Verified Carbon Standard

UPGRADE OF DOMINICAN POWER PARTNERS' LOS MINA POWER STATION FROM OPEN CYCLE TO COMBINED CYCLE POWER GENERATION

CORAL FUTURE

Document Prepared by Coral Future

Project Title	Upgrade of Dominican Power Partners' Los Mina power station from open cycle to combined cycle power generation
Version	4.0
Report ID	VCS 1103-01
Date of Issue	09 August 2022
Project ID	1103
Monitoring Period	01- April -2017 to 31-October-2021
Prepared By	Coral Future Pte. Ltd.
Contact	Address: 20A, Tanjong Pagar Road, Singapore, 088443 Telephone: +65 312 905 04

Email: santosh@coralfuture.com

Website: https://coralfuture.com/

1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The proposed project includes the construction of a Heat Recovery Steam Generator (HRSGs) that will take advantage of the open cycle generation of the existing natural gas based power plant in Los Mina to produce steam, which will in turn be used to power a 108 MW steam turbine. Los Mina power plant currently includes two 105 MW units, with average historical production of 80MW each, due to grid system requirement. The total capacity of the plant will increase from 210 MW to an expected 318 MW that would be able to cater for the supply to the grid.

The Combined Cycle Project is based on technology that enables recovery of exhaust heat to generate steam to operate a steam turbine for the purpose of power generation, and therefore enables a better utilization of non-renewable resources. Furthermore, the project enables a higher supply of energy to the local market using the same amount of fuel, and in turn enables further development of the country, which is currently limited by its energy supply.

The potential GHG emissions reduction are based on the fact that electricity generated by the project activity using HRSGs will offset electricity from the national grid which is highly fuel oil and open-cycle based. The expected emission reduction from the proposed project is 343,517 tCO_2e annually and 3,435,173 tCO_2e in total over the fix 10 years crediting period.

The implementation status of the project activity is listed as below:

Table 1. Key events of VCS Los Mina project

Date	Key events
01/04/2017	Commercial operation date
01/04/2017 – 31/03/2027 (both day included) Changed from: 01/01/2016 – 31/12/2025 (both days included)	1st crediting period
01/04/2017 – 31/10/2021 (both days included)	1st monitoring period

In the 1stmonitoringperiod from 01/04/2017 to 31/10/2021 (both days included), the proposed project has achieved total **1,144,395tCO_2e**of GHG emission reductions.

1.2 Sectoral Scope and Project Type

Sectoral scope	: 1 Energy industries (renewable-/non-renewable sources)
AFOLU project category and activity type	: Not applicable
Grouped project	: The project is not a grouped project

1.3 Project Proponent

Organization name	DOMINICANPOWERPARTNERS, LCD
Contact person	Freddy Obando
Title	Director
Address	Av. Winston Churchill No.01099, Acropolis Tower, 23rd Floor, Santo Domingo, 10127Dominican Republic
Telephone	(809) 955-2223
Email	Freddy.Obando@aes.com

1.4 Other Entities Involved in the Project

Organization name	Coral Future Pte. Ltd.
Role in the Project	Consultant
Contact person	Santosh Kumar Singh
Title	Director

Address	20A, Tanjong Pagar Road, Singapore, 088443
Telephone	+1 917 794 1009
Email	santosh@coralfuture.com

1.5 Project Start Date

01/04/2017 (changed from 01/01/2016). This is commercial operation start date of Combined cycled power generator.

1.6 Project Crediting Period

Due to the project start date changes from 01/01/2016 (as pert VCS-PD) to 01/04/2017 (actual commission date), the crediting period of the proposed project will have start date of 01/04/2017 and end date of 31/03/2027 with a fix crediting period of 10 years.

1.7 Project Location

The geographic coordinates of the plant are:

Site Latitude: 18.499418° or in degrees 18°29'59.23 N

Site Longitude: -69.867831° or in degrees 69°52'06.91 W

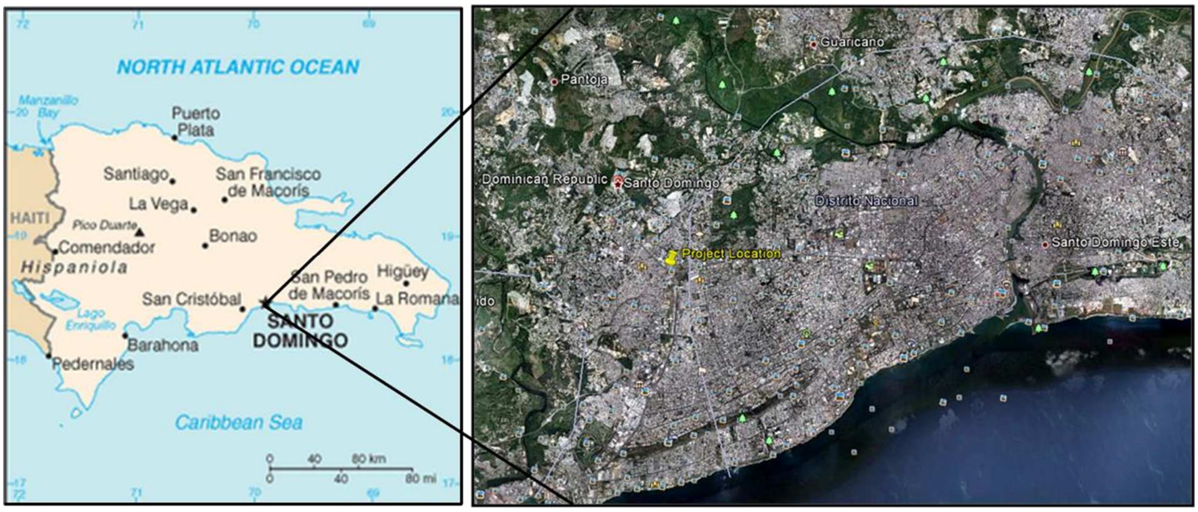


Figure 1. Map of the project location

The power station is located at the eastern side of Santo Domingo (The Dominican Republic), in a mixed commercial, industrial, and residential area, densely inhabited low-income community of Los Minas Sur. The project activity is restricted to the site of the existing DPP power station. The site directly abuts neighbourhoods in all directions except to the south, where there is approximately 70 meter buffer of woodland, and to the west, where a small 1 ha industrial campus buffers additional communities.

Figure 2. Map of project location

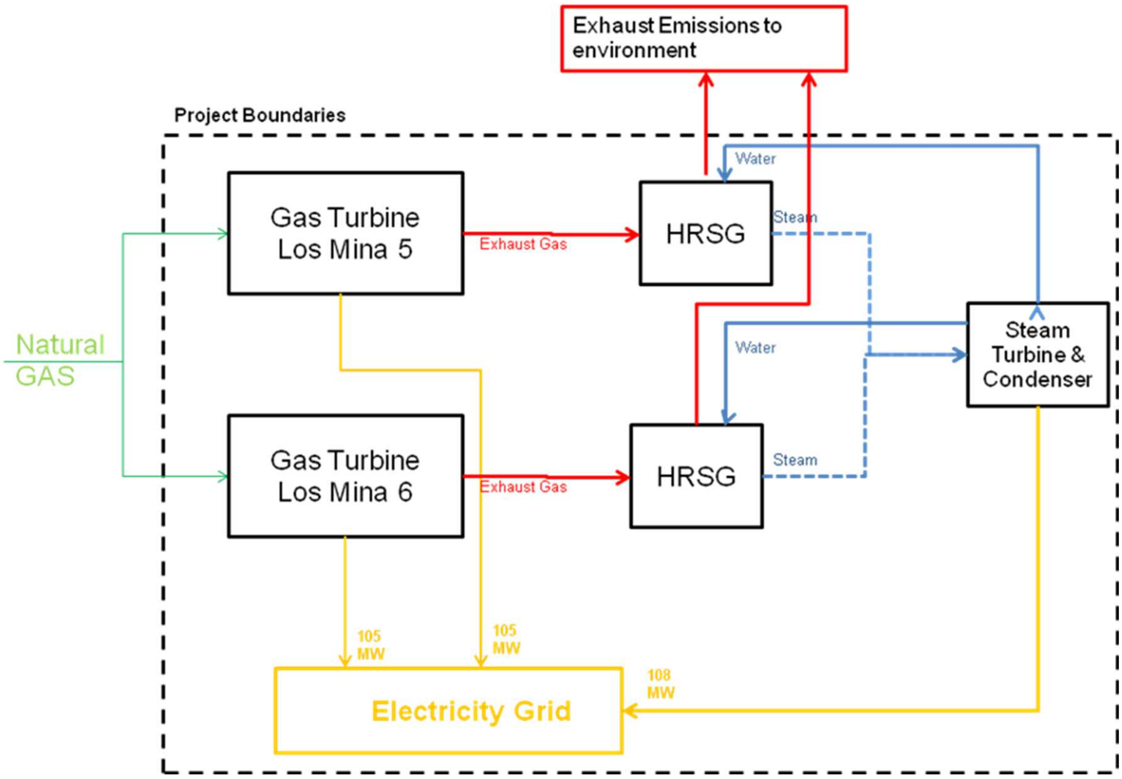


Figure 3. Project boundary

1.8 Title and Reference of Methodology

CDM ACM0007: "Conversion from single cycle to combined cycle power generation" (Version 6.1.0)[1]

Related Tools:

"Tool to calculate the emission factor for an electricity system" (Version 3)[2]

"Combined tool to identify the baseline scenario and demonstrate additionality" (Version 05.0.0)[3]

[1]https://cdm.unfccc.int/methodologies/DB/UVVSD3V6CADRJXKIKGUCFWRH3SRTKA

[2]https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v3.0.0.pdf

[3]https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-02-v5.0.0.pdf

“Tool to determine the remaining lifetime of equipment” (Version 01)[4]

“Tool to calculate project or leakage CO2 emissions from fossil fuel combustion” (Version 02)

1.9 Participation under otherGHGPrograms

The project has been registered as VCS project with registration number 1103. The project is not seeking registration under any other GHG programs

1.10 Other Forms of Credit

The project has been registered as a VCS project with registration number 1103. The project has not participated in any other form such as:

- Emission Trading Programs and Other Binding Limits: GHG emissions reductions generated from the proposed project activity during this monitoring period will not be used in any other emissions trading program or other binding limits on GHG emissions other than VCS Program.
- Other Forms of Environmental Credit: The project has not sought or received another form of environmental credits, including renewable energy certificates during this monitoring period.

1.11 Sustainable Development

Dominican Republic as a signatory of Kyoto Protocol and Paris Agreement has a commitment to increase its renewable energy share by 2030. The 2030 National Development Strategy promotes the transformation of society to a culture of sustainable production and consumption, which gives special attention to SDG 12 (Sustainable production and consumption) and SDG 7 (Affordable, reliable, sustainable and modern energy). In this direction, the project development is directly contributing to the country goals to achieve their INDC objectives and Global SDGs, and consequently promote the development of sustainable activities that become priority for the nation to reduce their emissions and keep grown in the line of sustainability.

The project has contributed to the sustainable development of the region and the country as follows:

[4]https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-10-v1.pdf

- By recovering exhaust heat from open cycle power generation of the existing natural gas based power plant, the project decreases emissions to atmosphere.
- By using the same amount of fuel, the combined cycle power system enables a better utilization of non-renewable resources with higher energy conversion efficiency, supply more electricity to the local market and in turn enables further development of the country.
- The project activity helps the country to achieve its goals of emission reduction by 2030 increasing energy utilization ability in the national energy plan.

2 SAFEGUARDS

2.1 No Net Harm

The project will produce energy by using the heat generated by the existing turbines. It will therefore produce more energy without increasing significantly the pollution. Furthermore, the project is not a Greenfield, but it was built as an additional unit at the Los Mina power plant. The project activity negative environmental impacts are mainly of the construction period and noise of the new turbine. In the operation phase, there is no harm identified from the proposed project activity and hence no need to apply mitigation measures.

The project has complied with environmental regulation and any additional requirements made by local authority. An environmental license for the plant's operation together with the project activity, given by the Secretary of Environmental Management, is already given to the plant (DPP's environmental permit, "Permiso Ambiental DEA No.0481-MODIFICADO", 2012).

2.2 Local Stakeholder Consultation

During this monitoring period, DPP maintained a formal grievanceand redress procedure for local communities and other stakeholders. All reported caseswere assessed and resolution was done based on the feedback from the stakeholders.

2.3 AFOLU-Specific Safeguards

The proposed project includes construction of a Heat Recovery Steam Generators (HRSGs) that will take advantage of the open cycle generation of the existing natural gas based power plant in Los Mina to produce steam, a non-AFOLU project, thus this section is not required.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The executed project, implemented and fully operational for commercial purposes on April 1st 2017, included the construction of a Heat Recovery Steam Generator (HRSGs) to take advantage of the open cycle generation of the natural gas-based power plant in Los Mina to produce steam, allowing to power a 108 MW steam turbine. Before the project, Los Mina power plant included two 105 MW units, with average historical production of 80MW each, due to grid system requirement. With the combined cycle project, the total capacity of the plant increased from 210 MW to 318 MW, allowing us to supply additional power to the grid.

The Combined Cycle Project is based on technology that enables recovery of exhaust heat to generate steam to operate a steam turbine for the purpose of power generation, and therefore enables a better utilization of non-renewable resources. Furthermore, the project enabled a higher supply of energy to the local market using the same amount of fuel, and in turn enabled further development of the country, which is currently limited by its energy supply.

Before the project execution, the power generation facility in Los Mina consisted on a 210 MW plant, operating in open cycle configuration. It comprises two natural-gas fired Siemens W501D5 (Originally Westinghouse W501D5) combustion gas turbines with effective production of 105 MW each, and a W

The Combined Cycle Project, implemented and fully operational for commercial purposes on April 1st 2017, consisted of the design, manufacturing, installation, start up and commissioning of two Heat Recovery Steam Generators (HRSGs) and ancillary equipment to take advantage of the hot exhaust gas (533-550 grades Celsius) from the two existing gas turbines to produce steam, to drive a new steam turbine (ST) and generator to produce electricity. The total power output increased by 108 MW thus increasing the total ESTAC generator. The turbines' expected lifetime is at least 40 years and the generators' expected lifetime is at least 30 years. Both were commissioned on 1996, and therefore have more than 13 years left. capacity without increasing fuel consumption and gas turbines emissions. Project reduced unit heat rate from 12,000 BTU/Kwh to 8,000 BTU/Kwh.

The final combined cycle configuration finished with a 2x2x1(2 turbines, 2 HRSG, 1 steam turbine). The project upgraded previous power generation net capacity from 210 MW to 318 MW to supply additional power to the grid in the Dominican Republic.

The Relevant Implementation Dates:

After obtaining all necessary statutory approvals, the Plant has commenced its commercial operations since1st April 2017 and started exporting clean power to grid.The total emission reductions achieved in this monitoring period i.e. from 01/04/2017 to 31/10/2021 (both days included), the proposed project has achieved total 1,144,395tCO_2eof GHG emission reductions. During the monitoring period there were no break downs and plant operated continuously.

Dominican law establishes that power meters must be verified every two years. Verification is done using another meter to compare readings between them. If during the verification the meter reading is outside the permitted parameters, power meters will be calibrated by sending them back to the manufacturer.

The Calibration delay was caused by the pandemic. The meters belong to the utility, which is responsible for verifying them every two years.

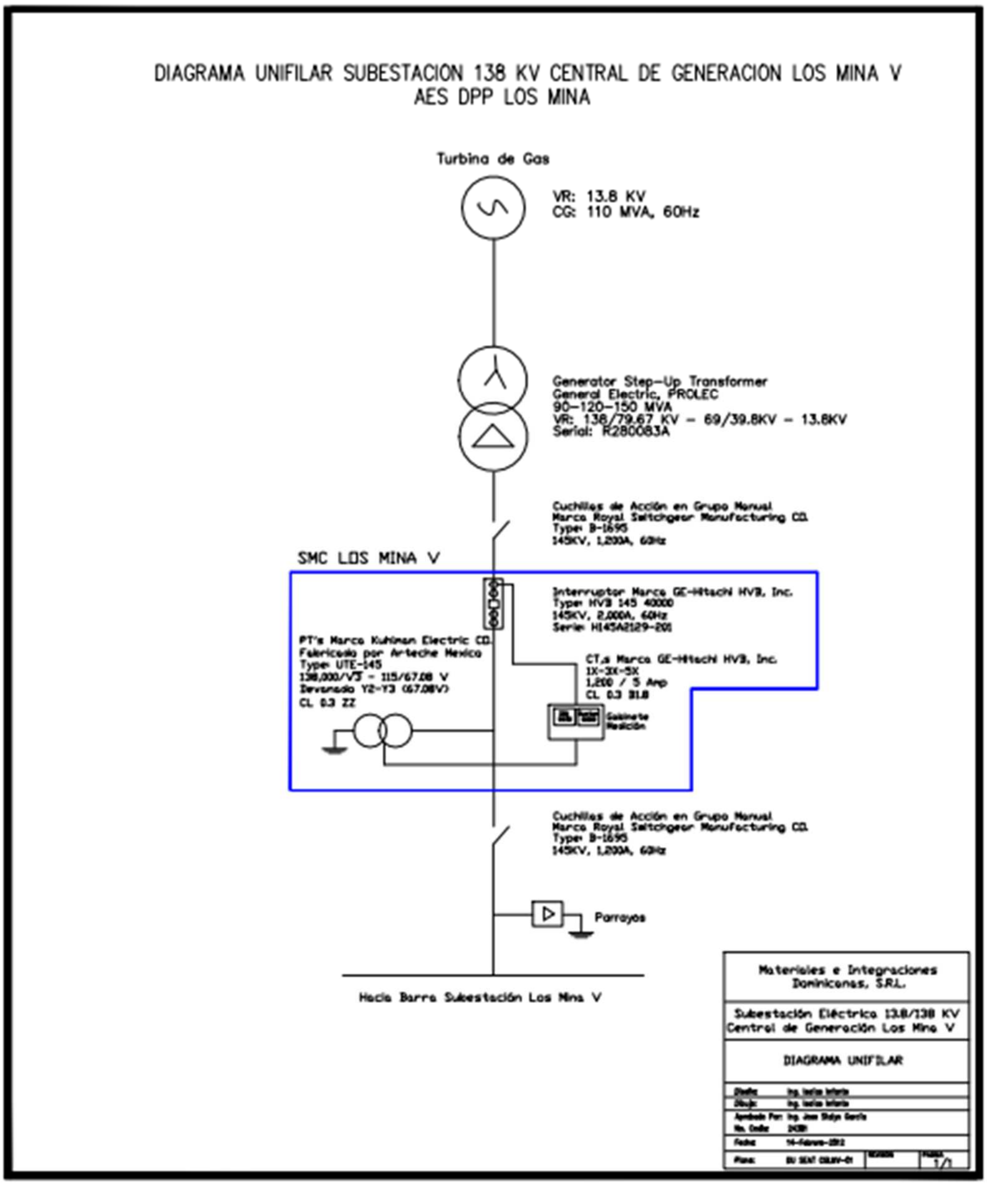
Expected operational lifetime of the project activity is at least 20 years until 2032. The main technical parameters are shown as table bellows:

Table 2. Main equipment and specifications of Los Mina project

Equipment	Technical Parameters	Value
Two Heat Recovery Steam Generators (HRSGs)	Manufacturer	Nooter Eriksen
	Serial number	1421002
	HP section	47.8 kg/s; 517°C; 91.7 barg
	LP section	10.28 kg/s; 223.2 °C; 9.8 barg
One Steam turbine	Manufacturer	Mitsubishi Hitachi
	Serial number	D-094
	Type	Induction condensing turbine
	Output	122,700 kW
	Speed	3,600 rpm
One GSU transformer	Manufacturer	Siemens
	Serial number	881348
	Type	SF-150000/138 – 3 phases
	Rated power	90/120/150 MVA
	Rated voltage	138 kV

One generator	Manufacturer	Brush
	Frame size	BDAX 82-445ERH
	Rated output	123.25 MW
	Terminal voltage	13.8 kV
	Speed	3,600 rpm

Single line Diagram – Los Mina V



Single line Diagram – Los Mina VI

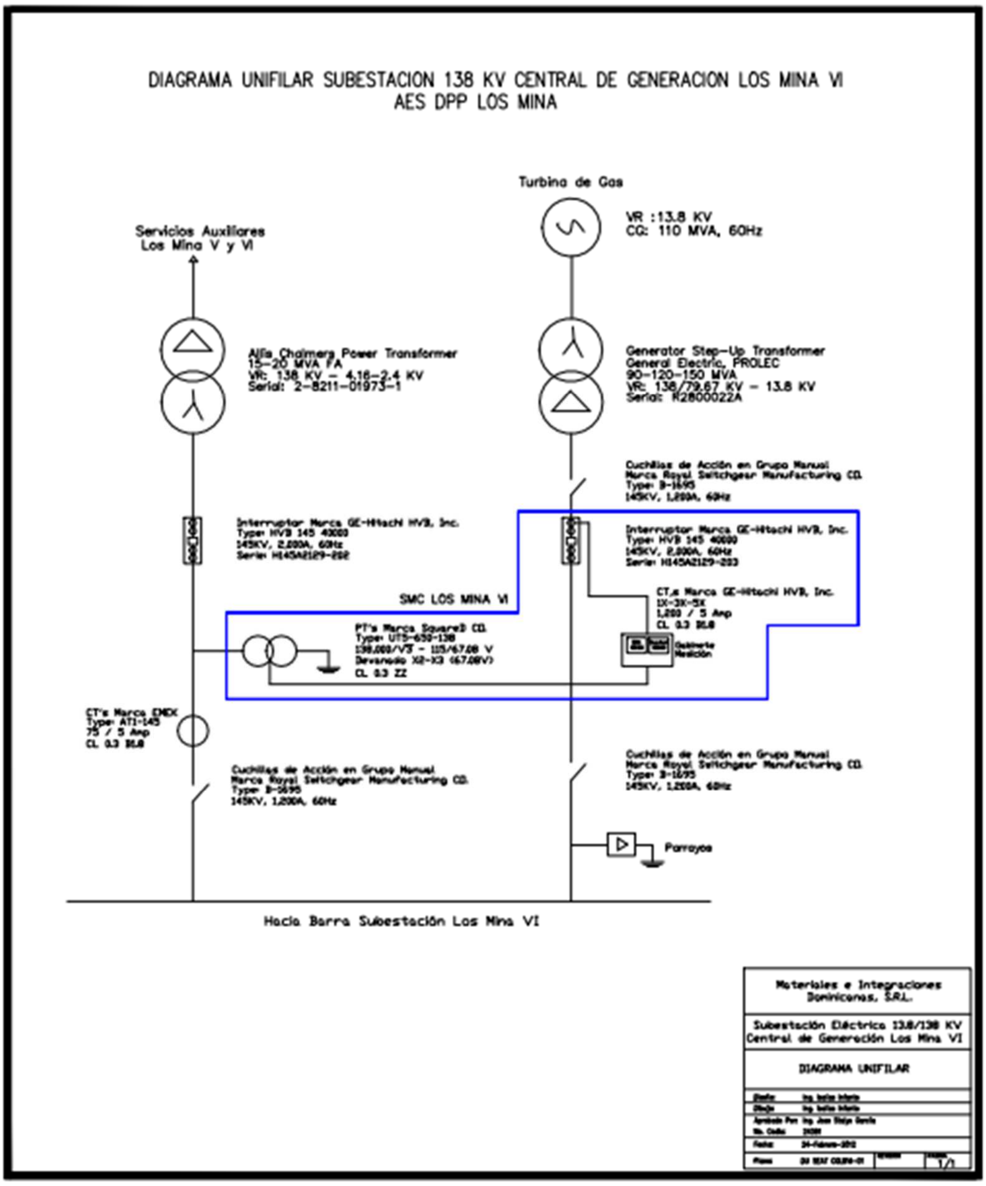
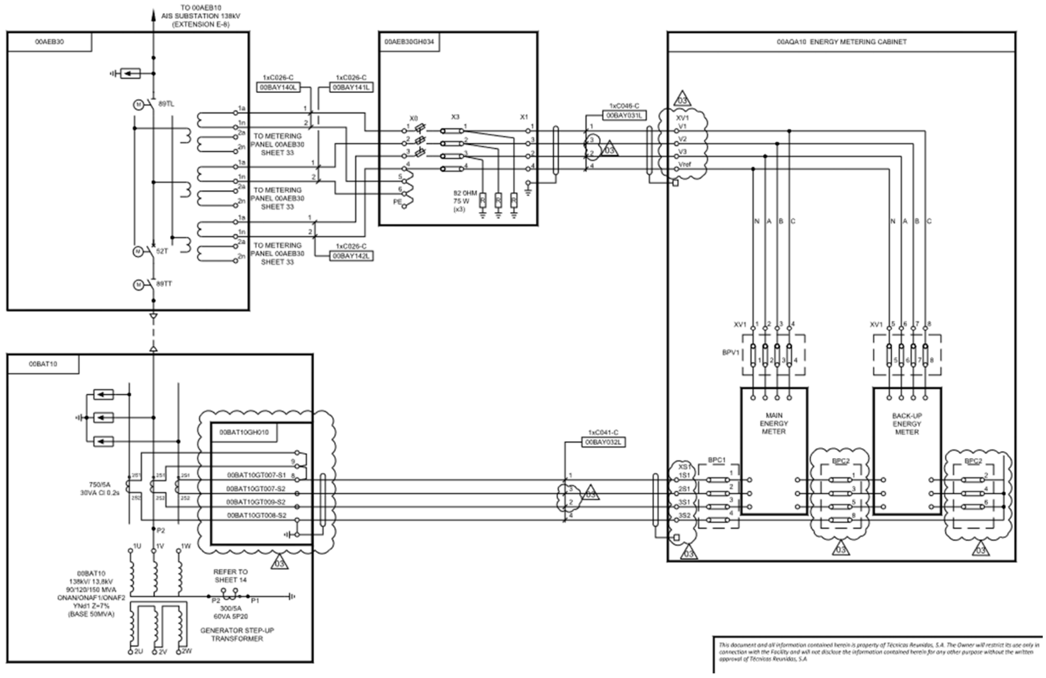


DIAGRAMA UNIFILAR SUBESTACION 138 KV CENTRAL DE GENERACION LOS MINA VI
AES DPP LOS MINA
Turbina de Gas
VR :13.8 KV
CG: 110 MVA, 60Hz
Servicios Auxiliares
Los Mina V y VI
Allis Chalmers Power Transformer
15-20 MVA FA
VR: 138 KV - 4.16-2.4 KV
Serial: 2-8211-01973-1
Generator Step-Up Transformer
General Electric, PROLEC
90-120-150 MVA
VR: 138/79.67 KV - 13.8 KV
Serial: R2800022A
Cuchillas de Acción en Grupo Manual
Marca Royal Switchgear Manufacturing CO.
Interruptor Marca GE-Hitachi HVB, Inc.
Type: HVB 145 40000
145KV, 2,000A, 60Hz
SMC LOS MINA VI
PT's Marca SquareD CO.
Type: UTS-650-138
Devanado X2-X3 (67.08V)
CL 0.3 ZZ
CT's Marca EMEK
Type: ATI-145
75 / 5 Amp
Pararrayos
Hacia Barra Subestación Los Mina VI
Materiales e Integraciones Dominicanas, S.R.L.
Subestación Eléctrica 13.8/138 KV
Central de Generación Los Mina VI
DIAGRAMA UNIFILAR
1/1

Single line Diagram – Los Mina VII



3.2 Deviations

3.2.1 Methodology Deviations

The equations in the methodology assume that the fuel used is measured in mass or weight unitsand so include conversion to energy units. When using NG it is common to measure energycontent as well as refer to energy content in the supply contracts. In such cases mass and/orweight is often not measured or recorded, as in the case of DPP. To follow the methodology, weused energy data instead of mass or weight and cancelled the conversion to energy. Thedeviation does not affect the meaning of the equation or the result of the calculations.

There was no deviation observed during the current monitoring period.

3.2.2 Project Description Deviations

In the project description version 4 issued on 27/05/2013, the project start date was expected on 1st January 2016 and the crediting period was from 1st January 2016 until 31st December

2025. Since the proposed project has actual commissioning date from 1st April 2017, the new project start date will be 1st April 2017 and the project crediting period will be from 1st April 2017 until 31st March 2027. This change does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

In the project description, EF grid is one of the monitored parameter. However, as per the “Tool to calculate the emission factor for an electricity system” (Version 02.2.0), the ex-ante method was chosen. Therefore, the calculated value of EF grid should be fixed for the whole crediting period and not be calculated annually. The value is used for calculation and fixed for the whole crediting period is 0.6765 tCO2/MWh. As constant value is considered for whole crediting period as per the tool,this change does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

3.3 Grouped Projects

The project activity is not a grouped project, therefore this section is not applicable.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	EG_x
Data unit	MWh/yr
Description	Quantity of electricity supplied by the project power units with three years operational history and no retrofit in this period, to the electricity grid in year x
Source of data	Generation records. Historical data of electricity supplied by the project to the grid in the defined operational history.
Value applied	2009: 465,518 2010: 1,223,529 2011; ,1363,551
Justification of choice of data or description of measurement methods and procedures applied	Data reported by the grid coordinator was used (official confirmation as to the validity of the data from the Operator and Coordinator Body (OC) was provided to the DOE)

Purpose of Data	Calculation of baseline emission
Comments	The consistency of metered electricity generation should be cross-checked with receipts from sales (if available). Meters should be subject to regular maintenance and calibration. Year x refers to each year of the unit's three years operational history. This parameter is only required if any of the project power units do not have three years operational history with no major retrofit in this period.

Data / Parameter	$FC_{NG,x}$
Data unit	MMBTU/yr
Description	Quantity of natural gas used by the project power units in year x
Source of data	Historical data of annual fuel consumption by the project operating in single cycle mode, taken from invoices from supplier.
Value applied	2009: 5,595,895 2010: 14,672,476 2011: 16,558,146
Justification of choice of data or description of measurement methods and procedures applied	The data available for the three most recent years is in MMBTU, and not in volume or mass unit. These values were converted to GJ, using standard conversions.
Purpose of Data	Calculation of baseline emission
Comments	The data for any direct measurements with mass or volume meters at the plant site should be cross-checked with an annual energy balance that is based on purchased quantities and stock changes. Meters should be subject to regular maintenance and calibration. Year x refers to each year of the unit's operational history.

Data / Parameter	$NCV_{NG,x}$
Data unit	GJ/Kg
Description	Net calorific value of natural gas used by the project power units in year x
Source of data	Value provided by the fuel supplier in invoices
Value applied	N/A
Justification of choice of data or description of measurement methods	In line with national and international fuel standards

and procedures applied	
Purpose of Data	Since fuel consumption data that is available for the three most recent years is in MMBTU, and not in volume or mass unit, NCV for the historical years is not used
Comments	None

Data / Parameter	$EF_{CO2,min}$
Data unit	tCO_2/GJ
Description	CO_2 emission factor of the least carbon intensive fuel type used by the project power units during the three years operational history (NG)
Source of data	IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter 1 of Vol.2 (Energy) of the 2006 IPCC Guidelines on Natural GHG Inventories
Value applied	0.0543
Justification of choice of data or description of measurement methods and procedures applied	Any future revision of the IPCC Guidelines should be taken into account
Purpose of Data	Calculation of baseline emission
Comments	None

Data / Parameter	$EF_{CO2,max}$
Data unit	tCO_2/GJ
Description	CO_2 emission factor of the most carbon intensive fuel type used by the project power units during the three years operational history (NG)
Source of data	IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter 1 of Vol.2 (Energy) of the 2006 IPCC Guidelines on Natural GHG Inventories
Value applied	0.0573
Justification of choice of data or description of measurement methods and procedures applied	Any future revision of the IPCC Guidelines should be taken into account
Purpose of Data	Calculation of leakage
Comments	None

Data / Parameter	CAP_{max}
Data unit	MW
Description	Maximum gross power generation capacity of the project power units prior to the implementation of the project activity
Source of data	Maximum generation capacity determined by performance tests under optimal operation conditions (optimal load, after maintenance, etc)
Value applied	210
Justification of choice of data or description of measurement methods and procedures applied	Generation licenses of manufacturer's specification
Purpose of Data	Calculation of baseline emissions
Comments	None

Data / Parameter	T_{max}
Data unit	Hours/yr
Description	Maximum amount of time during a year in which the project power units could have operated at full power generation capacity prior to the implementation of the project activity.
Source of data	
Value applied	8760
Justification of choice of data or description of measurement methods and procedures applied	Number of hours in an year
Purpose of Data	Calculation of baseline emissions
Comments	None

Data / Parameter	HMR_x
Data unit	Hours/yr
Description	The average number of hours during which the plant did not operate due to maintenance or repair in year x (hours)
Source of data	Project activity site

Value applied	0
Justification of choice of data or description of measurement methods and procedures applied	Use historical records for such maintenance and repair intervals
Purpose of Data	Calculation of baseline emissions
Comments	This parameter is not required if there are less than three years of operational history for all project power units, or if a major retrofit occurred during this period. As a simplification, project proponents may also assume this parameter as zero. Year x refers to each year of the unit's three years operational history.

Data / Parameter	H
Data unit	-
Description	Default efficiency of the project power units operated in single cycle mode
Source of data	"Tool to calculate the emission factor for an electricity system"
Value applied	-
Justification of choice of data or description of measurement methods and procedures applied	-
Purpose of Data	Calculation of baseline emissions
Comments	This parameter is only required if there is less than three years data for all project power units, or if a major retrofit occurred in this period. Since three years operational data for all project power units is available, this parameter is not used.

Data / Parameter	$QH_{R,x}$
Data unit	GJ/yr
Description	Quantity of heat recovered from the exhaust heat during the most recent year prior to the implementation of the project activity
Source of data	Site of the recovery process (e.g. Heat exchanger, etc.)
Value applied	0
Justification of choice of data or description of	Calculation from historical records from appropriate metering devices (e.g. temperature, pressure and flow meters for air or feed water)

measurement methods and procedures applied	
Purpose of Data	Calculation of leakage
Comments	There is no heat recovery in the open cycle units

Data / Parameter	GWP_{CH4}
Data unit	tCO_2e/tCH_4
Description	Global warming potential of methane valid for the relevant commitment period
Source of data	IPCC; The recent version of IPCC[5]i.e IPCC sixth assessment value is taken in to consideration for this current monitoring period01/04/2017 to 31/10/2021 (both days included)
Value applied	28
Justification of choice of data or description of measurement methods and procedures applied	-
Purpose of Data	Calculation of leakage
Comments	None

Data / Parameter	$EF_{grid,y}$
Data unit	tCO_2/MWh
Description	Emission factor of the electricity grid to which the project power units is connected.
Source of data	Calculated
Value applied	0.0583
Justification of choice of data or description of measurement methods and procedures applied	The $EF_{grid,y}$ is calculated as per "Tool to calculate the emission factor for an electricity system" version 03.0.0
Purpose of Data	Calculation of baseline emissions
Comments	This parameter is fixed ex-ante for the entire crediting period

[5]https://www.ipcc.ch/report/ar6/wg1/

4.2 Data and Parameters Monitored

Data / Parameter	$EG_{PJ,y}$
Data unit	MWh/yr
Description	Total amount of electricity supplied to the electricity grid by the project power units in year y
Source of data	Generation records from annual report of grid operator, using electricity meter
Description of measurement methods and procedures to be applied	Electricity meters which are owned by the grid operator. The details on electricity meters are mentioned in section 4.3
Frequency of monitoring/recording	Continuously
Value monitored	Period / $EG_{PJ,y}$ (MWh): 01/04/2017 – 31/12/2017: 1,786,139 01/01/2018 – 31/12/2018: 2,522,738 01/01/2019 – 31/12/2019: 2,393,668 01/01/2020 – 31/12/2020: 2,116,524 01/01/2021 – 31/10/2021: 1,810,840
Monitoring equipment	Electronic meters(ION Power Meters)
QA/QC procedures to be applied	By law the grid operator calibrates the meters every 2 years. The consistency of metered electricity generation will be cross-checked with receipts from sales
Purpose of the data	Calculation of baseline emissions
Calculation method	-
Comments	None

Period	$EG_{PJ,y}$ (MWh)
01/04/2017 – 31/12/2017	1,786,139
01/01/2018 – 31/12/2018	2,522,738
01/01/2019 – 31/12/2019	2,393,668
01/01/2020 – 31/12/2020	2,116,524
01/01/2021 – 31/10/2021	1,810,840

Data / Parameter	$FC_{NG,y}$
Data unit	MMBTU/yr
Description	Quantity of fuel type i used by the project power units in year y

Source of data	Site measurement
Description of measurement methods and procedures to be applied	NG consumption is monitored through 3 meters: a meter generates for DPP which records the total consumption of the two gas units; a meter for the consumption of the LM5 gas unit and a meter for the consumption of the LM6 gas unit.
Frequency of monitoring/recording	Continuously
Value monitored	<table><tr><th>Period</th><th>$FC_{NG,y}$ (MMBTU)</th></tr><tr><td>01/04/2017 – 31/12/2017</td><td>14,559,702</td></tr><tr><td>01/01/2018 – 31/12/2018</td><td>20,146,777</td></tr><tr><td>01/01/2019 – 31/12/2019</td><td>20,681,891</td></tr><tr><td>01/01/2020 – 31/12/2020</td><td>17,626,198</td></tr><tr><td>01/01/2021 – 31/10/2021</td><td>15,118,545</td></tr></table>
Monitoring equipment	NG meters(Daniel Gas Meters)
QA/QC procedures to be applied	The consistency of metered fuel consumption quantities should be cross-checked with available purchase invoices from the financial records. The gas meters are only calibrated if there is a request or recommendation from manufacturers
Purpose of the data	Calculation of project emissions Calculation of leakage
Calculation method	
Comments	The data available for the three most recent years is in MMBTU, and not in volume or mass unit. These values were converted to GJ, using standard conversions.

Data / Parameter	$\eta_{PJ,y}$
Data unit	-
Description	Average energy efficiency of the project power units in year y of the crediting period
Source of data	Project activity site
Description of measurement methods and procedures to be applied	To calculate the efficiency; • Use the direct method (dividing the net electricity generation by the energy content of the fuels fired during a representative time period) and not the indirect method (determination of fuel

	supply or heat generation and estimation of the losses); • Use recognized standards for the measurement of the power plant efficiency; The efficiency has to be referred in terms of the net calorific value of the fuel used and the net electricity produced, i.e. total electricity produced minus internal consumption of electricity
Frequency of monitoring/recording	Once during each year y of the crediting period. The first calculation shall be made during the first year after implementing the project activity and after achieving operational stability.
Value monitored	**Period** — $\eta_{PJ,y}$ 01/04/2017 – 31/12/2017 — 0.42 01/01/2018 – 31/12/2018 — 0.43 01/01/2019 – 31/12/2019 — 0.39 01/01/2020 – 31/12/2020 — 0.41 01/01/2021 – 31/10/2021 — 0.41
Monitoring equipment	Calculated
QA/QC procedures to be applied	-No additional QA/QC procedures are proposed
Purpose of the data	Calculation of baseline emissions
Calculation method	-
Comments	None

Data / Parameter	$Q_{HR,y}$
Data unit	GJ/yr
Description	Quantity of heat recovered from the exhaust heat of the project power units for purposes other than power generation in year y
Source of data	Site of recovery process (e.g. heat exchanger, etc.)
Description of measurement methods and procedures to be applied	Calculation from direct measurements by project participants through appropriate metering devices (e.g. temperature, pressure and flow meters for air or feed water)
Frequency of monitoring/recording	Monitoring of this parameter is only required if heat recovered from the exhaust heat in the most recent years prior to the implementation of the project activity and the amount recovered is more than 3% of energy of the fuel consumed by the project power plant in the same

	year. There was no heat recovery in Los Mina plant prior to project activity; therefore this parameter is not monitored
Value monitored	N/A
Monitoring equipment	
QA/QC procedures to be applied	No additional QA/QC procedures are proposed
Purpose of the data	Calculation of leakage
Calculation method	-
Comments	None

Data / Parameter	$NCV_{i,y}$
Data unit	GJ/mass or volume unit
Description	Average net calorific value of the natural gas used by the project power units in year y
Source of data	Values provided by the fuel supplier in invoices
Description of measurement methods and procedures to be applied	In line with national and international standards
Frequency of monitoring/recording	The NCV should be obtained for each fuel delivery, from which weighted average annual values should be calculate. “Fuel delivery” refers to each time a ship unloads LNG at the ANDRES site which is the source of fuel for DPP. NCV value may vary a little between ship loads and the equivalent value in BTU/kg is measured by a “third party” (currently by SGS) for each load. The number of ship loads per year depend on consumption rates, but usually an LNG ship unloads fuel once every few weeks.
Value monitored	-
Monitoring equipment	-
QA/QC procedures to be applied	No additional QA/QC procedures are proposed
Purpose of the data	Calculation of project emissions Calculation of leakage
Calculation method	-
Comments	None

Data / Parameter	$EF_{NG,upstream,CH4}$
Data unit	tCH_4/GJ
Description	Emission factor for upstream fugitive methane emissions from production, transportation, distribution of natural gas used by the project power units in year y.
Source of data	Reliable and accurate national data on fugitive CH_4 emissions associated with the production, or default emission factors
Description of measurement methods and procedures to be applied	Default emission factors, derived from IPCC default Tier 1 emission factors provided in Volume 3 of the 1996 Revised IPCC Guidelines, by calculating the average of the provided default emission factor range.
Frequency of monitoring/recording	-
Value monitored	0.000296
Monitoring equipment	-
QA/QC procedures to be applied	No additional QA/QC procedures are proposed
Purpose of the data	Calculation of leakage
Calculation method	-
Comments	The emission factor for fugitive upstream emissions for natural gas should include fugitive emissions from production, transportation and distribution of natural gas, as indicated in the table of default values above. To the extent that upstream emissions occur in Annex I countries that have ratified the Kyoto Protocol, from 1 January 2008 onwards, these emissions should be excluded, if technically possible, in the leakage calculations. This parameter is only required to calculate the upstream leakage emissions, if applicable.

Data / Parameter	$EF_{CO2,upstream,LNG}$
Data unit	tCO_2/GJ
Description	Emission factor for upstream CO_2 emissions due to fossil fuel combustion/ electricity consumption associated with the liquefaction, transportation, re-gasification and compression of LNG into a natural gas transmission or distribution system during year y of the project

	activity. distribution of natural gas used by the project power units in year y.
Source of data	Based on ACM0007, where reliable and accurate data on upstream CO_2 emissions due to fossil fuel combustion/ electricity consumption associated with the liquefaction, transportation, re-gasification and compression of LNG into a natural gas transmission or distribution system is available, project participants should use this data to determine an average emission factor. If reliable and accurate data is not available, then a default value of 0.006 tCO_2/GJ may be used as a rough approximation.
Description of measurement methods and procedures to be applied	-
Frequency of monitoring/recording	-
Value monitored	0.006
Monitoring equipment	-
QA/QC procedures to be applied	No additional QA/QC procedures are proposed
Purpose of the data	Calculation of leakage
Calculation method	-
Comments	None

4.3 Monitoring Plan

Electricity generation, and fuel consumption wasmonitored regularly, as part of the plant's operation. Electricity generation was monitored through meter readings and was compared to invoices from the Dominican Republic's grid coordinator. Fuel consumption appearson invoices from the supplier and isdocumented in the company's database.

Guidelines for a monitoring plan for emissions reductions

a) Objective

The objective of this plan is to assure the complete, consistent, clear, and accurate monitoring and calculation of the emissions reductions realized by the project during the crediting period. Monitoring procedures

Before beginning operation, a VCU team was assigned the responsibility for the implementation of the monitoring program namely data collection, archiving, and quality control. A team manager was assigned, and all employees involved in monitoring had been clearlydefined roles and responsibilities and trained by the monitoring team manager.

b) The monitoring procedure was established and detailed the organization, control and steps required for certain key monitoring features, including:

- Stafftraining.
- Monitoringequipment.
- Datacollectingand recording.
- Datamanagement.
- Qualitycontroland quality assurance.

The power plant manager was responsible for implementing this monitoring plan.

The VCU Manager was responsible for ensuring that the procedures are followed on site and for continuously improving the procedures to ensure the reliability of the monitoring system.

All staff involved in the VCS project received training from the VCU manager.

Measuring documenting and archiving procedure

- Records ofelectricitysuppliedto the grid werearchivedbytheVCU manager.
- CopiesoftheinspectionandcalibrationprocedurewerearchivedbytheVCUmanager.
- The fuel delivery receipts and the third-party analysis regarding the energy content of the fuel wererecordedandkeptbytheVCU manager.

Nonconformance, corrective and preventive actions

- it is the responsibility of the VCU manager torecord and resolvenonconformities.
- Anyconcern for nonconformance was submitted in writing to theVCU manager.
- Anypersoncansubmitanonconformancepetition.
- If a nonconformance petition is found to be justified, corrective and preventive actionmustbeidentified and implemented.
- Allnonconformance petitions must be answered, justified or not.
- Nonconformancepetitions, recordsofhowtheywereaddressedand evaluated,

Corrective and preventive action and the responses to nonconformance petitions will be archived for at least two years after the crediting period.

Detail information on electricity meters in the monitoring period (01/04/2017 – 31/10/2021)

Dominican law establishes that power meters must be verified every two years. Verification is done using another meter to compare readings between them. If during the verification the meter reading is outside the permitted parameters, power meters will be calibrated by sending them back to the manufacturer.

The Calibration delay was caused by the pandemic. The meters belong to the utility, which is responsible for verifying them every two years. For the calibration delay maximum permissible error is taken in to consideration and there is a loss of 215.6Mwh of generation and there is no considerable reduction in emission reductions.

Table 3. Information on power meter of Los Mina 5 in the monitoring period

Items	Main meter	Backup meter
Manufacturer	Schneider electric	Schlumberger
Model	ION 8650C	Q1000
Serial No.	MW-1109A046-01	20205858
Class-Accuracy	0.2S/IEC	0.2S/IEC
Status during the monitoring period	Good	Good
Calibration frequency	Every 2 years	Every 2 years
Calibration before the monitoring period	27/01/2016	27/01/2016
Calibration in the monitoring period	19/01/2018	19/01/2018
	04/02/2020	04/02/2020
	04/02/2022	04/02/2022
Next Due date of calibration	03/02/2024	03/02/2024

Table 4. Information on power meter of Los Mina 6 in the monitoring period

Items	Main meter	Backup meter
Manufacturer	Schneider electric	Schlumberger

Model	ION 8650C	Q1000
Serial No.	MW-1108A041-01	20205862
Class-Accuracy	0.2S/IEC	0.2S/IEC
Status during the monitoring period	Good	Good
Calibration frequency	Every 2 years	Every 2 years
Calibration before the monitoring period	27/01/2016	27/01/2016
Calibration in the monitoring period	19/01/2018	19/01/2018
	04/02/2020	04/02/2020
	04/02/2022	04/02/2022
Next Due date of calibration	03/02/2024	03/02/2024

Table 5. Information on power meter of Los Mina 7 in the monitoring period

Items	Main meter	Backup meter
Manufacturer	Schneider electric	Schneider electric
Model	ION 8650C	ION 8650C
Serial No.	MW-1603A225-02	MW-1603A226-02
Class-Accuracy	0.2S/IEC	0.2S/IEC
Status during the monitoring period	Good	Good
Calibration frequency	Every 2 years	Every 2 years
Calibration in the monitoring period	28/06/2017	28/06/2017
	24/07/2019	24/07/2019

	24/07/2021	24/07/2021
Next Due date of calibration	23/07/2023	23/07/2023

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

Step 1: Determination of the baseline emissions for different scenarios of project electricity generation

In the case of Los Mina's project the quantity of electricity generated in the project power units, adjusted for changes to efficiency, ($EG_{PJ,adj,y}$) exceeds the maximum annual quantity of electricity that the project power units could have produced prior to the implementation of the project activity (EG_{MAX}), and therefore baseline emissions are calculated based on case (c) as follows:

$$BE_y = EG_{BL,AVR} \cdot EF_{CO2,BL,y} + \left(EG_{MAX} - EG_{BL,AVR}\right) \cdot \min\left(EF_{CO2,BL,y}; EF_{grid,y}\right) + \left(EG_{PJ,adj,y} - EG_{MAX}\right) \cdot EF_{grid,y}$$

Where:

BE_y = Baseline emissions in year y (tCO2/yr)

$EG_{PJ,adj,y}$ = Quantity of electricity supplied by all project power units to the electricity grid in year y, adjusted for changes to efficiency (MWh/yr)

$EG_{BL,AVR}$ = Average annual quantity of electricity supplied by all project power units to the electricity grid during the defined operational history (MWh/yr)

$EF_{CO2,BL}$ = Baseline emission factor of all project power units operated in single cycle mode (tCO2/MWh)

$EF_{grid,y}$ = Emission factor of the electricity grid to which the project power unit is connected ($tCO2/MWh$)

The maximum annual quantity of electricity that could be generated by the project power units in the baseline scenario (EGMAX) is calculated as:

$$EG_{MAX} = CAP_{MAX} \cdot T_{MAX}$$

Where:

EG_{MAX} = Maximum annual quantity of electricity that could be generated by all project power units in the baseline scenario (MWh/yr)

CAP_{MAX} = Maximum gross power generation capacity of the project power units prior to the implementation of the project activity (MW)

T_{MAX} = Maximum amount of time during a year in which the project power units could have operated at full power generation capacity prior to the implementation of the project activity (hours/yr)

Since all project power units have three years operational history, and since there was no major retrofit during this period in any of the units, then the maximum annual amount of time that the project power units could have operated at full load prior to the validation of the project activity is calculated as follows:

$$T_{MAX} = 8{,}760 - \frac{\sum_{x=1}^{3} HMR_x}{3}$$

Where:

T_{MAX}= Maximum amount of time during a year in which the project power units could have operated at full power generation capacity prior to the implementation of the project activity (hours/yr)

HMR_x= Average number of hours during which the plant did not operate due to maintenance or repair in year x (hours/yr)

x = Each year during the three years operational history

The average annual amount of electricity supplied to the electricity grid by the project power units in the three years historical period is calculated according to the equation below. Since both units in Los Mina have at least a three years operational history and no major retrofit during this period, this calculation is based on data from both units:

$$EG_{BL,AVR} = \frac{\sum_{x=1}^{3} EG_x}{3}$$

Where:

$EG_{BL,AVR}$ = Average annual quantity of electricity supplied by all project power units to the electricity grid during the three year operational history (MWh/yr)

EG_x = Quantity of electricity supplied by the project power units with three years operational history and no retrofit in this period, to the electricity grid in year x (MWh/yr)

x = Each year of the three years operational history

The total amount of electricity supplied to the electricity grid by all project power units in year y of the crediting period has to be adjusted for the calculation of baseline emissions so that future energy efficiency improvement measures shall not result in emissions reductions. Therefore, the total amount of electricity supplied to the grid (EGPJ,y) is conservatively adjusted by applying a discount factor based on the minimum of the monitored efficiencies after the implementation of the project activity, as described in the equations below:

$$EG_{PJ.adj} = EG_{PJ,y} \cdot \frac{\eta_{PJ,min,y}}{\eta_{PJ,y}}$$

With

$$\eta_{PJ,min,y} = \min(\eta_{PJ1} \dots \eta_{PJ,y})$$

Where:

$EG_{PJ.adj}$ = Quantity of electricity supplied by all project power units to the electricity grid in year y, adjusted for changes to project power plant efficiency (MWh/yr)

$EG_{PJ,y}$ = Total amount of electricity supplied to the electricity grid by the project power units in year y (MWh/yr)

$\eta_{PJ,min,y}$ = Minimum of the yearly average energy efficiency of the project power units monitored during the previous years (1 to y) after the implementation of the project activity for year y

$\eta_{PJ1}...\eta_{PJ,y}$ = Average energy efficiency of the project power units in years 1 to y of the crediting period

Step 2: Estimating the emissions factor for electricity generated in single cycle mode in the baseline ($EF_{CO2,BL}$)

Since all project power units have a three years operational history and since there was no major retrofit in these unit during this period, the baseline CO2 emissions factor for the project power units operated in single cycle mode (EFCO2,BL) is determined based on the historical performance of the units and calculated as follows:

$$EF_{CO2,BL} = \frac{\sum_{x=1}^{3}\sum_{i} FC_{i,x} \times NCV_{i,x}}{\sum_{x=1}^{3} EG_x} \times EF_{CO2,min}$$

Where:

$EF_{CO2,BL}$ = CO_2 emission factor for electricity generated in single cycle mode in thebaseline (tCO_2/MWh)

$FC_{i,x}$ = Quantity of fuel type i used by the project power units in year x (mass or volume unit/yr)

$NCV_{i,x}$ = Net calorific value of the fuel type i used by the project power units in year x (GJ/mass or volume unit)

$EF_{CO2,min}$ = CO_2 emission factor of the least carbon intensive fuel type used by the project power units during the three years operational history (tCO_2/GJ)

EG_x = Quantity of electricity supplied by the project power units with three years operational history and no retrofit in this period, to the electricity grid in year x (MWh/yr)

x = Each year of the three years operational history

Step 3: Determine the emissions factor for the grid electricity system ($EF_{grid,y}$)

The emission factor for the grid electricity system was calculated as per "Tool to calculate the emission factor for an electricity system" (Version 3) in the VCS-PD. This value is fixed for the whole crediting period which is 0.6765 tCO_2/MWh

The baseline emission calculation for the monitoring period is described in the table below:

Time	$EG_{BL,avr}$ (MWh)	EG_{max} (MWh)	$EG_{PJ,adj,y}$ (MWh)	$EF_{CO2,BL}$ (tCO_2/MWh)	EF_{grid} (tCO_2/MWh)	BE_y (tCO_2)
01/04/2017 – 31/12/2017	763,150	1,379,700	1,685,102	0.6911	0.6765	1,151,144
01/01/2018 – 31/12/2018	1,017,533	1,839,600	2,331,735	0.6911	0.6765	1,592,316
01/01/2019 – 31/12/2019	1,017,533	1,839,600	2,393,668	0.6911	0.6765	1,634,213
01/01/2020 – 31/12/2020	1,017,533	1,839,600	2,040,010	0.6911	0.6765	1,394,964
01/01/2021 – 31/10/2021	847,944	1,533,000	1,749,781	0.6911	0.6765	1,196,141
Total						6,968,778

The baseline emission for the monitoring period is 6,968,778tCO_2.

5.2 Project Emissions

The project emissions (PE_y), are defined in "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion", and are calculated based on the quantity of fuels combusted and the CO_2 emission coefficient of those fuels, as follows:

$$PE_{FC,j,y} = \sum_i FC_{i,j,y} \cdot COEF_{i,y}$$

Where:

$PE_{FC,j,y}$ =Are the CO_2 emissions from fossil fuel combustion in process j during the year y (tCO_2/yr);

$FC_{i,j,y}$ = Is the quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr);

$COEF_{i,y}$ = Is the CO_2 emission coefficient of fuel type i in year y (tCO_2/mass or volume unit) i = Are the fuel types combusted in process j during the year y

The CO_2 emission coefficient $COEF_{i,y}$ is calculated based on net calorific value and CO_2 emission factor of the fuel type i, as follows:

$$COEF_{i,y} = NCV_{i,y} \cdot EF_{CO2,i,y}$$

Where:

$COEF_{i,y}$ = Is the CO_2 emission coefficient of fuel type i in year y (tCO_2/mass or volume unit)

$NCV_{i,y}$ = Is the weighted average net calorific value of the fuel type i in year y (GJ/mass or volume unit)

$EF_{CO2,i,y}$ = Is the weighted average CO_2 emission factor of fuel type i in year y (tCO2/GJ)

i = Are the fuel types combusted in process j during the year y

The project emission calculation for the monitoring period is described in the table below:

Time	$FC_{NG,y}$ (MMBtu)	$EF_{CO2,y}$ (tCO_2/GJ)	PE_y (tCO_2)
01/04/2017 – 31/12/2017	14,559,702	0.0583	895,564
01/01/2018 – 31/12/2018	20,146,777	0.0583	1,239,224
01/01/2019 – 31/12/2019	20,681,891	0.0583	1,272,139
01/01/2020 – 31/12/2020	17,626,198	0.0583	1,084,184
01/01/2021 – 31/10/2021	15,118,545	0.0583	929,939
Total			5,421,050

The project emission for the monitoring period is 5,421,050 tCO_2.

5.3 Leakage

The leakage emissions are associated with the upstream emissions on an increase in fossil fuel use and are determined in the case of Los Mina's project as follows:

$$LE_y = LE_{upstream,y} + LE_{HR,y}$$

Where:

LE_y = Leakage emissions in year y (tCO_2e/yr)

$LE_{upstream,y}$ = Leakage emissions associated with the upstream emissions of an increase in fossil fuel use in the project activity in year y (tCO_2e/yr)

$LE_{HR,y}$ = Leakage emissions due to a decrease in the amount of heat recovered from exhaust heat for purposes other than power generation in the project, compared to the most recent year prior to the implementation of the project activity, in year y (tCO_2e/yr)

Determination of $LE_{HR,y}$

Since the quantity of heat recovered from the exhaust heat during the most recent year prior to the implementation of the project activity (QHR_x) was zero and therefore was less than 3% of the fossil fuels consumed by the project power units in an energy basis, then emissions from this leakage source are equal to zero and there is no need to calculate $LE_{HR,y}$.

Determination of $LE_{upstream,y}$

In cases where the fuel consumption in the project activity is lower than the historical fuel consumption in the three historical years x, leakage emissions from this source are equal to zero. Fuel consumption in the project activity is not lower than the historical fuel consumption, therefore, leakage emissions associated with the upstream emissions from an increase in fossil fuel use in the project activity shall be considered. The leakage emissions are calculated as follows:

$$LE_{upstream,y} = MAX\left[0, \left(\left(\sum_i FC_{i,y} \cdot NCV_{i,y} \cdot EF_{i,upstream,CH4}\right) \cdot GWP_{CH4} + LE_{LNG,CO2,y}\right) \times \left(1 - \frac{\frac{1}{3} \cdot \sum_{x=1}^{3} FC_{i,x} \cdot NCV_{i,x}}{\sum_i FC_{i,y} \cdot NCV_{i,y}}\right)\right]$$

Where:

$LE_{upstream,y}$ = Leakage emissions associated with the upstream emissions of an increase in fossil fuel use in the project activity in the year y (tCO_2e/yr)

$FC_{i,y}$ = Quantity of fuel type i used by the project power unit(s) in year y (mass or volume unit/yr)

$NCV_{i,y}$ = Average net calorific value of the fuel type i used by the project power unit(s) in year y (GJ/mass or volume unit)

$EF_{i,upstream,CH4}$ = Emission factor for upstream fugitive methane emissions from production, transportation, distribution of fossil fuel i used by the project power unit(s) in year y (tCH_4/GJ)

GWP_{CH4} = Global warming potential of methane valid for the relevant commitment period (tCO_2e/tCH_4)

$LE_{LNG,CO2,y}$ = Leakage emissions due to fossil fuel combustion/electricity consumption associated with the liquefaction, transportation, re-gasification and compression of LNG into a natural gas transmission or distribution system in year y (tCO_2e/yr)

$FC_{i,x}$ = Quantity of fuel type i used by the project power unit(s) in year x (mass or volume unit/yr)

$NCV_{i,x}$ = Net calorific value of fuel type i used by the project power unit(s) in year x (GJ/mass or volume unit)

x = Each year of the three years operational history

Leakage emissions due to fossil fuel combustion/electricity consumption associated with the liquefaction, transportation, re-gasification and compression of LNG into a natural gas transmission or distribution system ($LE_{LNG,CO2,y}$) are calculated, where applicable, as follows:

$$LE_{LNG,CO2,y} = FC_{LNG,y} \cdot NCV_{LNG,y} \cdot EF_{CO2,upstream,LNG}$$

Where:

$LE_{LNG,CO2,y}$ = Leakage emissions due to fossil fuel combustion/electricity consumption associated with the liquefaction, transportation, re-gasification and compression of LNG into a natural gas transmission or distribution system in year y (tCO2e/yr)

$FC_{LNG,y}$ = Quantity of natural gas produced from LNG used by the project power unit(s) in year y (mass or volume unit/yr)

$NCV_{LNG,y}$ = Net calorific value of natural gas produced from LNG used by the project power unit(s) in year y (GJ/mass or volume unit)

$EF_{CO2,upstream,LNG}$ = Emission factor for upstream CO_2 emissions due to fossil fuel combustion/electricity consumption associated with the liquefaction, transportation, re-gasification and compression of LNG into a natural gas transmission or distribution system (tCO_2e/GJ).

The leakage emission calculation for the monitoring period is described in the table below:

Time	$FC_{NG,y}$ (MMBtu)	$LE_{LNG,CO2,y}$ (tCO_2)	LE_y (tCO_2)
01/04/2017 – 31/12/2017	14,559,702	92,168	**34,434**
01/01/2018 – 31/12/2018	20,146,777	127,536	**118,657**
01/01/2019 – 31/12/2019	20,681,891	130,923	**126,724**
01/01/2020 – 31/12/2020	17,626,198	111,580	**80,660**
01/01/2021 – 31/10/2021	15,118,545	95,705	**42,858**
Total			**4,03,333**

The project emission for the monitoring period is **403,333 tCO_2**.

5.4 Net GHG Emission Reductions and Removals

The results of emission reduction of the project activity in the first monitoring period are shown in the table below:

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
2017 (01/04/2017 – 31/12/2017)	1,151,144	895,564	34,434	221,146
2018 (01/01/2018 – 31/12/2018)	1,592,316	1,239,224	118,657	234,435
2019 (01/01/2019 – 31/12/2019)	1,634,213	1,272,139	126,724	235,350
2020	1,394,964	1,084,184	80,660	230,120

(01/01/2020 – 31/12/2020)				
2021 (01/01/2021 – 31/10/2021)	1,196,141	929,939	42,858	223,344
Total	6,968,778	5,421,050	403,333	1,144,395

During the current monitoring period, the project achieved net emission reductions of 1,144,395tCO2 compared to the estimated emission reduction of 1,578,598tCO2 which is 27.51 % lesser than the estimated. The power generation and plant efficiency wereoverestimatedby the project proponent and the same has been considered in the PD. During the current monitoring period the net electricity generation is lesser than the estimated value.

A detailed explanation for the same is given below.

Year	Estimated emissions (tCO_2e)	Achieved Net GHG emission reductions or removals (tCO_2e)	Difference
2017 (01/04/2017 – 31/12/2017)	2,60,139	2,21,146	38,993
2018 (01/01/2018 – 31/12/2018)	3,48,361	2,34,435	1,13,926
2019 (01/01/2019 – 31/12/2019)	3,42,789	2,35,350	1,07,439
2020 (01/01/2020 – 31/12/2020)	3,38,130	2,30,120	1,08,010
2021 (01/01/2021 – 31/10/2021)	2,89,179	2,23,344	65,835
Total	1,578,598	1,144,395	4,34,203

Form above table it has been observed that there has no increase in net GHG emission reductions during the current monitoring period as compared to the estimated in registered PDD. Hence there has no impact on the additionality.