.055 MWh x 6.8 t CO ₂ /MWh + 0.195 MWh x 1.3 t CO ₂ /MWh)

The list of parameters to be monitored is the following:

- $EG_{x,y}$; Electricity delivered by project renewable electricity generation system to consumer "x", where the electricity delivered to that facility is equal to or less than 55 kWh in year y (MWh).
- **N**; Number of consumers in the project activity consuming equal to or less than 55 kWh/year
- $EG_{z,y}$; Electricity delivered by project renewable electricity generation system to consumer "z" in year y, where the electricity delivered to the facility is more than 55 kWh but equal to or less than 250 kWh in year y (MWh)
- **M**; Number of facilities in the project activity consuming more than 55 kWh but equal to or less than 250 kWh/year
- $EG_{w,y}$; Electricity delivered by project renewable electricity generation system to consumer "w" in year y such that the electricity delivered to the facility is more than 250 kWh in year y (MWh)
- **P**; Number of consumers in the project activity consuming more than 250 kWh/year

In opinion of AENOR, all necessary parameters required by the selected methodology are contained in the monitoring plan. The means of monitoring described in the plan comply with the requirements of the methodology.

In essence the monitoring plan presented in the MADD under the section *Monitoring & Reporting* comply with the requirement of the methodology. The audit team deems that the ITMO associated with the implementation of programme are planned to be monitored through a transparent structure.

After the review of evidence provided by the PP the interview, and communications with PP, AENOR confirms that monitoring arrangements described in the monitoring plan are feasible within the programme design and that the means considered for the implementation, including data management, quality and assurance control procedures, are sufficient to ensure that the GHG net anthropogenic reductions achieved resulting from the proposed MA can be reported ex post and verified. Therefore, in opinion AENOR, the PP will be able to implement the monitoring plan.

C.8. Sustainable development

Section 5 of the MADD describes the expected impact of the programme in promoting sustainable development. Specifically, the programme is expected to contribute to 9 UN's Sustainable Development Goals (SDGs):

- SDG1 No poverty
- SDG2 Zero hunger
- SDG 3 Good health and well-being
- SDG4 Quality education

- SDG7 Affordable and clean energy
- SDG8 Decent work and economic growth
- SDG9 Industry, innovation, and infrastructure
- SDG13 Climate action
- SDG17 Partnership for the goals

The programme will undergo a UNDP's SDG Impact Assessment through the Climate Action Impact Tool (CAIT).

The audit team traced the identification of the programme impacts on sustainable development through the causal relations described by the PP and assessed their rationale based on the defined conditions prior to the programme start (sustainable development baseline), on the nature of the programme activities and their goals, on the own experience of the auditor. AENOR is able to confirm that the impacts have been comprehensible identified and that the expected contribution to SDG is appropriately attributed.

SECTION D. Validation conclusions

AENOR has validated that the Mitigation Activity Programme "Electrification of Vanuatu's Inhabited Islands through Solar Power ITMO Programme" is in compliance with the principles of the Article 6.2 of the Paris Agreement.

AENOR has performed the validation of this programme in Vanuatu on the basis of the validation criteria set by Article 6.2 of the Paris Agreement, the Cooperation Agreement between the Swiss Confederation and the Republic of Vanuatu towards the implementation of the Paris Agreement, Vanuatu's NDC, and the GHG calculation methodology. The conclusions of this report showed that the programme, as it was described in the Mitigation Activity Design Document, is in line with all criteria applicable for the validation.

The validation consisted of the following three phases: i) a desk review of the programme design; ii) follow-up interviews with programme staff; iii) the resolution of outstanding issues and the issuance of the final Validation Report and opinion. During the validation process, corrective actions and clarifications were raised. All have been successfully closed as explained in the validation protocol annexed to this report (Appendix 2).

The CDM AMS-I.L *Small-scale Methodology: Electrification of rural communities using renewable energy*, Version 03.0 was applied to determine the GHG net anthropogenic reductions. The GHG net anthropogenic reductions attributable to the programme are additional to any that would occur in the absence of the mitigation activity.

The review of the Mitigation Activity Design Document and additional documents related to baseline and monitoring methodology, and the subsequent background investigation, follow-up interviews and review of comments by parties have provided AENOR evidence to validate the stated criteria.

In detail, the conclusions can be summarized as follows:

- The programme is in line with validation criteria.
- The programme additionality is sufficiently justified.
- The monitoring plan is transparent and adequate.
- The analysis of the baseline emission, project emissions and leakage has been carried out in accordance with the options and approaches of the applied methodology.
- The programme start date is 01-September-2022 and will have a crediting period of 8 years and 4 months, until 31-December-2030. During this period, the reduction of 34,811 tCO_{2e} is expected through the implementation of programme activities, accounting for an annual average of 4,179 tCO_{2e}/year.
- The programme has demonstrated that all claims related to its expected contribution to the SDGs are credible and achievable.

AENOR confirms with a reasonable level of certainty that the Mitigation Activity Design Document and the claimed emission reductions are free from material errors, omissions, or inaccuracies.

Madrid, 29 June 2022.



Luis Javier Arribas Alonso
Lead auditor

Approved by



Jose Luis Fuente
Climate Change Unit Manager

Appendix 1. Documents reviewed or referenced

No.	Title	Date of reception/ retrieval
1	MADD version 8, dated 9 th May 2022	01/07/2022
2	Mitigation Potential Calculator-RE-Offgrid_PlusIndividuals_30June2022	01/07/2022
3	Renewable Energy Sourcing Investment Agreement Between Republic of Vanuatu and Company version 4.0. dated on 18/01/2022	10/05/2022
4	Email from the Vanuatu Government confirming that the programme does not require the application of an EIA and the eligibility of the programme as ITMO project.	06/05/2022
5	Vanuatu business Model	22/04/2022
6	Vanuatu ITMOs Guidance Manual-V1.1-draft -Clean dated in September 2021	---
7	Implementing Agreement to the Paris Agreement between the Swiss Confederation and the Republic of Vanuatu	---
8	CDM approved small-scale methodology "AMS I.L.: Electrification of rural communities using renewable energy , Version 03.0 dated on 28 November 2014	---
9	Vanuatu's First Nationally Determined Contribution (NDC) (Updated Submission 2020)	---
10	VANUATU'S ENHANCED NATIONALLY DETERMINED CONTRIBUTIONS (NDC) 2020-2030 Enhancing and Fast-tracking Implementation of Vanuatu's Nationally Determined Contribution (NDC) November 2020	---

Appendix 2. Findings

Corrective Action Requests (CARs)

CAR ID	01	Date: 04/04/2022
Description of CAR		
The figure of Total number of ITMOs for transfer reported in the front page of the MADD does not match with the figure reported in the rest of the document and the spreadsheet “ <i>ITMOS Calculation-Vanuatu-Rural-Electrification-V4</i> ”.		
Project Proponent response		Date: 20/04/2022
The total figure has been rounded up as maximum possible ITMO purchasing volume from this ITMO programme under the financing agreement between Switzerland and UNDP.		
Documentation provided by the Project Proponent		
MADD version 7		
VVB Assessment		Date: 28/04/2022
The updated MADD version 7 identifies a total number of ITMOs for authorization up to 400,000 tCO ₂ e over 9 years instead of the estimated in the spreadsheet “Annex 6 GHG mitigation_VAN NAMA 20200831- enhanced” (125,367 tCO ₂ e over a 15 years’ period).		
Please, provide evidence of the value of the total maximum possible ITMO purchasing volume (400,000 tCO₂e over 9 years) and clarify the reason because it is very higher than the value estimated in the spreadsheet for a longer period.		
Project Proponent response		Date: 07/05/2022
The total number of ITMOs for authorization has been aligned with the GHG ER calculation sheet.		
Documentation provided by the Project Proponent		
MADD version 8		
VVB Assessment		Date: 01/07/2022
The figure of Total number of ITMOs for transfer reported in the front page of the MADD matches now with the figure reported in the rest of the document and the spreadsheet “ <i>Mitigation Potential Calculator-RE-Offgrid_PlusIndividuals_30June2022</i> ”.		
Therefore, the CAR is closed.		

CAR ID	02	Date: 04/04/2022
Description of CAR		
<p>According to the “Eligible Sectors and Sub-sectors Aligned to Conditional NDC” identified in the “<i>Vanuatu ITMOs Guidance Manual-V1.1-draft -Clean</i>”, all GHG mitigation projects are eligible for ITMOs generation in the following cases applicable to the “Electrification of Vanuatu’s Inhabited Islands through Solar Power ITMO Programme”:</p> <p>Technologies listed in the latest version of positive list of technologies approved by the EB of CDM (Tool 32: Methodological tool Positive lists of technologies version 03.0) or any other updated list approved by NAB with Vanuatu’s specific list of technologies and activities, and implemented in the Energy Sector for the following subsectors:</p> <ul style="list-style-type: none"> • Energy Industry (Electricity Generation) • Transport • Other Sectors -Commercial, Institutional and Residential • Manufacturing <p>However, no demonstration of this requirements is provided in the MADD.</p>		
Project Proponent response		Date: 20/04/2022
This has now been included in Section 2 – Activity Overview.		
Documentation provided by the Project Proponent		
VVB Assessment		Date: 28/04/2022
<p>The updated MADD indicates that the proposed ITMO programme will implement solar systems such as nano-grids, home systems and productive stand-alone systems that can supply reliable, low-cost solar powered electricity to rural communities across Vanuatu, which belong to the energy sector and subsector “Other Sectors -Commercial, Institutional and Residential”.</p> <p>However, it is not clear that the solar systems were considered into the technologies listed in the latest version of positive list of technologies approved by the EB of CDM (maybe requirement of paragraph 20 of the Tool 32: Methodological tool Positive lists of technologies version 03.0). Please, clarify this issue.</p>		
Project Proponent response		Date: 07/05/2022
The Department of Energy (DOE), Vanuatu has confirmed the eligibility of the programme and the solar technology as ITMO programme.		
Documentation provided by the Project Proponent		
Written confirmation from DOE.		
VVB Assessment		Date: 06/06/2022
The email received on 6/05/2022 from the Director for the Department of Energy of the Government of Vanuatu confirms the eligibility of the programme and the solar technology as ITMO programme.		

Therefore, the CAR is closed.

CAR ID	03	Date: 04/04/2022
Description of CAR		
<p>Section 3 of the MADD “Baseline setting” indicates that “The proposed ITMO project fulfils the applicability criteria stipulated under the applied methodology, but it is not included the justification of it, especially for the requirements from 5 to 8 of the methodology AMS-I.L (Version 03).</p> <p>On the other hand, the MADD does not explain in the project boundary the reason because it is not considered the baseline emission factor of 1.0 tCO₂/MWh for the facility consumption beyond 250 kWh.</p>		
Project Proponent response		Date: 20/04/2022
<p>Section 3 of the MADD has been revised and now only refers to the conditions and applicability criteria for this Article 6.2 project in line with Swiss FOEN and Vanuatu Government requirements.</p> <p>Under Article 6.2, it is expected that the emission reduction calculations are correct, and no terms of the bilateral agreement or national laws are violated but CDM-specific criteria in the meth applicability (e.g. small scale limitation) are not relevant.</p>		
Documentation provided by the Project Proponent		
VVB Assessment		Date: 01/07/2022
<p>Audit team assumes that the conditions and applicability criteria stated in the updated MADD are in line with Swiss FOEN and Vanuatu Government requirements, and also the applicability criteria of the applied methodology, to consider that the approaches considered in the methodology can be applied in the calculation of the emission reductions, such as the baseline emission factors. In other case, the new approaches should be reassessed.</p> <p>The updated MADD describes in different sections that the proposed ITMOs programme applies to the typical project(s) identified by the methodology AMS-I.L (version 03):</p> <ul style="list-style-type: none"> - Communities which did not have electricity prior to project implementation are supplied with electricity from renewable based systems, such as solar home systems and productive use systems. - with displacement of fossil fuel use through the implementation of greenfield individual permanent solar photovoltaic systems - where consumers that were not connected to the national grid prior to project implementation - Most consumers connected to the project renewable electricity generation system will be households. - The programme will accept solar energy technologies that have been successfully applied in Vanuatu or other countries with similar climatic conditions to assess that the project equipment shall comply with applicable international standards or comparable national, regional or local standards/guidelines <p>On the other hand, the updated MADD considers in the project boundary the three types of consumers defined by the methodology based on the annual amount of renewable electricity consumed.</p> <p>Therefore, this CAR is closed.</p>		

CAR ID	04	Date: 04/04/2022
Description of CAR		
<p>Page 8 of the MADD does not present equations (2) and (3) of the CDM methodology AMS-I.L v03.0 as the equation used to estimate ex ante GHG baseline emissions or consumers that consumed equal to or less than 55 kWh, and for consumers that consumed more than 55 kWh.</p> <p>Additionally, the MADD only provides information on the calculation of the baseline emissions, but not of the emission reductions, including the project emissions or leakage.</p>		
Project Proponent response		Date: 20/04/2022
A clarification has been included in the MADD that project emissions and leakage emissions are zero.		
Documentation provided by the Project Proponent		
VVB Assessment		Date: 28/04/2022
Updated MADD does not include now the baseline emissions calculations.		
Project Proponent response		Date: 07/05/2022
The baseline emission calculation has been included.		
Documentation provided by the Project Proponent		
VVB Assessment		Date: 01/07/2022
<p>The updated version 8 of the MADD includes already all the required equations of the CDM methodology AMS-I.L v03.0 to calculate the baseline emissions, project emissions, leakage and emission reductions and the additional information with the assumptions, approaches and options selected in the calculations.</p> <p>Therefore, this CAR is closed.</p>		

CAR ID	05	Date: 04/04/2022
Description of CAR		
<p>Page 8 of the MADD describes the estimation of the baseline emissions in accordance with the section 5.2.1 of the methodology, applicable to “Greenfield and/or rehabilitation of individual renewable generation systems”, whereas the monitoring parameters correspond to the parameters considered in section 6.2. “Greenfield or expansion of renewable mini-grid systems”.</p> <p>The MADD shall clarify if the project applies to individual renewable generation systems or renewable mini-grid systems and describes properly the calculation of the emissions reductions and the monitoring parameters.</p> <p>Moreover, the name of the monitored values and calculated values identified in the spreadsheet are different to the parameters indicates in section 3 of the MADD and the applied methodology.</p>		
Project Proponent response		Date: 20/04/2022
<p>The MADD now includes both options, the application of individual renewable energy systems and nano-grids. However, it is important to note that the distinction between individual systems and mini-grids is not applicable in the case of modular approaches as the relationship between the independent/standalone units and their ability to work with each other is the defining characteristic of a modular system.</p> <p>The name of the monitored values and calculated values identified in the spreadsheet have been aligned with the parameters indicates in section 3 of the MADD and the applied methodology.</p>		
Documentation provided by the Project Proponent		
VVB Assessment		Date: 28/04/2022
<p>Updated MADD does not include now the baseline emissions calculations. The MADD should explain the different options and approaches, provided by the methodology AMS-I.L, considered for the specific case of this programme.</p>		
Project Proponent response		Date: 07/05/2022
<p>The methodology approach has been explained and fully reflected in the MADD.</p>		
Documentation provided by the Project Proponent		
VVB Assessment		Date: 01/07/2022
<p>The updated version 8 of the MADD includes already all the required equations of the CDM methodology AMS-I.L v03.0 to calculate the baseline emissions, project emissions, leakage and emission reductions and the additional information with the assumptions, approaches and options selected in the calculations.</p> <p>Therefore, this CAR is closed.</p>		

CAR ID	06	Date: 04/04/2022
Description of CAR		
No focal point for Mitigation Action Tracking and Re-orting for Department of Environmental Protection and Conservation is appointed in table of page 16 of the MADD.		
Project Proponent response		Date: 20/04/2022
The Department of Environmental Protection and Conservation has been removed and will not be involved in mitigation action tracking and reporting.		
Documentation provided by the Project Proponent		
VVB Assessment		Date: 01/07/2022
The updated MADD is considered correct. Therefore, this CAR is closed.		

CAR ID	07	Date: 04/04/2022
Description of CAR		
Section 1 of the MADD indicates that "Generated 300 new jobs and USD 3 million/year income generated through productive use", whereas section 5 indicates that "Generated 249 new jobs and USD 2.68 million/year income generated through productive use". Provide evidence of this information and updated the MAPP properly.		
Project Proponent response		Date: 20/04/2022
This has been corrected and aligned.		
Documentation provided by the Project Proponent		
VVB Assessment		Date: 28/04/2022
Evidence has not been provided.		
Project Proponent response		Date: 07/05/2022
The estimates are no longer quantified.		

Documentation provided by the Project Proponent	
VVB Assessment	Date: 016/07/2022
Information included in section 1 of the updated version 8 of the MADD is correct and enough. Therefore, this CAR is closed.	

Clarification Requests (CLs)

CL ID	01	Date: 04/04/2022
Description of CL		
Provide the ITMO activity start date and crediting period, including star date and end date (DD/MM/YYYY), and evidence of the start date and the lifetime of the project.		
Project Proponent response	Date: 20/04/2022	
Start date and crediting period has now been included in the MADD.		
Documentation provided by the Project Proponent		
VVB Assessment	Date: 28/02/2022	
The crediting period indicated in the first page of the MADD is longer than 9 years as it is indicated in section 3. The programme start date indicated in the first page of the MADD is 1 st September 2022 (Q3), although section 3 indicates that the programme start date and earliest possible project inclusion is Q4 of 2022. Evidence of the start date and the lifetime of the project (technical lifetime of the solar system of 15 years) has not been provided.		
Project Proponent response	Date: 07/05/2022	
It has been added to the start date that this is the “estimated” start date.		
Documentation provided by the Project Proponent		

VVB Assessment	Date: 01/07/2022
<p>The ITMO activity start date and the crediting period, including start date and end date (DD/MM/YYYY) are indicated correctly in all sections of the updated version 8 of the MADD. This information is consistent with the sectoral policies and the NDC of Vanuatu, including all NDC activities in the energy sector.</p> <p>Therefore, this CL is closed.</p>	

CL ID	02	Date: 04/04/2022
Description of CL		
<p>Provide evidence that the proposed ITMO project will impact in the SDG5.</p>		
Project Proponent response		Date: 20/04/2022
<p>The particular impact on SDG 5 has been removed.</p>		
Documentation provided by the Project Proponent		
<p> </p>		
VVB Assessment		Date: 28/04/2022
<p>This CL is closed.</p>		

CL ID	03	Date: 04/04/2022
Description of CL		
<p>Section 6 of the MADD indicates that “Further clarification on EIA requirement for the ITMO project will be sought from the Department of Environmental Protection & conservation, prior to finalization of MADD”.</p> <p>Clarify if further clarifications on EIA requirement for the ITMO project have been received.</p>		
Project Proponent response		Date: 20/04/2022
<p>In MADD it has been clarified that individual and modular technologies are not categorized under the energy generation facility and other infrastructure services as per para-9 of schedule-1 and therefore don't require the application of an EIA as per Vanuatu's laws.</p>		
Documentation provided by the Project Proponent		
<p> </p>		

VVB Assessment	Date: 28/04/2022
Evidence shall be provided that para 17 of schedule 1 is not applicable to the programme.	
Project Proponent response	Date: 07/05/2022
The Department of Energy (DOE) has confirmed that individual solar systems don't require an EIA.	
Documentation provided by the Project Proponent	
Written confirmation from DOE.	
VVB Assessment	Date: 06/06/2022
The email received on 6/05/2022 from the Director for the Department of Energy of the Government of Vanuatu confirms that individual solar systems don't require an EIA. Therefore, the CL is closed.	

CL ID	04	Date: 04/04/2022
Description of CL		
Provide evidence of the annual emission reductions estimated for year 1, year 2 and following years (table of page 12 of MADD).		
Project Proponent response	Date: 20/04/2022	
The table on page 12 of the MADD has been removed to ensure implementation flexibility of the activities within the programme. Only a maximum overall emission reduction volume has been kept in the MADD which is determined by the maximum offtake capacity of Switzerland for this programme.		
Documentation provided by the Project Proponent		
VVB Assessment	Date: 01/07/2022	
This CL is closed.		

CL ID	05	Date: 04/04/2022
Description of CL		
The total value of the emission reductions calculated in the spreadsheet has been obtained from the 2022 electrical production data included in tab "Monitoring" of the spreadsheet.		

Clarify how is it possible to be available already 2022 data and provide access to the original data and translate the information to English.

Clarify the source of the following monitored values:

- Number of smart meters on household level
- Number of users per meter on household level
- Number of specific meters for productive use

Project Proponent response

Date: 20/04/2022

In the Emission Reduction Spreadsheet, the labels have been renamed to clarify that the calculated values are ex-ante estimates but not actually monitored values.

Documentation provided by the Project Proponent

VVB Assessment

Date: 01/07/2022

The values of the emission reductions have been calculated in the spreadsheet “Mitigation Potential Calculator-RE-Offgrid_PlusIndividuals_30June2022” correctly in accordance with the applied methodology and they are consistent with the values indicated in the updated version 8 of the MADD.

The sources of the values of the electricity consumption and the number of consumers estimated for each type of consumer have not been provided, but the final values included in the spreadsheet are considered conservative with the values obtained from other sources (Vanuatu Energy Demand Projections: Business As Usual Scenario [Vanuatu Energy Demand Projections - Business As Usual Scenario.pdf \(gov.vu\)](#); [Per capita electricity generation \(ourworldindata.org\)](#)).

Therefore, the CL is closed.

CL ID

06

Date: 04/04/2022

Description of CL

The total emission reductions have been calculated in the spreadsheet for:

- GHG emission reduction Category I (households) (≤ 55 kWh/year)
- GHG emission reduction Category II (non-households or productive use) (> 55 kWh/year).

The MAPP shall clarify if the consumption in the households will always be equal or less than 55 kWh/year, and the consumption for productive use will be more than 55 kWh/year.

Project Proponent response

Date: 20/04/2022

The MADD clarifies that the consumers serviced by the ITMOs projects will not exceed 250 kWh of electricity consumed and thus the third category from the CDM methodology is not applied. The baseline emission factor for each ITMO project shall be 6.8 (tCO₂/MWh). However, in case of any individual consumer increasing over 55kWh, the appropriate baseline emission factor shall be applied as per the table 1. It has

been also added that households are expected to consume less than 55kWh/year and that productive use will always be more than 55 kWh/year.

Documentation provided by the Project Proponent

VVB Assessment

Date: 01/07/2022

The values of the emission reductions have been calculated in the spreadsheet "Mitigation Potential Calculator-RE-Offgrid_PlusIndividuals_30June2022" correctly in accordance with the applied methodology and they are consistent with the values indicated in the updated version 8 of the MADD.

The final version of the MADD, version 8, considers all categories of consumers defined by the applied methodology, including the consumers with a consumption beyond 250 kWh/year, and the consumers are not differentiated between houses and productive uses.

The sources of the values of the electricity consumption and the number of consumers estimated for each type of consumer have not been provided, but the final values included in the spreadsheet are considered conservative with the values obtained from other sources (Vanuatu Energy Demand Projections: Business As Usual Scenario Vanuatu Energy Demand Projections - Business As Usual Scenario.pdf (gov.vu); Per capita electricity generation (ourworldindata.org)).

Therefore, the CL is closed.

CL ID

07

Date: 04/04/2022

Description of CL

According to the methodology AMS.I.L, $EG_{x,y}$ is the electricity delivered by project renewable electricity generation system to consumer x, where the electricity delivered to that facility is equal to or less than 55 KWh in year y (MWh), and the definition of consumer is the end-user(s)/facility(ies) that may include households; public buildings; and/or small, medium and micro enterprises (SMMEs).

Therefore, maximum consumption per household or consumer can be 55 kWh/year, independently of the number of users per consumer or household in the case of type I.

The value of the electricity supplied to category I calculated in the spreadsheet shall be clarified because:

It is used the value of the total number of users instead of the number of smart meters on household level.

The number of users per meter on household level

Project Proponent response

Date: 20/04/2022

A revised spreadsheet has been provided which now reflects all 3 categories of the methodology.

Documentation provided by the Project Proponent

VVB Assessment	Date: 01/07/2022
<p>The values of the emission reductions have been calculated in the spreadsheet “Mitigation Potential Calculator-RE-Offgrid_PlusIndividuals_30June2022” correctly in accordance with the applied methodology and they are consistent with the values indicated in the updated version 8 of the MADD.</p> <p>The final version of the MADD, version 8, considers all categories of consumers defined by the applied methodology, including the consumers with a consumption beyond 250 kWh/year, and the consumers are not differentiated between houses and productive uses.</p> <p>The sources of the values of the electricity consumption and the number of consumers estimated for each type of consumer have not been provided, but the final values included in the spreadsheet are considered conservative with the values obtained from other sources (Vanuatu Energy Demand Projections: Business As Usual Scenario Vanuatu Energy Demand Projections - Business As Usual Scenario.pdf (gov.vu); Per capita electricity generation (ourworldindata.org)).</p> <p>Therefore, the CL is closed.</p>	

CL ID	08	Date: 04/04/2022
Description of CL		
<p>The MADD indicates that the monitoring parameters will be maintained on monthly basis by the project proponent, but it is not indicated how long they will be kept.</p> <p>On the other hand, the MADD shall clarify if the recording frequency of the GHG emission reductions once in a year will be at the end of the natural year or each 12 months.</p>		
Project Proponent response		Date: 20/04/2022
This has been revised and corrected in the MADD.		
Documentation provided by the Project Proponent		
VVB Assessment	Date: 01/07/2022	
<p>The updated MADD clarifies that:</p> <p>The records will be kept at least until the corresponding adjustments have been made in 2034.</p> <p>The recording frequency will be set once in a year for each period of 1st of January - 31st of December.</p> <p>Therefore, the CL is closed.</p>		

CL ID	09	Date: 04/04/2022
Description of CL		
Provide additional information regarding to the direct financial incentives and hands-on capacity building that are described in section 8 “Transformational change” of the MADD.		
Project Proponent response		Date: 20/04/2022
Additional information has been included in the MADD.		
Documentation provided by the Project Proponent		
VVB Assessment		Date: 28/04/2022
Evidence to demonstrate who is the owner of the carbon revenues from ITMO sales shall be provided.		
Project Proponent response		Date: 07/05/2022
The owner of the carbon credits (Government of Vanuatu) has been clarified.		
Documentation provided by the Project Proponent		
Letter of financial agreement between project proponent and government.		
VVB Assessment		Date: 01/07/2022
The evidence clarifies who is the owner of the carbon credits, but the letter of financial agreement shall be verified once it is completed and signed by both parties (GoV and Company).		
Therefore, the CL is closed.		
FAR 1: The letters of financial agreements shall be verified once they are completed and signed by both parties (GoV and Company).		

CL ID	10	Date: 04/04/2022
Description of CL		
The MADD indicates that 90,000 people, including 44,237 women, will be beneficiaries of the ITMO project. However, the spreadsheet indicates that the number of users per household will be 3, therefore, the total number of users correspond to the 17,785 households will be 53,355 people.		
Please, provide evidence of the source of the following data. 90,000 people, 44,237 women and 3 users per household.		

Project Proponent response	Date: 20/04/2022
<p>Based on information provided in the National Energy Roadmap and Nationally Determined Contributions, we know that currently approximately 80 percent of people in Vanuatu are without electricity. This equates to approximately one-third of the population, or 90,000 people - including 44,237 women, totalling around 17,785 households.</p> <p>The number of users per household will be monitored during implementation.</p>	
Documentation provided by the Project Proponent	
VVB Assessment	Date: 01/07/2022
<p>The final version of the MADD, version 8, does not indicate the specific amount of people, woman and users that will be beneficiaries of the ITMO project, and it is only identified the number of rural household that have no access to electricity and modern energy systems that suppose the potential consumers in the ITMO project.</p> <p>This CL is closed.</p>	

CL ID	11	Date: 04/04/2022
Description of CL		
<p>The MADD indicates in the description of the monitoring parameter (3) “Installed capacity of the solar power systems after the implementation of the project activity (CAP_{PJ}) that “Vanuatu has developed an integrated, web based MRV tool (deployed on a cloud server), designed specifically considering the domestic and international reporting requirements on climate actions”.</p> <p>An access to the MRFV tool developed shall be provided.</p>		
Project Proponent response	Date: 20/04/2022	
<p>The MRV tool is only relevant for national BTR reporting to UNFCCC and will not be used for monitoring by the project developer. This has been also clarified in the MADD. The tool is currently restricted for Government access only.</p>		
Documentation provided by the Project Proponent		
VVB Assessment	Date: 01/07/2022	
<p>The final version of the MADD, version 8, does not include the monitoring parameter “Installed capacity of the solar power systems after the implementation of the project activity (CAP_{PJ}). Therefore, it is not necessary to have access to the MRV tool.</p> <p>This CL is closed.</p>		

CL ID	12	Date: 04/04/2022
Description of CL		
In the list of annexes of the MADD, business Model, Feasibility Study and Technology Data sheet are listed. Provide them.		
Project Proponent response		Date: 20/04/2022
The information has been provided.		
Documentation provided by the Project Proponent		
VVB Assessment		Date: 01/07/2022
The final version of the MADD, version 8 does not refer to the “Technology Data sheet” and the “Feasibility Study” and “Lelepa Feasibility Study.”		
Nevertheless, the following documents have been provided:		
<ul style="list-style-type: none"> - Emission Reduction Calculation. - Vanuatu Business Model 		
This CL is closed.		