



**Component project activity design document form
(Version 09.0)**

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title of the CPA	Thoong Cot 2 Hydropower Project
Scale of the CPA	<input checked="" type="checkbox"/> Large-scale <input type="checkbox"/> Small-scale
Version number of the CPA-DD	6.2
Completion date of the CPA-DD	19/10/2020
Title and UNFCCC reference number of the registered CDM PoA	Title of the registered CDM PoA: Sustainable Small Hydropower Programme of Activities (PoA) in Viet Nam UNFCCC reference number: PoA 6095
Title and reference number of the corresponding generic CPA	Title of the generic CPA: [XXX] Reference number: 6095-0000
Coordinating/managing entity	Vietnam PoA Carbon Management Joint Stock Company
Host Party	Viet Nam
Applied methodologies and standardized baselines	Applied methodology: ACM0002, version 20.0: "Grid-connected electricity generation from renewable sources" Standardized baseline: Not applicable
Sectoral scopes	01: Energy industries (renewable - / non – renewable sources)
Estimated amount of annual average GHG emission reductions	13,402 tCO ₂ e

SECTION A. Description of component project activity (CPA)

A.1. Purpose and general description of CPA

The CPA involves the construction of the Thoong Cot 2 Hydropower plant, which is located on Quay Son River in Chi Vien commune, Trung Khanh district, Cao Bang province of Viet Nam. The CPA's installed capacity and estimated annual gross power generation is 3.5 MW and 14,710 MWh¹, respectively.

The project's purpose is to supply renewable electricity to the national grid via the Power Purchase Agreement (PPA) signed with the Electricity Corporation of Viet Nam (EVN). The net electricity generated from this project - annual estimated volume is 14,415 MWh - will be supplied to the national grid.

The CPA will generate renewable power, which will displace part of the electricity otherwise supplied by fossil fuel fired power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system", version 07.0.

Thus, GHG emission reductions are achieved via this CPA.

The project's contributions to the sustainable development of the local area as well as the host country are as follows:

General contributions towards national sustainable development:

- In recent years, Viet Nam, especially the North of Viet Nam, has suffered a critical electricity shortage as a consequence from rapidly increasing demand and insufficient supply, thereby imposing negative impacts on economic growth as well as on daily lives of people. This CPA will be a contribution towards closing the supply and demand gap. By exporting electricity directly to the National grid, it will help to reduce electricity losses across the national grid and to lessen the risks of cascading national grid collapse due to overload.
- Reducing reliance on exhaustible fossil fuel based power sources and also reducing the import of fuels for the purpose of power generation.
- Modern and highly efficient turbines and generators are being used in the project and the power transmission will be at high voltage to ensure low losses. The CPA will contribute to accelerate the deployment of renewable energy technologies in Viet Nam.

Contributions towards local sustainable development:

a) Economic well-being

- Once implemented, this CPA will increase the industrial share in the economic structure of Cao Bang province – a poor mountainous province in Viet Nam. This CPA will pay annual tax to the local budget.
- By supplying a stable and high electric output, this CPA will facilitate the industrialization process of the province and lever the performance of traditional trade villages as well as tourism industry and services inside the province.

b) Social well-being

- This CPA will contribute directly to improve the low-quality infrastructure systems of Chi Vien commune, where only minority ethnics settle. The commune is categorized as a mountainous commune with thin population, less developed and autarky agricultural economy. The project will upgrade the road that then will be integrated into the traffic system of the commune.
- The communication system and clean water treatment serving for workers of the project during both construction and operation phases will be shared with local people. Besides, new jobs will be created during construction and operation phases. The CPA could result in the employment of the local people for the construction and operation of the hydropower plant later on.

¹ General Description Volume - Feasibility Study Report of Thoong Cot 2 project

This demonstrates that the CPA will contribute positively towards sustainable development and satisfies the sustainable development criteria for CDM projects set by the DNA of Viet Nam.

A.2. Location of CPA

The Thoong Cot 2 Hydropower project is located on Quay Son River in Chi Vien commune, Trung Khanh district, Cao Bang province. The geographic coordination of the power house²:

Northern latitude: 22°40'07"

Eastern longitude: 106°02'47"

The site of the project is shown in the figure below.

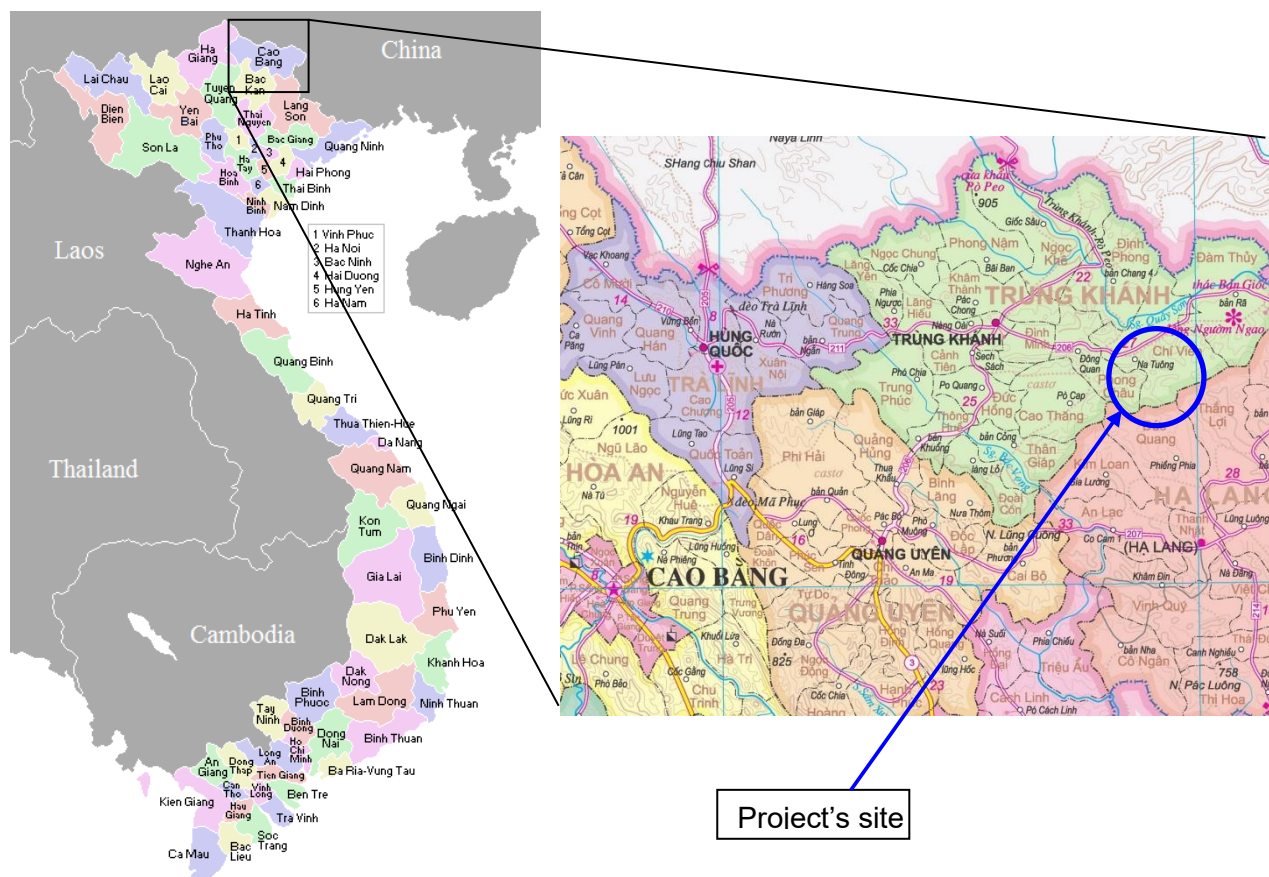


Figure 1 : Project site on the map

A.3. Technologies/measures

The CPA involves the construction of a weir, canal intakes, tunnels, penstocks, power house with 3 units and discharge channels in order to convert potential flowing energy from Quay Son river into clean electrical energy, which will be supplied to the national grid at the connection point. At the connection point, the power meter systems will be installed. They are digital and bi-directional type to measure the export and import of electricity by Thoong Cot 2 Hydropower plant.

² General Description Volume - Feasibility Study report of Thoong Cot 2 project

Figure 2 shows the layout of the project plant.

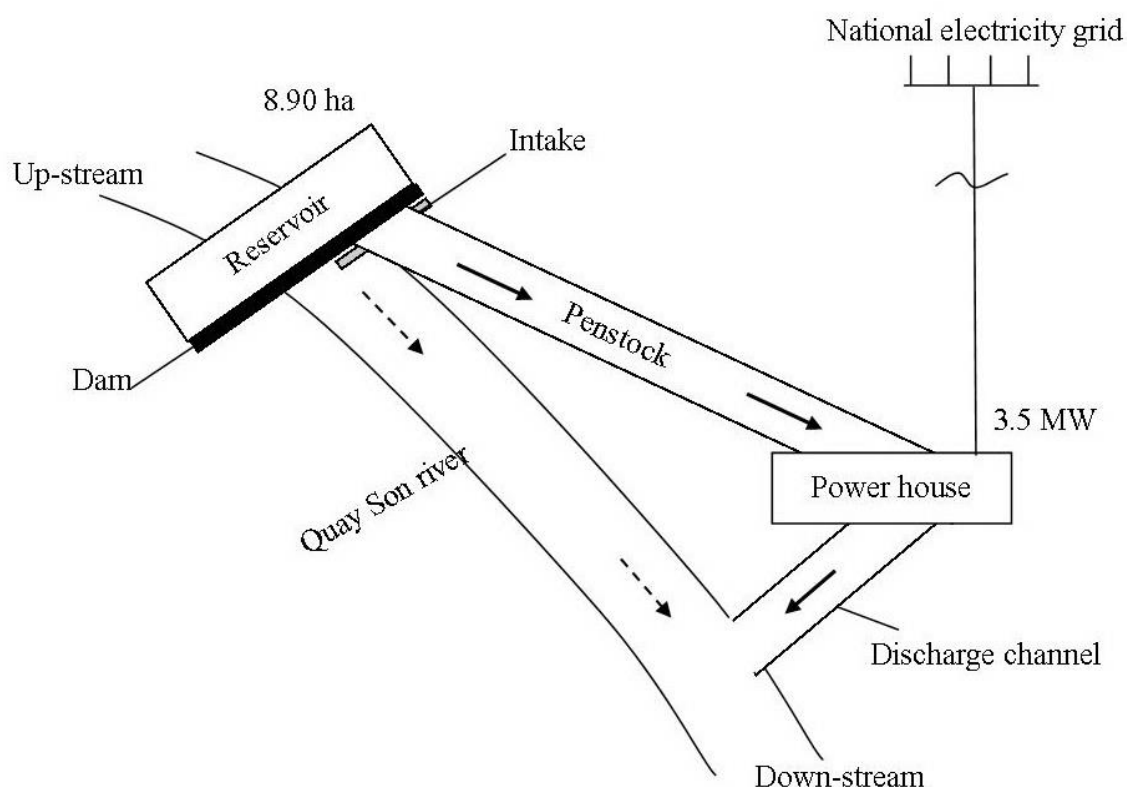


Figure 2: Project lay-out

The main equipment of the CPA is shown in Table below.

Table 1. Main equipment used in the proposed project activity

Main parameters	Units	Values
<i>1. Turbine</i>		
• Type		ZDK305-LH-128 with vertical axis
• Diameter of runner	m	1.28
• Design head	m	14.78
• Number of turbine	set	3
• Design flow	m ³ /s	9.8
• Capacity	MW	1.270
• Rated speed	rpm	428.6
• Annual utilisation hours	hour	4010 ³
• Efficiency	%	93.5
• Expected lifetime ⁴	hour	150,000

³ General Description Volume - Feasibility Study report of Thoong Cot 2 project

⁴ Determined pursuant to Version 1 of "Tool to determine the remaining lifetime of equipment"

2. Generator		
• Number	set	3
• Type		SF1200-14/2150
• Rated voltage	kV	6.3
• Rated capacity	MW	1.2 (1500kVA)
• Efficiency at load =100%, Cosφ = 0.8	%	94.5
• Expected lifetime ⁵	year	30
3. Transformer		
• Number	set	1
• Type		3 phases
• Rated capacity	MVA	1.6
• Primary voltage	kV	6.3
• Secondary voltage	kV	37.5
• Expected lifetime ⁶	year	30
4. Annual river flow	m ³ /s	29.35

Eternal Light Company Limited has selected the equipment supplier via tender and entered an Engineering, Procurement and Construction (EPC) contract with Bac Thanh Cong Investment Joint Stock Company for the package of investigation, technical design, material and synchronous equipment supply, construction and installation of Thoong Cot 2 hydropower plant⁷. The main equipment utilized in this project will be imported. All the turbines and alternators must use environmentally safe and sound technology and meet the criteria of the tender document.

The professional technicians and engineers will train the hydropower plant staff on the monitoring procedures, operation regulation, maintenance procedures and other required knowledge regarding the hydropower plant before the start of operation of the project. Furthermore, there will be regular training courses regarding monitoring and operation for plant staffs during operation period. So the modern technology would be transferred to the host country.

A.4. Coordinating/managing entity

Vietnam PoA Carbon Management Joint Stock Company

A.5. Parties and CPA implementers

Parties involved	CPA implementers	Indicate if the Party involved wishes to be considered as CPA implementer (Yes/No)
Viet Nam (host Party)	Eternal Light Company Limited (English transaction name of Truong Minh Company Limited)	No

A.6. Public funding of CPA

There are no public and/or ODA funds involved in this CPA

A.7. History of CPA

It is confirmed that:

⁵ Determined pursuant to Version 1 of "Tool to determine the remaining lifetime of equipment"

⁶ Determined pursuant to Version 1 of "Tool to determine the remaining lifetime of equipment"

⁷ EPC Contract No. 01/2010/HD-EPC dated 5 July 2010

- The proposed CPA is neither registered as a CDM project activity nor included in another registered CDM PoA.
- The proposed CPA is not a project activity that has been deregistered.
- The proposed CPA was not a CPA that has been excluded from a registered CDM PoA.
- No registered CDM project activity or a CPA under a registered CDM PoA whose crediting period has or has not expired exists in the same geographical location as the proposed CPA.

A.8. Debundling

Not applicable

SECTION B. Application of methodologies and standardized baselines

B.1. References to methodologies and standardized baselines

Applied methodology:

- ACM0002 – Grid-connected electricity generation from renewable sources – Version 20.0 (<https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG>)

Related tools:

- Tool07 - Tool to calculate the emission factor for an electricity system – Version 07.0 (<http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>)
- Tool 01 – Version 06.0.0 of the “Tool for the demonstration and assessment of additionality”.
- Tool11 - Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period - Version 03.0.1 (<http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-11-v3.0.1.pdf>)

Standardized baseline:

Not applicable

B.2. Project boundary, sources and greenhouse gases (GHGs)

The GHG emission sources included in or excluded from the project boundary are as follows:

Table 2: GHG Sources included to within project boundary

	Source	Gas	Included?	Justification/Explanation
Baseline	CO ₂ emission from electricity generation in fossil fuel fired power plants that is displaced due to the project activity	CO ₂	Yes	Main emission source.
		CH ₄	No	Minor emission source.
		N ₂ O	No	Minor emission source.
Project Activity	For hydro power plants, emissions of CH ₄ from the Reservoir	CO ₂	No	Minor emission source.
		CH ₄	No	Main emission source. However, as the power density of the CPA is greater than 10 W/m ² CH ₄ emissions are neglected according to ACM0002 version 20.0
		N ₂ O	No	Minor emission source.

The Thoong Cot 2 Hydropower plant is located within the boundaries of Viet Nam as specified in A.2.

According to Version 20.0 of ACM0002, the boundary for this project type is delineated by:

- Geographic site: The area where the project is constructed.
- Physical boundary: the national grid to which the project is connected.

The flow diagram of the project boundary is shown in Figure 3.

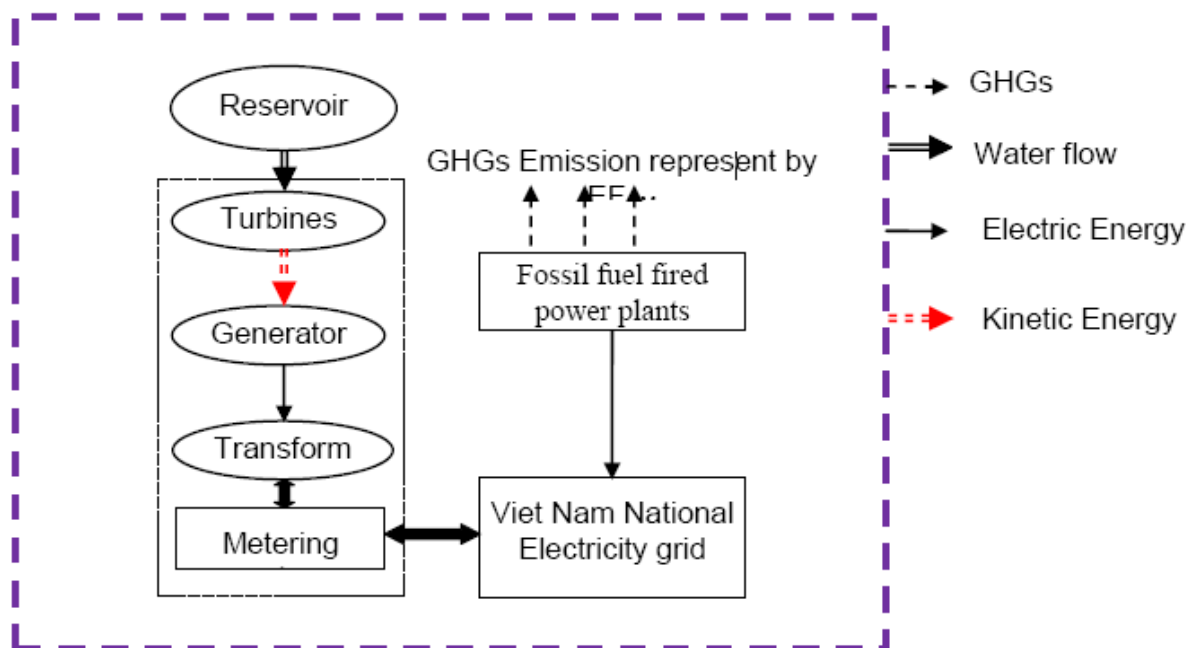


Figure 3: Project boundary

B.3. Establishment and description of baseline scenario

CDM project standard for programmes of activities, version 2.0, item 11 “*Renewal of programme of activities period and renewal of crediting period of component project activities*”, paragraph 287, 288, 289 and 300 state that:

287. The coordinating/managing entity shall describe how to demonstrate the validity of the original baseline or how to update it for each of the corresponding CPAs in accordance with the provisions in paragraphs 288–291 below.

288. To demonstrate the validity of the original baseline or its update, the coordinating/managing entity is not required to re-assess the baseline scenario. Instead, the coordinating/managing entity shall assess the modalities to calculate GHG emission reductions or net anthropogenic GHG removals that would have resulted from that scenario.

289. The coordinating/managing entity shall assess and incorporate the impact of national and/or sectoral policies and circumstances existing at the time of requesting renewal of the PoA period on the modalities to estimate baseline GHG emissions for the subsequent crediting period of each corresponding CPA, without reassessing the baseline scenario.

300. If data and parameters used for determining the original baseline, that were determined ex ante and not monitored during the crediting period, are no longer valid, the coordinating/managing entity shall update such data and parameters in accordance with the “Methodological tool: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period”.

The project is an included CPA and reassessment of the baseline scenario is not required.

As per PoA-DD, according to version 20.0 of ACM0002, if the project activity is the installation of a new grid-connected renewable power plant, the baseline scenario is defined as the following:

"Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin calculations described in the "Tool to calculate the emission factor for an electricity system".

The Viet Nam national electricity grid, which is operated and monopolized by the EVN, is the unique transmission and distribution line, to which all power plants in Viet Nam are physically connected. Therefore the Viet Nam national electricity grid is the project electricity system.

Thus the baseline scenario of CPAs included in the Viet Nam Small Hydro PoA is the delivery of equivalent amount of annual power output from the Viet Nam national grid to which the proposed CPA is also connected. In the absence of the CPA, the clean energy generated by this proposed CPA would have been generated through non-renewable sources from Power Plants connected to the National grid, fostering the emission of greater quantities of greenhouse gases.

The combined margin emission factor of the National grid will be calculated according to the "Tool to calculate the emission factor for an electricity system" version 07.0. The CO₂ emission factors for power generation in the National grid are calculated based on the database provided by EVN.

The latest report of Emission Factor of Vietnam Electricity System, published by Department of Climate Change, Ministry of Natural Resources and Environment of Vietnam on 12/03/2020 effects the baseline GHG emission, and the reassessment of the baseline emissions by applying the data of the latest report is presented in the section B.4 below.

The stepwise procedure to assess the continued validity of the baseline and to update the baseline at the renewal of a crediting period is conducted following methodological tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" (Version 03.0.1, EB 66, Annex 47). The tool consists of two steps. The first step provides an approach to evaluate whether the current baseline is still valid for the next crediting period. The second step provides an approach to update the baseline in case that the current baseline is not valid anymore for the next crediting period.

Step 1: Assess the validity of the current baseline for the next crediting period

The "Procedures for the renewal of the crediting period of a registered CDM project activity" approved by the CDM Executive Board require assessing the impact of new relevant national and/or sectoral policies and circumstances on the baseline.

The validity of the current baseline is assessed using the following sub-steps:

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

According to the registered PoA, in the absence of the project activity, electricity which will be supplied to the national grid would come from fossil fuel power plants. The generation of electricity by burning fossil fuels result in CO₂ emission into the atmosphere. Hence, the baseline scenario of the project is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected fossil fuel power plants and by the addition of new generation sources.

Electricity Law No. 28/2004/QH11 dated on 03/12/2004 and Law No. 50/2010/QH12 on "Economical and Efficient use of energy" dated on 17/06/2010 are the main laws that govern the electricity sector

in Vietnam. Their implementation is regulated under Government Decree No. 14/2014/ND-CP on "Stipulating in detail the implementation of electricity law regarding electricity safety" dated on 26/02/2014. National policy and regulation does not mandate setting up renewable power plants from existing capacity. Thus it can be concluded that the current baseline scenario is in compliance with relevant mandatory national and sectoral policies.

Step 1.2: Assess the impact of circumstances

The circumstances existing at the time of requesting renewal of crediting period are the same as existing in the validation of the PoA.

The estimated baseline emissions using hydropower to supply renewable electricity to the Vietnam national grid that is currently dominated by fossil fuel power plants. The baseline scenario identified at the validation of the project activity was the continuation of the current practice without any investment.

The emission factor of the Vietnam national grid applied for the 1st crediting period was 0.5558 tCO₂/MWh which was set fixed ex-ante at PoA level. As per paragraph 99 of "Tool to calculate the emission factor for an electricity system", version 07.0.0, emission factor will be specified at CPA level in the 2nd crediting period.

For this CPA, the emission factor is fixed ex-ante of 0.92975 tCO₂/MWh for 2nd crediting period based on the latest database provided by EVN.

However, new circumstances will not impact the validity of the baseline scenario.

Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested.

This sub-step should only be applied if the baseline scenario identified at the validation of the project activity was the continuation of use of the current equipment(s) without any investment and, the projects proponents or third party (or parties) would undertake an investment later due, for example, to the end of the technical lifetime of the equipment(s) before the end of the crediting period or the availability of a new technology.

Since the baseline scenario identified during the validation of the project activity was electricity generation in power plants that are displaced due to the project activity and was not the continuation of use of the current equipment(s). This sub-step is not applicable for this project activity.

Step 1.4: Assessment of the validity of the data and parameter.

"Where emission factors, values or emission benchmarks are used and determined only once for the crediting period, they should be updated, except if the emission factors, values or emission benchmarks are based on the historical situation at the site of the project activity prior to the implementation of the project and cannot be updated because the historical situation does not exist anymore as a result of the CDM project activity".

In the registered PoA, the grid emission factor was calculated as per the combined margin approach described in the "Tool to calculate the emission factor for an electricity system" version 07.0. The grid emission factor was calculated as the weighted average of OM & BM; and was fixed ex-ante for the entire crediting period. Since the emission factors that were determined at the start of the first crediting period are not valid anymore, the data and parameters have been updated for the second crediting period.

The OM and BM was obtained from official data provided by DNA Vietnam on 12/03/2020. This is the most recent data available during the validation of renewal of crediting period of this CPA.

Considering the guidance provided under this step, calculation of emission factor and baseline emissions are updated for the next crediting period as per step 2.

Step 2: Update the current baseline and the data and parameters

Step 2.1: Update the current baseline.

The current baseline scenario is still valid.

Step 2.2: Update the data and parameters.

As mentioned in step 1.4, all parameters regarding the grid emission factor are updated in the second crediting period.

B.4. Estimation of emission reductions

B.4.1. Explanation of methodological choices

The approved consolidated baseline methodology ACM0002 Version 20.0 is used to calculate the emission reductions.

I. Project emissions (PE_y)

According to the ACM0002, version 20.0, the project emissions are calculated using the following equation:

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$$

Where:

PE_y	Project emissions in year y (tCO ₂ e)
$PE_{FF,y}$	Project emissions from fossil fuel consumption in year y (tCO ₂)
$PE_{GP,y}$	Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (tCO ₂ e)
$PE_{HP,y}$	Project emissions from reservoirs of hydro power plants in year y (tCO ₂ e)

Emissions from fossil fuel combustion ($PE_{FF,y}$)

According to paragraph 33 of ACM0002, version 20.0, for all renewable energy power generation project activities, emissions due to the use of fossil fuels for the backup generator can be neglected. The project activity is a renewable power plant. Therefore, emission from fossil fuel combustion is zero.

$$PE_{FF,y} = 0$$

Project emissions from the operation of dry, flash steam or binary geothermal power plants ($PE_{GP,y}$)

CPAs does not include the operation of dry, flash steam or binary geothermal power plants, thus this emission ($PE_{GP,y}$) = 0.

Therefore, the above equation on the project emissions can be shortened as follows:

$$PE_y = PE_{HP,y}$$

Emissions from water reservoir of hydro power plant ($PE_{HP,y}$)

For CPAs that result in new reservoirs and/or the increase of existing reservoirs, the power density (PD) of the CPA shall be calculated as follows:

$$PD = \frac{Cap_{PJ} - Cap_{BL}}{A_{PJ} - A_{BL}}$$

Where:

PD	Power density of the CPA (W/m ²).
Cap_{PJ}	Installed capacity of the hydro power plant after the implementation of the CPA (W).
Cap_{BL}	Installed capacity of the hydro power plant before the implementation of the project activity (W). For new hydro power plants, this value is zero.
A_{PJ}	Area of the single or multiple reservoirs measured in the surface of the water, after the implementation of the CPA, when the reservoir is full (m ²).
A_{BL}	Area of the single or multiple reservoirs measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m ²). For new reservoirs, this value is zero.

(a) If the PD is greater than 4 W/m² and less than or equal to 10 W/m²:

$$PE_{HP,y} = \frac{EF_{Res} * TEG_y}{1000}$$

Where:

$PE_{HP,y}$	Project emission from reservoir of hydro power plants in year y (tCO ₂ e)
EF_{Res}	Default emission factor for emissions from reservoirs of hydropower plants (kgCO ₂ e/MWh). ⁸
TEG_y	Total electricity produced by the CPA, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y (MWh).

(b) If PD is greater than 10 W/m², then:

$$PE_{HP,y} = 0$$

II. Baseline emissions (BE_y)

Baseline emissions include only CO₂ emissions from electricity generation from fossil fuel fired power plants that are displaced due to the CPA, calculated as follows:

$$BE_y = EG_{PJ,y} * EF_{grid,CM,y}$$

Where:

BE_y	Baseline emissions in year y (tCO ₂).
$EG_{PJ,y}$	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CPA in year y (MWh).
$EF_{grid,CM,y}$	Combined margin CO ₂ emission factor for grid connected power generation in year y using the latest version of "Tool to calculate the emission factor for an electricity system" (tCO ₂ /MWh)

⁸ Default value was 90 Kg CO₂e /MWh as per EB23.

Calculation of $EG_{PJ,y}$

Because the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, then:

$$EG_{PJ,y} = EG_{facility,y}$$

Where:

- $EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)
- $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)

Therefore, the baseline emissions are calculated as follows:

$$BE_y = EG_{facility,y} \cdot F_{grid,CM,y}$$

Calculation of CO₂ emission factor of the national grid

For CPAs that will be included during the second PoA renewal period, the emission factor is calculated using:

- Latest national data at the time of CPA-DD submission to the DOE for inclusion of PoA: The database will be published by the host country DNA of Vietnam, Department of Climate Change, Ministry of Natural Resources and Environment of Vietnam
- Latest calculation tool: The Version 07.0 of : "Tool to calculate the emission factor an electricity system" valid from 31/08/2018 onward,

As per version 07.0 of "Tool to calculate the emission factor for an electricity system", following steps are applied in the calculation of the emission factor for the baseline scenario:

- Step 1:** Identify the relevant electricity systems;
- Step 2:** Choose whether to include off-grid power plants in the project electricity system (optional);
- Step 3:** Select a method to determine the operating margin (OM);
- Step 4:** Calculate the operating margin emission factor according to the selected method;
- Step 5:** Calculate the build margin (BM) emission factor;
- Step 6:** Calculate the combined margin (CM) emission factor

Step 1. Identify the relevant electricity systems

CPAs under the PoA will be connected to the national electricity grid of Vietnam, which is operated and monopolized by the EVN. This national electricity grid is the unique transmission and distribution line, to which all power plants in Vietnam are physically connected. Hence the national electricity grid is the project electricity system.

There are electricity imports to the national electricity grid from China - another host country, thus the China Power Grid is the connected electricity system and the emission factor for the imported electricity is zero tons CO₂ per MWh by default.

Step 2. Choose whether to include off-grid power plants in the project electricity system (optional)

There are two options to calculate the operating margin and build margin emission factor:

- Option 1:** Only grid power plants are included in the calculation;

Option 2: Both grid power plants and off-grid power plants are included in the calculation

Because only the data of grid connected power plants is available, so Option I will be chosen for calculating the grid emission factor.

Step 3. Select a method to determine the operating margin (OM);

The calculation of the operating margin emission factor ($EF_{grid,OM,y}$) is based on one of the following methods:

- a) Simple OM; or
- b) Simple adjusted OM; or
- c) Dispatch data analysis OM; or
- d) Average OM.

The method (a) "Simple OM" can be chosen in Vietnam.

The data vintage which is used to calculation the Simple OM emission factor is the Ex-ante option of a 3-year generation-weighted average that is the most recent data available at the time of inclusion of CPA under the second PoA renewal period.

Step 4. Calculate the OM emission factor according to the selected method

The simple OM emission factor is calculated as the generation-weighted average CO₂ emissions per unit net electricity generation (tCO₂/MWh) of all generating power plants serving the system, not including low-cost/must-run power plants units.

Simple OM may be calculated by one of the following two options:

- Option A:** Based on the net electricity generation and a CO₂ emission factor of each power unit; or
- Option B:** Based on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system

Because the necessary data for Option A is available so Option A "Calculation based on average efficiency and electricity generation of each plant" is used and then the simple OM emission factor is calculated as follows:

$$EF_{grid,OMsimple,y} = \frac{\sum_m EG_{m,y} \times EF_{EL,m,y}}{\sum_m EG_{m,y}}$$

Where:

- $EF_{grid,OMsimple,y}$ = Simple operating margin CO₂ emission factor in year y (t CO₂/MWh)
- $EG_{m,y}$ = Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)
- $EF_{EL,m,y}$ = CO₂ emission factor of power unit m in year y (t CO₂/MWh)
- m = All power units serving the grid in year y except low-cost/must-run power units
- y = The relevant year as per data vintage chosen in Step 3

Because the data on fuel consumption and electricity generation of power unit m is available, so the emission factor ($EF_{EL,m,y}$) should be determined as Option A1 :

$$EF_{EL,m,y} = \frac{\sum_i FC_{i,m,y} \times NCV_{i,y} \times EF_{CO2,i,y}}{EG_{m,y}}$$

Where:

$EF_{EL,m,y}$	=	Simple operating margin CO ₂ emission factor in year y (t CO ₂ /MWh)
$FC_{i,m,y}$	=	Amount of fuel type i consumed by power unit m in year y (Mass or volume unit)
$NCV_{i,y}$	=	Net calorific value (energy content) of fuel type i in year y (GJ/mass or volume unit)
$EF_{CO_2,i,y}$	=	CO ₂ emission factor of fuel type i in year y (t CO ₂ /GJ)
$EG_{m,y}$	=	Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)
m	=	All power units serving the grid in year y except low-cost/must-run power units
i	=	All fuel types combusted in power unit m in year y
y	=	The relevant year as per the data vintage chosen in Step 3

Step 5. Calculate the BM emission factor

In terms of vintage of data, one of the following two options can be chosen:

Option 1 - For the first crediting period, calculate the build margin emission factor ex ante based on the most recent information available on units already built for sample group m at the time of CPA-PDD submission to the DOE for validation. For the second crediting period, the build margin emission factor should be updated based on the most recent information available on units already built at the time of submission of the request for renewal of the crediting period to the DOE. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used. This option does not require monitoring the emission factor during the crediting period, or

Option 2 - For the first crediting period, the build margin emission factor shall be updated annually, ex post, including those units built up to the year of registration of the project activity or, if information up to the year of registration is not yet available, including those units built up to the latest year for which information is available. For the second crediting period, the build margin emissions factor shall be calculated ex ante, as described in Option 1 above. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used.

The information on units already built for sample group m is available, so Option 1 shall be chosen for CPAs.

The BM emissions factor is the generation-weighted average emission factor (tCO₂ /MWh) of all power units m during the most recent year y at the time of inclusion of CPA under the second PoA renewal period for which power generation data is available. It is calculated as follows:

$$EF_{grid,BM,y} = \frac{\sum_m EG_{m,y} \times EF_{EL,m,y}}{\sum_m EG_{m,y}}$$

Where:

$EF_{grid,BM,y}$	=	Build margin CO ₂ emission factor in year y (tCO ₂ /MWh)
$EG_{m,y}$	=	Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)
$EF_{EL,m,y}$	=	CO ₂ emission factor of power unit m in year y (t CO ₂ /MWh)
m	=	Power units included in the build margin
y	=	Most recent historical year for which power generation data is available

Step 6. Calculate the CM emission factor

According to the tool, the calculation of the combined margin (CM) emission factor ($EF_{grid, CM, y}$) is based on one of the following methods:

- (a) Weighted average CM; or
- (b) Simplified CM

The CME chooses the weighted average CM method to calculate CM emission factor for the PoA.

The combined margin emissions factor is calculated as follows:

$$EF_{grid, CM, y} = EF_{grid, OM, y} \times w_{OM} + EF_{grid, BM, y} \times w_{BM}$$

Where:

$EF_{grid, CM, y}$	=	Combined margin CO ₂ emission factor of national grid in year y (tCO ₂ /MWh)
$EF_{grid, OM, y}$	=	Operating margin CO ₂ emission factor of national grid in year y (tCO ₂ /MWh)
w_{OM}	=	Weighting of operating margin emissions factor (%)
$EF_{grid, BM, y}$	=	Build margin CO ₂ emission factor of national grid in year y (tCO ₂ /MWh)
w_{BM}	=	Weighting of build margin emissions factor (%)

According to version 07.0 of the "Tool to calculate the emission factor for an electricity system", the weightings of both operating margin emission factor and build margin emission factor will be linked to crediting period of CPAs that will be included during the second PoA renewal period.

For the first crediting period of CPAs: The following default weightings are applied:

$$w_{OM} = 0.5 \text{ and } w_{BM} = 0.5$$

For the second crediting period of CPAs: The following default weightings are applied:

$$w_{OM} = 0.25 \text{ and } w_{BM} = 0.75$$

For this renewal crediting period of the CPA, the emission factor is calculated using:

- Latest national data: The published data by the host country DNA of Vietnam, Department of Climate Change, Ministry of Natural Resources and Environment of Vietnam on 12/03/2020; and
- Latest calculation tool: The Version 07.0 of : "Tool to calculate the emission factor an electricity system" valid from 31/08/2018 onward,

The Emission Factor of Vietnam Electricity System was calculated and published by DNA of Vietnam, Department of Climate Change, Ministry of Natural and Environment of Viet Nam on 12/03/2020 using Version 07.0 of "Tool to calculate the emission factor for an electricity system", including:

The operating margin emission factor: $EF_{grid, OM, y} = 0.8795 \text{ tCO}_2/\text{MWh}$

And build margin emission factor: $EF_{grid, BM, y} = 0.9465 \text{ tCO}_2/\text{MWh}$

The combined emission factor is calculated as follows:

$$EF_{grid, CM, y} = EF_{grid, OM, y} \times w_{OM} + EF_{grid, BM, y} \times w_{BM}$$

Where:

w_{OM} : Weighting of OM emission factor (%)

w_{BM} : Weighting of BM emission factor (%)

For the second crediting period of the CPA: The following default weightings are applied:

$$w_{OM} = 0.25 \text{ and } w_{BM} = 0.75$$

So in the renewal crediting period, the CM emissions factor is derived as follows:

$$EF_{grid,CM,y} = 0.25 \times 0.8795 + 0.75 \times 0.9465 = 0.92975 \text{ tCO}_2/\text{MWh}$$

The CM emission factor shall be fixed for the second crediting period of the CPA.

III. Leakage (LE_y)

According to ACM0002, version 20.0, no leakage emissions are considered. Thus, $LE_y = 0$.

IV. Emission reductions (ER_y)

Emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y$$

Where:

ER_y Emission reductions in year y (tCO₂e)

BE_y Baseline emissions in year y (tCO₂e)

PE_y Project emissions in year y (tCO₂)

B.4.2. Data and parameters fixed ex ante

Data/Parameter	Cap _{BL}
Data unit	MW
Description	Installed capacity of hydropower plant before the implementation of the project activity.
Source of data	This is a green-field project. This value does not exist prior to the implementation of the project activity
Value(s) applied	0
Choice of data or measurement methods and procedures	The project activity constructs a new hydropower plant, so Cap_{BL} is considered by zero according to version 20.0 of ACM0002.
Purpose of data	Calculation of baseline emissions
Additional comment	

Data/Parameter	A _{BL}
Data unit	m ²
Description	Area of the single or multiple reservoirs measured in the surface of the water, before the implementation of the project activity, when the reservoir is full. For new reservoirs, this value is zero.
Source of data	This is a green-field project. This value does not exist prior to the implementation of the project activity
Value(s) applied	0
Choice of data or measurement methods and procedures	The project activity builds a new single reservoir, so A_{BL} is considered by zero according to version 20.0 of ACM0002.
Purpose of data	Calculation of project emissions
Additional comment	

Data/Parameter	EF_{grid,OM,y}
Data unit	tCO ₂ /MWh
Description	Operating margin Emission Factor of Vietnam national electricity grid
Source of data	Data published by DNA Vietnam
Value(s) applied	0.8795
Choice of data or measurement methods and procedures	The EF _{grid,OM,y} was calculated and published by Ministry of Natural resources and Environment, Department of Climate change on 12/03/2020
Purpose of data	Calculation of baseline emissions
Additional comment	

Data/Parameter	EF_{grid,BM,y}
Data unit	tCO ₂ /MWh
Description	Build margin Emission Factor of Vietnamese national electricity grid
Source of data	Data published by DNA Vietnam
Value(s) applied	0.9465
Choice of data or measurement methods and procedures	The EF _{grid,OM,y} was calculated and published by Ministry of Natural resources and Environment, Department of Climate change on 12/03/2020.
Purpose of data	Calculation of baseline emissions
Additional comment	

Data/Parameter	EF_{grid,CM,y}
Data unit	tCO ₂ /MWh
Description	Combined margin CO ₂ emission factor for grid connected power generation in year y
Source of data	Data published DNA Viet Nam (Ministry of Natural resources and Environment, Department of Climate Change)
Value(s) applied	0.92975
Choice of data or measurement methods and procedures	The EF _{grid,CM,y} is calculated using published data by Ministry of Natural resources and Environment, Department of Climate Change on 12/03/2020 and Version 07.0 of "Tool to calculate the emission factor for an electricity system" As per the "Tool to calculate the emission factor for an electricity system"
Purpose of data	Calculation of baseline emissions
Additional comment	Fixed for the second crediting period.

B.4.3. Ex ante calculation of emission reductions

Emission reductions generated by the CPA are calculated ex-ante on the basis of the equations and parameters presented and explained in the section I.6.1 of the PoA-DD and B.4.1 of this document.

Starting date of the 2nd crediting period is 01/01/2020.

I. Project emissions (PE_y)

The project activity involves the construction of the power plant with the parameters detailed in table below:

Table 9: Installed capacity and respective reservoir area of CPA

Parameter	Unit	Symbol	Value
Installed capacity	W	Cap_{PJ}	3,500,000
Reservoir area	m ²	A_{PJ}	88,900 ⁹

The power density (PD) is derived as:

$$PD = \frac{Cap_{PJ} - Cap_{BL}}{A_{PJ} - A_{BL}} = \frac{3,500,000 - 0}{88,900 - 0} = 39.4 \text{ W/m}^2$$

It is greater than 10 W/m², thus the project emission is zero: $PE_y = 0$

Because the power density of this proposed project is higher than 10 W/m², the monitoring of total electricity generation TEG_y was excluded from the monitoring section.

II. Baseline emissions (BE_y)

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity, calculated as follows:

$$BE_y = EG_{facility,y} \times EF_{grid,CM,y}$$

Where:

$$\begin{aligned} EG_{facility,y} &= 14,415 \text{ MWh} \\ EF_{grid,CM,y} &= 0.92975 \text{ tCO}_2/\text{MWh} \end{aligned}$$

Therefore:

$$BE_y = 14,415 \times 0.92975 = 13,402 \text{ tCO}_2$$

III. Leakage (LE_y)

According to ACM0002, version 20.0, No leakage emissions are considered. These emissions sources are neglected. Thus $LE_y = 0$.

IV. Emission reductions (ER_y)

Emission reductions are calculated as follows:

$$\begin{aligned} ER_y &= BE_y - PE_y \\ &= 13,402 \text{ (tCO}_2\text{e)} \end{aligned}$$

B.4.4. Summary of ex ante estimates of emission reductions

Table 10: Ex-ante estimation of emission reductions

Year	Baseline emissions (t CO ₂ e)	Project emissions (t CO ₂ e)	Leakage (t CO ₂ e)	Emission reductions (t CO ₂ e)
Year 1 (2020)	13,402	0	0	13,402
Year 2 (2021)	13,402	0	0	13,402
Year 3 (2022)	13,402	0	0	13,402
Year 4 (2023)	13,402	0	0	13,402
Year 5 (2024)	13,402	0	0	13,402
Year 6 (2025)	13,402	0	0	13,402

⁹ Area of reservoir is measured in 02/2020 at beginning of the 2nd crediting period.

Year 7 (2026)	13,402	0	0	13,402
Total	93,814	0	0	93,814
Total number of crediting years	7			
Annual average over the crediting period	13,402	0	0	13,402

B.5. Monitoring plan

B.5.1. Data and parameters to be monitored

Data/Parameter	EG_{y, export}
Data unit	MWh
Description	Electricity supplied by the proposed CPA to the national grid,
Source of data	Direct measurement at the project connection point
Value(s) applied	14,415
Measurement methods and procedures	Two-way power meters will be installed at the grid-connected point to measure the amount of electricity supplied and consumed by the proposed project. The readings of electricity meter will be hourly measured and monthly recorded. The recorded data will be confirmed by the joint balance sheet which will be signed by the representatives of EVN and the project owner. Electronic data will be archived within the crediting period and 2 years after the end of the crediting period.
Monitoring frequency	Continuous measurement and monthly recording
QA/QC procedures	The uncertainty level of this data is low. The measurement/ monitoring equipment should be complied with national standard and technology. These equipment and systems should be calibrated and checked every three years according to the current regulation in Vietnam.
Purpose of data	Calculation of baseline emissions
Additional comment	

Data/Parameter	EG_{y, import}
Data unit	MWh
Description	Electricity supplied by the national grid to the proposed CPA
Source of data	Direct measurement at the project connection point
Value(s) applied	0
Measurement methods and procedures	Two-way power meters will be installed at the grid-connected point to measure the amount of electricity supplied and consumed by the proposed project by the reverse direction. The readings of electricity meter will be hourly measured and monthly recorded. The recorded data will be confirmed by the joint balance sheet which will be signed by the representatives of EVN and the project owner. Electronic data will be archived within the crediting period and 2 years after the end of the crediting period.
Monitoring frequency	Continuous measurement and monthly recording
QA/QC procedures	The uncertainty level of this data is low. The measurement/ monitoring equipment should be complied with national standard and technology. These equipment and systems should be calibrated and checked every three years according to the current regulation in Vietnam,
Purpose of data	Calculation of baseline emissions
Additional comment	

Data/Parameter	EG_{facility,y}
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Data unit	MWh
Description	Net electricity supplied to the national grid by the proposed project
Source of data	Calculating from $EG_{y, \text{import}}$ and $EG_{y, \text{export}}$
Value(s) applied	14,415
Measurement methods and procedures	Calculating by subtracting $EG_{y, \text{import}}$ from $EG_{y, \text{export}}$. Double checking by the joint balance sheet issued by EVN and project owner to ensure the consistency. Data will be archived within the crediting period and 2 years after the end of the crediting period.
Monitoring frequency	Continuous measurement and monthly recording
QA/QC procedures	The uncertainty level of this data is low. The measurement/ monitoring equipment should be complied with national standard and technology. These equipment and systems should be calibrated and checked every three years according to the current regulation in Vietnam.
Purpose of data	Calculation of baseline emissions
Additional comment	N/A

Data/Parameter	A_{PJ}
Data unit	m^2
Description	Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full.
Source of data	Project site
Value(s) applied	88,900
Measurement methods and procedures	Measured from topographical surveys, satellite pictures and maps yearly
Monitoring frequency	Once at the beginning of each crediting period
QA/QC procedures	The uncertainty level of this data is low.
Purpose of data	Calculation of project emissions
Additional comment	

Data/Parameter	Cap_{PJ}
Data unit	W
Description	Installed capacity of the hydro power plant after the implementation of the project activity.
Source of data	Project site
Value(s) applied	3,500,000
Measurement methods and procedures	Determine the installed capacity by taking photographs of the nameplates. And the value in nameplate will be included in the monitoring report.
Monitoring frequency	Once at the beginning of each crediting period
QA/QC procedures	The capacity of this project will not be changed. The monitoring of Cap_{PJ} will be taken yearly and will be confirmed by the Verifier
Purpose of data	Calculation of project emissions
Additional comment	N/A

B.5.2. Sampling plan

Not applicable

B.5.3. Other elements of monitoring plan

Since the baseline emission factor of Viet Nam National Grid ($EF_{grid, CM, y}$) is fixed ex-ante (detail in Section B.5), therefore the main data to be monitored is $EG_{\text{facility}, y}$. $EG_{\text{facility}, y}$ will be calculated according to the below formula:

$$EG_{\text{facility},y} = EG_{y, \text{ export}} - EG_{y, \text{ import}}$$

The electricity generated from the project activity will be sold to the EVN for the complete project lifetime under a long-term PPA with EVN.

The electricity generated from the project activity before entering into the grid at the grid interconnection point will be measured by a digital kilowatt hour (kWh) meter. The metering system includes the main system and a back-up system. The back-up system will be used in case of a failure of the main meter.

Data from the operating meters will be measured hourly. Additionally, monthly manual readings will be taken from the operating meters.

Monthly, EVN staff and staff of the operation division of the power plant will cross-check manual meter readings with the electronically recorded data and prepare and sign a joint balance sheet which indicates the amount of power fed into the grid within that month.

This joint balance sheet is also the basis of payment by the EVN to the project proponent. Hence, the monitoring plan is well integrated into the standard EVN procedures.

SECTION C. Start date, crediting period type and duration

C.1. Start date of CPA

05/07/2010 (date of signing the EPC Contract)

This is the earliest contract signed by the project owner to commit for the project's expenditures. This is in accordance with the "CDM Glossary of Terms/version 05", which define the starting date of project as "the earliest date at which either the implementation or construction or real action of a project activity begins".

C.2. Expected operational lifetime of CPA

36 years 0 months

C.3. Crediting period of CPA

C.3.1. Type of crediting period

Renewable crediting period

The second crediting period

C.3.2. Start date of crediting period

The start date of 2nd crediting period: 01/01/2020.

C.3.3. Duration of crediting period

7 years

SECTION D. Environmental impacts

D.1. Analysis of environmental impacts

☐ Please tick if this information is provided at the PoA level

1. Environment Impacts

1.1. Impact on land

The proposed project will occupy 10.27 ha¹⁰ of land for arrangement of project structures, which mainly consists of uncultivated bush land and river land.

No historical culture and archaeological places exist in the project site.

1.2. Impact on water flow

The project will create a reservoir with a total area of 8.9 ha. So in the reservoir filling period, the river flow will be reduced. When completed, the reservoir will be used for the purpose of generating electricity.

So the main impact on water quality is the disposal of septic wastewater discharging from the work camps and waste oil from the truck and vehicle during the construction phase.

1.3. Impacts on ecological system

The Thoong Cot 2 hydropower project does not cross-out any natural conservation areas, national forests or specialized forest.

The reservoir will adjust local climate to be more moderate. This fine weather not only has positive impacts on local people health but also has favorable impacts on surrounding flora system.

During the construction period, the project's activities such as material exploitation, material transportation, mine explosion as well as the concentration of workers will have certain negative impacts on local environments, namely local air and noise pollutions.

However, these impacts are temporary and will be terminated after completing the construction phase.

2. Socio-economic impacts

2.1. Negative impacts

Negative impacts are mainly impacts on occupied land. Most occupied land is uncultivated bush land and least agricultural. The occupied land will be compensated adequately under the government law.

2.2. Positive impacts

As presented in Section A.2

3. Mitigation measures to reduce negative impacts

3.1. Construction phase

- *Waste collection and treatment*
 - Implement regular collection and treatment of solid and liquid wastes, including the construction of a dumping area.
 - Improve awareness on the environmental protection for workers and local people.
- *Local pollution*
 - Dust removal measures will be taken such as spraying water along the roads.
 - All means/vehicles for transport of construction materials must be covered in order to minimize dust dispersion.
 - All transport equipment/vehicles and machines must have operational certifications issued by the Directorate for Standards and Quality.
- *On socio-economic impacts:*
 - Implement the compensation plan for the affected local people according to the government law.

3.2. Operational phase

¹⁰ Contract of land for rent dated 30 June 2010

Preventive measures and reaction towards environment problems: Installing monitoring equipment to monitor absorption and distortion of water rising and water quality released from the plant and proposing suitable preventive measures if required.

4. Conclusion

The main negative impacts on environment happen during the construction phase. However, all these impacts will be mitigated by implementing mitigation measures and then will be terminated after finishing the construction. Preventive and mitigation measures are planned to be conducted during the operation period to reduce and prevent any negative impacts.

D.2. Environmental impact assessment

Pursuant to the Environment Law year 2005 of Viet Nam, the project owner has to submit the Environment Impact Assessments and got the approval for the CPA. The Environment Impact Assessment has been approved by People's Committee of Cao Bang Province in December of 2006 in the Decision No. 183/QD-HDTD.

Furthermore, based on the impact assessments of the proposed CPA, the EIA report proposes that the mitigation measures shall be conducted during the construction and operation phases in order to minimize the negative impacts and ensure the long-term benefits from this project.

The surface water license is to be obtained from the Ministry of Natural Resources & Environment before operation as this is mandatory for this type of project in Viet Nam.

SECTION E. Local stakeholder consultation

E.1. Modalities for local stakeholder consultation

The project owner has submitted the FS and EIA report to the People Committee of Cao Bang province. Then the People Committee has authorised for the project owner to develop this investment project via issuance of the investment license and approved the EIA report. After that, the People Committee has granted investment approval for the project activity by issued investment license (No 11121000005/GCND1/11/1) on 13 December 2006.

Besides, the local people of Chi Vien commune were involved in the consultation process. At first, the stakeholders were informed about the project by public radio and notices at the Communal People Committee's office. And then, they were invited to the official meetings with the project owner for giving their comments.

Given that all local people living in Chi Vien commune are ethnic minorities, then the communication with local people was made via local representatives.

On 12 March 2010, the meetings at Chi Vien commune between the project owner and the following representatives of the local people took place in order to inform the project activity:

- Commune's People Council.
- Commune's People Committee (CPC).
- Commune's communist party committee secretary.
- Village's representatives

E.2. Summary of comments received

All organizations agreed that the project will certainly contribute to sustainable development and environment protection in the province and Viet Nam and especially this project will increase local budget and reduce poverty in the project's region.

Comments and feedbacks from local people and local authority are summarized as follows:

- The proposed hydropower project is a clean industrial project and will contribute to socio-economic development of the project's area;

- The good impacts are expected to include infrastructure improvement such as road, electricity access, and clean water system. Besides, the increase of awareness and market access also implies the positive impacts on spiritual and material lives of local people;
- The project will contribute to conservation of forest and environmental protection;
- Support the local area with upgraded infrastructure and employed local workers.
- Conduct measures to protect the environment according to the government law.
- Compensate for the affected people.

E.3. Consideration of comments received

The comments of the above mentioned organisations are carefully reviewed. All of them are positive comments without any main concerns or any objections.

To address the requests from local people, the project's owner committed to:

- use local human resources for appropriate jobs in the construction and operation phases;
- seriously apply and implement mitigation activities as stated in the EIA report in order to minimise negative impacts on local environment.
- comply with existing regulation on compensations and agreements with the households to implement a fair and reasonable plan. The project owner has negotiated and reached an agreement with each affected households. The payment to each household is made under the supervision of the local government.

SECTION F. Eligibility for inclusion

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	Description of this CPA in relation to the criterion and supporting evidence
1	Geographical boundary	Comprise one or more newly developed grid-connected hydro power plants located within the geographical boundary of Viet Nam.	General Description Volume – Feasibility Study report of Thoong Cot 2 project	The CPA is a newly developed grid-connected hydropower plant located in Chi Vien commune, Trung Khanh district, Cao Bang province, Viet Nam.
2	Installed capacity	Have a maximum installed capacity below or equal to 30 MW to be qualified as a small hydropower plant under Vietnamese regulations.	General Description Volume – Feasibility Study report of Thoong Cot 2 project	The CPA capacity is 3.5 MW ¹¹ which is below the limit capacity of 30 MW.
3	Double counting	Be uniquely identified project which is neither registered as a CDM project activity nor included in another registered PoA to avoid double counting of emission reductions.	Check against the database of the CME	The CPA is neither registered as a CDM project activity nor included in another registered PoA to avoid double counting of emission reductions ¹² .
4	Equipment	Use newly built equipment to generate electricity from hydro power.	EPC contract	The CPA uses new imported equipment.
5	Start date	Have start date not prior to 23 December 2009 which is the date when the PoA first published for global stakeholder consultation (in accordance to EB 55, Annex 38, paragraph 7d) or in the case of the CPA having start date before 23 December 2009, have start date between 22 June 2007 and 23 December 2009 and be included in the list that have been provided to UNFFCC for this PoA (in accordance to EB 47 Meeting Report, paragraph 72)	EPC contract	The start date of the CPA is 05 July 2010 which is after the start date of PoA.

¹¹ General Description Volume - Feasibility Study report of Thoong Cot 2 project

¹² Check against the database of the CME.

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	Description of this CPA in relation to the criterion and supporting evidence
6	Methodology requirements	Be in line with requirements Methodology ACM0002, version 20.0: "Grid-connected electricity generation from renewable sources" for hydro power projects. The CPA shall meet the following sub-criteria:	Detailed below	The CPA is in line with version 20.0 of ACM0002 requirements for hydro projects.
		- not include any activities that consist of capacity additions, retrofits or replacements;	General Description Volume - Feasibility Study report of Thoong Cot 2 project	The CPA does not include any activities that consist of capacity additions, retrofits or replacements.
		- be a hydro power plant/unit either with a run-of-river reservoir or accumulation reservoir. In case the CPA utilizing new single or multiple reservoirs, the power density of each reservoir must be greater than 4 W/m ² with or without the volume increased	Calculated from installed capacity and reservoir's area	The CPA is a hydropower plant with a new single reservoir with power density of 39.4 W/m ²¹³
		- Not result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m ²	General Description Volume - Feasibility Study report of Thoong Cot 2 project	The CPA does not result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m ²¹⁴
7	CER rights	Have a cooperation agreement with the CME to participate in the PoA. The Agreement shall clearly state that CPA owner cedes its rights to claim and own emission reductions under the CDM of the UNFCCC or any voluntary scheme to the CME of the present PoA.	Emission Reduction Purchase Agreement between CPA owner and the CME	The CPA owner has a cooperation agreement with the CME to participate in the PoA and cedes its rights to claim and own emission reductions under the Clean Development Mechanism of the UNFCCC or any voluntary scheme to the CME ¹⁵ .

¹³ Calculated from installed capacity and reservoir's area

¹⁴ General Description Volume - Feasibility Study report of Thoong Cot 2 project

¹⁵ Emission Reduction Purchase Agreement between CPA owner and the CME

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	Description of this CPA in relation to the criterion and supporting evidence
8	Additionality	<p>Additionality of GHG emission reductions is demonstrated in accordance to the “Tool for the demonstration and assessment of additionality”, version 7.0.0 (for new CPAs). This means the CPA shall meet the following sub-criteria:</p> <ul style="list-style-type: none"> • Demonstrate that the Project IRR is either less than the Commercial Lending rate or less than the Weighted Average Cost of Capital (WACC), in cases where the WACC is chosen as the appropriate Benchmark. It shall also be demonstrated that such conclusion is confirmed by a means of a sensitivity analysis. • CPA is not common practice in Viet Nam 	<p>Input for calculating investment analysis will taken from:</p> <ul style="list-style-type: none"> • FSR • Published data on local commercial lending rates <p>Other relevant available document.</p>	<p>For new CPAs to be included, additionality shall be demonstrated in accordance to the “Tool for the demonstration and assessment of additionality”, version 7.0.0. This CPA is only for RCP, additionality is not re-demonstrated.</p>
9	Stakeholder consultations and environmental impact analysis	Undertake stakeholder consultations and environmental impact analysis as per requirements of the CDM modalities and procedures as well as the relevant laws and regulations of Viet Nam.	Feasibility Study Approval, Environmental Impact Assessment Report Approval, Investment Licence of Thoong Cot 2 project	The CPA undertakes stakeholder consultations and environmental impact analysis as per requirements of the CDM modalities and procedures as well as the relevant laws and regulations of Viet Nam. Please refer to Section D.
10	Diversion of official development assistance	The CPA should have no public funding from Annex I countries resulting into the diversion of official development assistance or public funding.	Declaration by the Project Owner	The CPA does not result into the diversion of official development assistance or public funding.
11	Target group	The CPA should be a grid-connected hydropower project.	PPA of Thoong Cot 2	The CPA is a grid-connected hydropower project.

Pursuant to the PoA-DD for the Viet Nam Small Hydro PoA the “Tool for the demonstration and assessment of additionality” - version 07.0.0 is applied.

As per CDM project standard for programmes of activities, version 02.0, item 11 “Renewal of programme of activities period and renewal of crediting period of component project activities”:

“285. For renewal of the PoA period of a registered CDM PoA, the coordinating/managing entity is not required to reassess the additionality of the PoA nor update the section of the PoA-DD relating to additionality.”

“299. To renew the crediting period of an included CPA, the coordinating/managing entity shall, using the valid version of the applicable CPA-DD form, update the sections of the CPA-DD in accordance with the latest version of the PoA-DD, relating to the demonstration of eligibility for being included in the PoA, the baseline, estimated GHG emission reductions or net anthropogenic GHG removals, the monitoring plan and the crediting period.”

Therefore, the reassessment of the additionality of the included CPA is not required for renewing crediting period.

Step 1: Identification of alternatives to the project activity consistent with current laws and regulations

Sub-step 1a: Define alternatives to the project activity

Pursuant to the PoA-DD the CPA will consider the following two alternatives in the assessment of additionality:

- Alternative 1: the proposed CPA is undertaken without the CDM
- Alternative 2: continuation of the current situation. In this case, the proposed CPA will not be constructed and the power it would produce will be solely supplied from the Viet Nam national grid.

Sub-step 1b: Consistency with mandatory laws and regulations

The “continuation of the current situation” alternative does not face any barrier from the current law and regulation in Viet Nam because it is the “do-nothing” alternative. The project owner of the Thoong Cot 2 Hydropower plant has no obligation to build or invest in the power plant to supply electricity for the local area. Hence this alternative is consistent with mandatory laws and regulations.

Step 2: Investment analysis

Sub-step 2a: Determine appropriate analysis method

The appropriate analysis method for conducting the investment analysis is the benchmark analysis (Option III).

Sub-step 2b: Option III. Apply benchmark analysis

Pursuant to the PoA-DD, either local commercial lending rate or WACC approach can be used for the CPA.

- In case of using local commercial lending rates as a benchmark for the project IRR, the benchmark should be derived from the average long-term lending rates available from the beginning of calculated year up to the date of decision making. All data is sourced from weekly reports published by the State Bank of Viet Nam on its official website (<http://www.sbv.gov.vn/wps/portal/en>).
- In case of using WACC approach, the project participant should apply the WACC equation to estimate the *required return on capital* as a benchmark for the project IRR as follows:

$$WACC = E * R_e + D * R_d * (1 - T_c) \quad (1)$$

Where:

R_e : cost of equity

R_d : cost of debt

E : Average industry equity ratio

D : Average industry debt ratio

T_c : Average enterprise tax rate

This CPA opts for using local commercial interest rate approach to the investment analysis.

The average long-term lending rates available from the beginning of calculated year up to the date of decision making as published in the weekly reports of the State Bank of Viet Nam is 13.66%.

Determine average Enterprise Tax rate

According to the latest legal document at the date of investment decision (Decree No.124/2008/ND-CP dated 11 December 2008 of the Government) the Company will enjoy tax exemption for the first 4 years and 50% reduction of payable tax amount for 9 subsequent years. The incentive rate of 10% is applied till 15 years and for the remaining lifetime of the project, enterprise revenue tax is 25%. Therefore the average enterprise tax during the lifetime of the project is 16.39%.

The post-tax value of the lending rate is calculated as follows:

Lending rate (pre-tax value)*(1- tax rate)= 13.66*(1-16.39%)=11.42%

So the benchmark is 11.42% at the date of making the investment decision¹⁶.

Sub-step 2c: Calculation and comparison of financial indicators

Project IRR is estimated using the standard spreadsheet referred to in the PoA-DD and based on the following input parameters:

Table 4: Parameters for calculation of Project IRR¹⁷

No	Parameter	Unit	Value
1	Investment decision date ¹⁸	DD/MM/YY	29/06/2010
2	Construction start date	Year	2010
3	Date project starts operating	Year	2012
4	Installed capacity ¹⁹	MW	3.5
5	Total investment cost ²⁰	thousand VND	94,918,483
6	Total annual O&M cost ²¹	%	1.5
7	Period of financial assessment (Life time) ²²	Year	36
8	Fair value ²³	Billion VND	0
9	Annual net electricity generation ²⁴	MWh	14,415
10	Electricity price ²⁵	VND/kWh	783.32

¹⁶ Calculation of benchmark is indicated in the Excel sheet

¹⁷ All data used for the IRR calculation are based on information which were available at the investment decision date

¹⁸ Investment decision by management board

¹⁹ General Description Volume -Feasibility Study Report

²⁰ Total investment cost volume in FSR

²¹ According to Decision No. 2014/QĐ – BCN issued by the Ministry of Industry, the OM Cost for project with capacity lower than 30 MW is from 1% to 2% of the total investment cost. The applied O&M cost for this CPA is the weighted average rate adjusted for the CPA's installed capacity.

²² Lifetime for financial analysis was based on the lifetime of equipment according to Version 1 of "Tool to determine the remaining lifetime of equipment"

²³ Because the project IRR calculations has reflected "the period of expected operation of the underlying project activity (technical lifetime)", after the project lifetime, the fair value is not need to be considered. It is consistent with "Guidance on Assessment of Investment Analysis" (version 05), Annex 5, EB 62 that states only "if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period".

²⁴ Electricity Generation subtract the internal use and loss load

²⁵ Electricity price is calculated based on Decision No.73/QĐ-DTDL dated 30 December 2009 on avoided cost tariff application in 2010 and information from General Description Volume in FSR.

11	Enterprise revenue tax ²⁶ <ul style="list-style-type: none"> For the first 4 years For the next 9 years For next 2 years For the remaining years 	%	0 5 10 25
12	Project IRR	%	8.62

This table shows that the project IRR of the CPA was lower than the value of the commercial lending rate benchmark at the date of the investment decision.

Sub-step 2d: Sensitivity analysis

The results of the sensitivity analysis conducted pursuant to the PoA-DD are reported in the table below:

Table 5: Framework for reporting results of sensitivity analysis

	IRR	Variation that hits the benchmark	Likelihood of hitting the benchmark
Annual amount of electricity exported to the national grid +10%	9.78%	+24.49%	The probability of a 24.49% increase in annual export to the national grid is very unlikely. This is because the potential hydrology of the stream has been surveyed by the third party based on a long term record data of the government. It is concluded that the hydrological condition is not possible to sustain a 24.49 % annual increase compared with the current estimation for the entire crediting period. This option shall be discarded.
Feed in price set by EVN +10%	9.81%	+23.83%	The probability of a 23.83% increase in feed in tariff annually is very unlikely because the power purchaser (EVN) has to increase the selling electricity price accordingly and both increases in the purchasing or selling prices must get the approval by the government. If it would happen, this rate would cause an economic and social crisis that would definitely not allowed by the government. So this option shall be discarded.
O&M cost -10%	According to EB 51, Annex 58, paragraph 17: "only variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenue should be subjected to reasonable variation", The O&M cost constitutes only 1.5% of the total investment cost of this proposed project. Therefore, it's not considered in this analysis.		
Total investment cost -10%	9.76%	-21.69 %	The probability of a 21.69 % decrease in the total investment cost is not likely to happen because the average consumer prices (reflecting the inflation rate)

²⁶ Government Decision No 124/2008/ND-CP on implementation of enterprise tax law issued on 11 December 2008, Chapter 2: Article 10 Item 1 and Chapter 4: Article 16 - Item 2

			in 2008, 2009 and 2010 ²⁷ have an annual increase of 23.1%, 6.7% and 12% respectively. So this option shall be discarded.
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The sensitivity analysis shows that the project IRR is lower than the benchmark in all cases. **In conclusion, the proposed CPA is unlikely to be financially attractive.**

Step 3: Barrier analysis

Not applied.

Step 4: Common practice analysis

For the purpose of common practice analysis, hydropower projects in the whole Viet Nam are taken into account. Therefore, the entire host country is chosen as the applicable geographical area.

Sub-step 4a: Analyse other activities similar to the proposed project activity

According to the para 47 of the “Tool for the demonstration and assessment of additionalily”, version 06.0.0, EB 65, the project activity falls in the type of “Switch of technology with or without change of energy source, including the use of renewable energies” which listed in the para 6 of the tool. Therefore, the following Steps wise approached according to the Additional Tool shall be applied to analyze the common practices for the proposed project.

Step 1: Calculate applicable output range as+/-50% of the design output or capacity of the proposed project activity.

The proposed project activity has the installed capacity of 3.5 MW.

So applicable output range as +/-50% of the capacity of the proposed project activity is calculated as from 1.75 MW to 5.25 MW.

Step 2: In the applicable geographical area, identify all plants that deliver the same output or capacity, within the applicable output range calculated in Step1, as the proposed project activity and have started commercial operation before the start date of the project. Note their number N_{all}. Registered CDM project activities and projects activities undergoing validation shall not be included in this step.

The entire host country was chosen as the applicable geographical area.

The comprehensive list of all plants that deliver the same capacity within the applicable output range of 1.75MW to 5.25MW which have started commercial operation before the start date of the proposed project and not developed as CDM project is presented in table below.

²⁷ <http://www.imf.org/external/pubs/ft/weo/2010/01/weodata/weorept.aspx?sy=2008&ey=2015&scsm=1&ssd=1&sort=cou ntry&ds=.&br=1&pr1.x=20&pr1.y=14&c=582&s=PCPIPC&grp=0&a=%23cs1>

Table 6. List of relevant hydropower plant for common practice analysis

No.	Name	Capacity	Construction starting date	Commissioning date	Developed as CDM project
1.	Ayun Ha	3		2001	
2.	Sao Va	3		2004	Yes ²⁸
3.	Ia Meur 3	1.8		2005	
4.	La La	3		2008	Yes ²⁹
5.	Song Muc	2		2008	Yes ³⁰
6.	Dak Drung 1	6		2009	Yes ³¹
7.	Ia Hrung	4.5		2009	Yes ³²
8.	Ta Niet Hydro Power Project	3.6	2006	2009	Yes ³³
9.	Muong Sang Hydropower Project	2.4	2007	2009	Yes ³⁴
10.	Pa Khoang Hydropower Project	2.4	2007	2010	Yes ³⁵
11.	Talat Hydro Power Project	3	2008	2011	Yes ³⁶
12.	Nam Gie Hydro Power Project	4	2008	2011	Yes ³⁷
13.	Dakgret Hydro Power Project	3.6	2008	2011	Yes ³⁸
14.	Daklay Hydro Power Project	3.2	2008	2011	Yes ³⁹

Hydropower plants which belong to output range of 1.75MW to 5.25MW but were developed without CDM are Ayun Ha and Ia Meur 3.

So, one gets $N_{all}=2$.

²⁸ <http://cdm.unfccc.int/Projects/DB/CEC1309759086.62/view>

²⁹ <http://cdm.unfccc.int/Projects/DB/RWTUV1301377895.16/view>

³⁰ <http://cdm.unfccc.int/Projects/DB/TECO1148475244.75/view>

³¹ <http://cdm.unfccc.int/Projects/DB/DNV-CUK1269595584.23/view>

³² There is some delay in construction and the project is under validation stage for being registered as CDM project. <http://cdm.unfccc.int/Projects/Validation/DB/ALJUF4A1IBAJU688W9ALUQG1TWWX7B/view.html>

³³ <http://cdm.unfccc.int/Projects/DB/DNV-CUK1249543116.9/view>

³⁴ <http://cdm.unfccc.int/Projects/DB/KEMCO1232029207.02/view>

³⁵ <http://cdm.unfccc.int/Projects/DB/KEMCO1269222068.05/view>

³⁶ <http://cdm.unfccc.int/Projects/DB/RWTUV1292949913.35/view>

³⁷ Ibit at 31

³⁸ Ibit at 31

³⁹ Ibit at 31

Sub-step 4b: Discuss any similar options that are occurring

Step 3: Identify plants that apply technologies different than the technology applied in the proposed project activity:

The existence of these hydropower plants does not contradict the result of the benchmark analysis stating that the proposed project is financially unattractive, because of the following reasons: Projects Ayun Ha (No. 1) and Ia Meur 3 (No. 3) were all invested and constructed by Gia Lai Electricity Joint Stock Company. It was a state-owned company established by the People's Committee of Gia Lai Kon Tum province in 1989⁴⁰ and has just been privatized in September 2010⁴¹. Its establishment was to meet urgent energy demand for the country's development in the innovative period of Viet Nam which began in 1986. Therefore, at the time of investment, those three projects enjoyed finance from the state budget and did not take place in *in a comparable investment environment* to the proposed project activity.

In term of construction, this company has substantial experiences⁴² in designing, investing, constructing and operating hydropower plants and the project owner of these projects is different with the proposed project who is a private entity that does not have such important role and rich experience.

Moreover, compared to the 2000-2005 period when energy demand was very urgent to meet the "hot" development growth rates of Viet Nam but the price of labour, construction materials, machine is quite cheap and stable, in recent years, Viet Nam has been suffered with high inflation with a sharply increase in prices of construction materials. As a result, the government has promulgated the tightening monetary policy to reduce the annual growth rate in order to control inflation. It therefore gets more difficult to arrange sufficient loan for a non attractive investment project. As demonstrated in Section B5, this project is not an attractive alternative. Without the additional revenue from CDM, it will be non attractive investment project.

Therefore N_{diff} is ascertained to be 2.

Step 4: Calculate factor $F = 1 - N_{diff}/N_{all} = 1 - 2/2 = 0$ that is lesser than 0.2 (for common practice, it should be more than 0.2)

$N_{all} - N_{diff} = 0$ that is smaller than 3 (for common practice, it should be more than 3)

It can be concluded from the above analysis that no similar projects facing the same barriers as the proposed project have been developed without the aid of CDM.

Prior consideration of the CDM:

The major milestones in developing the investment project and CDM application are summarized in the below table.

Table 7: Major milestones in developing the investment project and CDM application

Development of the hydropower project	Activities taken to secure CDM status	Time	Implication on CDM
Issuing the Feasibility Study Report		Oct 2006	
Issuing the investment licence by the People Committee of Cao Bang province		13 Dec 2006	
<i>No action in the period 2007 - 2009 due to lack of finance</i>			

⁴⁰ <http://www.geccom.vn/about.php?id=7>

⁴¹ http://www.ticcom.com.vn/GT_CTDienGL.htm

⁴² <http://www.geccom.vn/services.php?id=2>

CDM-CPA-DD-FORM

	Start date of the PoA	23-Dec-2009	
Finalising the Feasibility Study Report		Jan 2010	
	CDM negotiation with PoA Coordinating/Managing Entity	08-Jan-2010	<i>CDM consideration early</i>
	The minute of the meeting on economic- social and environment impacts and developing the proposed project as the CDM project with stakeholders	12-Mar-2010	<i>CDM consideration early</i>
Issuing the Decision on implementing the investment project with the CDM application by the Management Board		29 - Jun-2010	Date of making investment decision
Signing the EPC contract		05-Jul-2010	<i>Starting date of project activity</i>
	Issuing the LOA for Sustainable Small Hydropower Programme of Activities by DNA Viet Nam	14-Jul-2010	
	Including this project into the PoA	21-Sept-2010	

In conclusion, the proposed CPA is additional.

Appendix 1. Contact information of CPA implementers

Organization name	Eternal Light Company Limited
Country	Viet Nam
Address	No 6, Vu Ngoc Phan Street, Lang Ha Ward, Dong Da District, Ha Noi
Telephone	+84-04-62662722
Fax	+84-04-62662723
E-mail	duycole@yahoo.com
Website	--
Contact person	Trieu Quoc Viet

Appendix 2. Affirmation regarding public funding

There are no public and/or ODA funds involved in this CPA

Appendix 3. Further background information on ex ante calculation of emission reductions

No further information

Appendix 4. Further background information on monitoring plan

The monitoring information of the Thoong Cot 2 Hydropower plant can be seen in details as follows:

A. Description of technical equipment

The metering system including main system and a back-up system will be installed at the grid connecting point. They are digital meters bi-directly with the accuracy of main meter at least 0.5sas required by regulations⁴³. The meter type used is an electronic 3 phase and details on the technical equipment can be found in the hard copy document "Technical explanation for metering system" as developed by the project proponent and approved by EVN.

B. Monitoring organization

The structure of the monitoring group is as follows:

⁴³ Circular No. 32/2010/TT-BCT of Ministry of Industry and Trade dated 30 July 2010

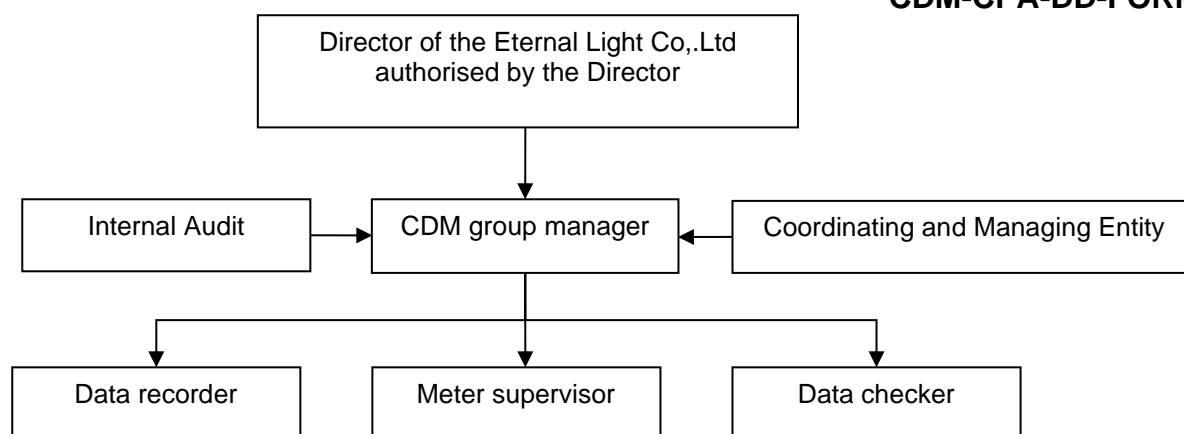


Figure 3: Structure of the monitoring group

The responsibilities of each person involved are elaborated as follows:

Table 11: Group members and their responsibilities

Person	Responsibility
Director of the Eternal Light Co.,Ltd /authorised by the Director	Check and sign the monitoring report annually
CDM group manager	Managing the whole CDM business of Thoong Cot 2 power plant, guiding and supervising data recorder after trained by the Coordinating and Managing Entity.
The Coordinating and Managing Entity	Providing CDM group manager training and technical support about CDM monitoring plan.
Internal auditor	Check the monitoring procedures at least once in a year
Data recorder	Collecting and recording data every month.
Meter supervisor	Checking power meter periodically according to relevant regulation.
Data checker	Double checking the collected data measured by power meter.

C. Monitoring procedure

The steps of monitoring the electricity supplied to the grid and the electricity imported from grid and consumed by the proposed project are as follows:

- (1) Persons in charge of data record and meter supervisor from Thoong Cot 2 power plant together with staff from EVN shall read and collect data from main power meters on the first day of every month, the result will be signed by both parties and kept respectively;
- (2) The data from the backup power meter will be hourly recorded by the person in charge of data record of Thoong Cot 2 power plant. This recorded data will be cross checked with the data from main power meter. Data will be filled in the form provided by Vietnam PoA Carbon Management Joint Stock Company.
- (3) Thoong Cot 2 power plant provides electricity sales invoice to EVN, and keeps the copy of invoice;
- (4) Thoong Cot 2 power plant provides the record of main, backup power meters and copy of invoices to the verifier of DOE.

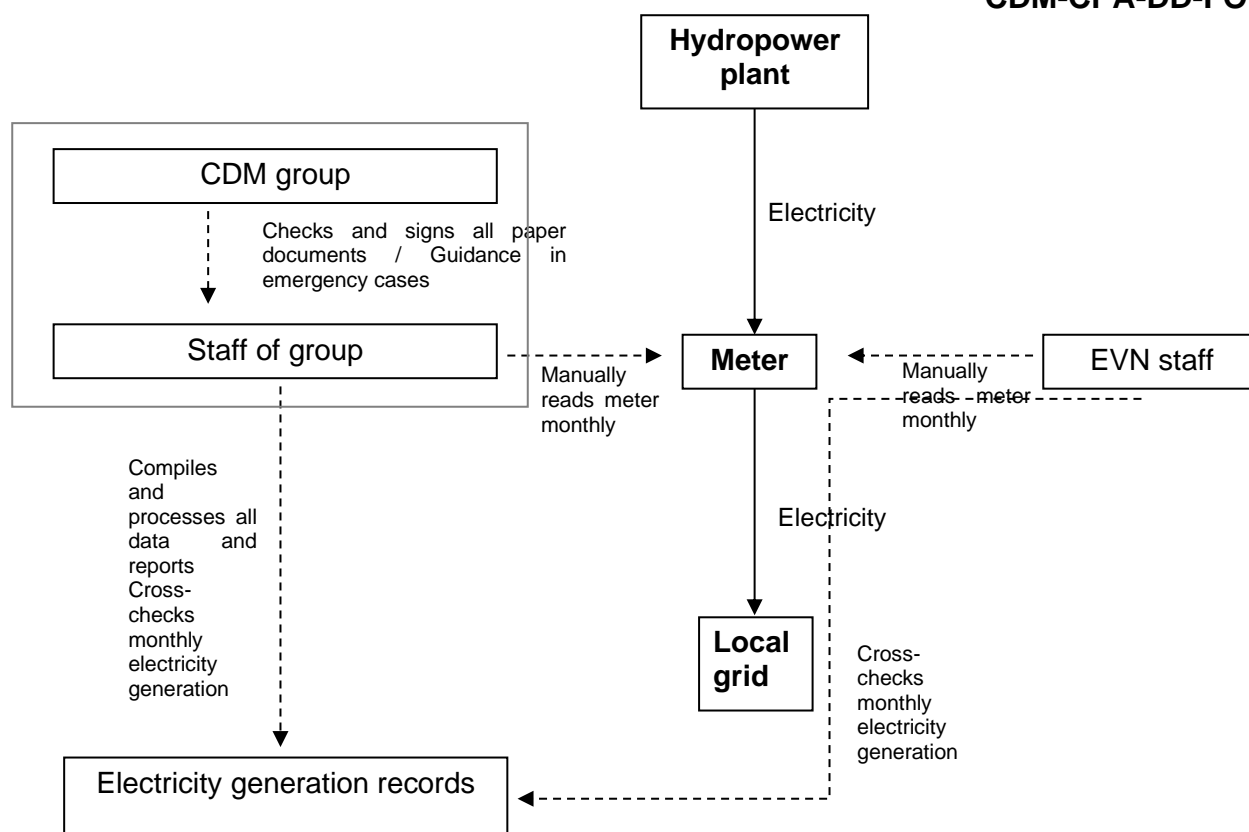


Figure 5: Monitoring process

D. Calibration of metering equipment

The meters will be calibrated and verified pursuant to national standard. According to Calibration standard - DLVN 39:2019 - "Power meters - Verification and calibration procedures" under Decision No 2739/QĐ-TĐC⁴⁴, calibration and verification for 3 phase meters need to be conducted every three years by the third party once during project operation. After every calibration, the meters will be sealed so that no illegal interference is possible.

E. Data recording and archiving procedures

- The CDM group appointed by Thoong Cot 2 power plant shall keep monitored data in electronic archives at the end of every month. Paper documents should be stored in electronic format and copied by CD. Electronic documents should be printed out and kept.
- Thoong Cot 2 power plant shall keep the copy of electricity sales/purchase invoices (the original electricity sales/purchase invoices shall be kept by Finance Department of Eternal Light Co.,Ltd).
- In order to help verifiers obtain documents and information related to the emission reduction of the proposed project, Eternal Light Co.,Ltd shall prepare an index of the data documents and monitoring report.
- All the data and information in the form of paper documents shall be archived by the CDM group, with at least one copy backup for each datum.
- All the data shall be kept for 2 years after the crediting period.

F. Emergency procedures

⁴⁴ Decision No 65/2002/QĐ-BKHCHNMT⁴⁴ issued by Directorate for Standards, Metrology and Quality under Ministry of Science and Technology of the Socialist Republic of Viet Nam on 23 December 2019 on "promulgating metrological technical standard of Viet Nam".

In case of any unforeseen event that is not covered under this monitoring plan, staff of the CDM group shall inform the manager and the director. The manager and director are then responsible to ensure that the cause for the unforeseen event is detected, the event is remedied and for the period of time in which the unforeseen event has occurred uncertainty in data gathered is limited as much as possible.

In the case the error of main meter exceeds allowed level; the backup meter will be used to measure output of electricity exporting to grid.

In case of both main and back-up metering systems are in failure, the project owner and the power company (EVN) will jointly calculate a conservative estimate of power supplied to the grid. The assumptions used to estimate net electricity supply to the grid will be signed by both a representative of the project owner as well as a representative of the power company (EVN).

G. Training

Before the start of the crediting period Vietnam PoA Carbon Management Joint Stock Company will in close collaboration with the chief of the operation division of the power plant develop a training manual and training course for the staff of the operation division that will clearly lay out procedures for all activities related to metering, data recording and processing, data archiving and preparation of monitoring reports.

Appendix 5. Summary report of comments received from local stakeholders

Not applicable

Appendix 6. Summary of post-registration changes

The technical specifications of the turbines and transformers were corrected due to typographical errors. The corrections are in accordance with section "9.3.1. Corrections" of VVS for PoA Version 01.0. The post registration changes was updated in the CPA DD version 5.0 dated on 30/07/2018 and approved dated approved dated 12/12/2018 with PRC Ref No. PRC6095-001.

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
09.0	31 May 2019	Revision to: <ul style="list-style-type: none"> • Ensure consistency with version 02.0 of the “CDM project standard for programmes of activities” (CDM-EB93-A07-STAN); • Make editorial improvements.
08.1	20 October 2017	Editorial revision to remove appendix “Applicability of methodologies and standardized baselines” from the main part of the form which had been mistakenly kept in the previous version.
08.0	28 June 2017	Revision to: <ul style="list-style-type: none"> • Remove appendix “Applicability of methodologies and standardized baselines” as the appendix is not relevant at the CPA level; • Make editorial improvement.
07.0	7 June 2017	Revision to: <ul style="list-style-type: none"> • Improve consistency with the “CDM project standard for programmes of activities” and with the PDD and PoA-DD forms; • Make editorial improvement.
06.0	24 May 2017	Revision to: <ul style="list-style-type: none"> • Ensure consistency with the “Standard: CDM project standard for programme of activities” (CDM-EB93-A07-STAN) (version 01.0); • Incorporate the “Component project activity design document form for small-scale component project activities” (CDM-SSC-CPA-DD-FORM); • Make editorial improvement.
05.0	15 April 2016	Revision to ensure consistency with the “Standard: Applicability of sectoral scopes” (CDM-EB88-A04-STAN) (version 01.0).
04.0	9 March 2015	Revision to: <ul style="list-style-type: none"> • Include provisions related to statement on erroneous inclusion of a CPA; • Include provisions related to delayed submission of a monitoring plan; • Provisions related to local stakeholder consultation; • Provisions related to the Host Party; • Make editorial improvement.
03.0	25 June 2014	Revisions to: <ul style="list-style-type: none"> • Include the Attachment: Instructions for filling out the component project activity design document form for CDM component project activities (these instructions supersede the "Guidelines for completing the component project activity design document form" (Version 01.0)); • Include provisions related to standardized baselines;

<i>Version</i>	<i>Date</i>	<i>Description</i>
		<ul style="list-style-type: none">• Add contact information on a CPA implementer and/or responsible person/ entity for completing the CDM-CPA-DD-FORM in A.13. and Appendix 1;• Add general instructions on post-registration changes in paragraph 4 and 5 of general instructions and Appendix 6;• Change the reference number from F-CDM-CPA-DD to CDM-CPA-DD-FORM;• Make editorial improvement.
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the component project activity design document form" (EB 66, Annex 16).
01.0	27 July 2007	EB 33, Annex 42 Initial adoption.
Decision Class: Regulatory Document Type: Form Business Function: Registration Keywords: component project activity, project design document		