Monitoring report form for CDM project activity
(Version 06.0)

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

MONITORING REPORT		
Title of the project activity	Irani biomass electricity generation project	
UNFCCC reference number of the project activity	0404	
Version number of the PDD applicable to this monitoring report	Version 07, from 21/02/2013	
Version number of this monitoring report	Version 1	
Completion date of this monitoring report	04/04/2019	
Monitoring period number	2nd	
Duration of this monitoring period	7 years, from 01/10/2011 until 30/09/2018	
Monitoring report number for this monitoring report	1	
Project participants	Celulose Irani S.A.	
Host Party	Brazil	
Sectoral scopes	Sectoral scopes: 1 - Energy industries (renewable - / non-renewable sources)	
Applied methodologies and standardized baselines	Methodology AMS-I.C.: Thermal energy production with or without electricity	
Amount of GHG emission reductions or net anthropogenic GHG removals achieved by the project activity in this monitoring period	Amount achieved before 1 January 2013	Amount achieved from 1 January 2013
	8,431 tCO_2e	44,942 tCO_2e
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD	33,452 tCO_2e	

SECTION A. Description of project activity

A.1. General description of project activity

>> The project activity consists in the implementation and operation of a new captive renewable biomass-fired cogeneration facility, which will be supplied by renewable biomass (Celulose Irani own biomass residues and biomass residues from the market).

Prior to the implementation of the project activity, the National Interconnected Electric System (*Sistema Interligado Nacional* - SIN) supplied the electricity consumed by Celulose Irani that was not produced by its own small hydropower plants and biomass plants, besides its diesel-based plant that is used as a back-up system in emergency cases. Hence, in the baseline scenario electricity consumed by Irani Celulose would be partly supplied by the operation and addition of new sources connected to SIN.

The cogeneration facility has a 9.43 MW electricity generation capacity, which is consumed onsite, displacing electricity consumption that would otherwise be supplied by sources connected to SIN by renewable electricity generated from biomass residues, thus reducing GHG emissions. All other biomass and hydro plants will continue working normally.

The renewable electricity generation of the project activity is expected to reduce 33,452tCO_2e during the current crediting period.

A.2. Location of project activity

>> The project is located at Celulose Irani main industrial complex in the Campina da Alegria integrated mill, located in Campina da Alegria district, in the municipality of Vargem Bonita, Santa Catarina State (Rodovia BR 153, km 47, CEP: 89600-000), in the Federative Republic of Brazil. Reference geographical coordinates: -26.865914S; -51.794961W

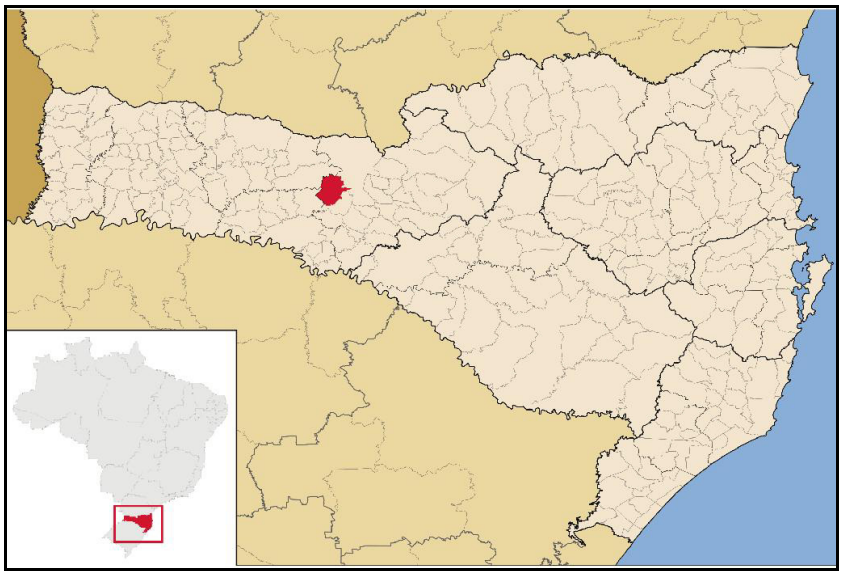

Figure 1: Geographic location of Vargem Grande Municipality (red mark) in Santa Catarina State.

A.3. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Brazil (host Party)	Celulose Irani S.A.	No

A.4. Reference to applied methodologies and standardized baselines

>> The following methodology was applied:
- AMS-I.C version 19.0 (Thermal energy production with or without electricity);

Additionally, the following tools were also applied in this monitoring report:
- TOOL 07: "Tool to calculate the emission factor for an electricity system", version 07.0;
- TOOL 11: "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;
- TOOL 12: "Project and leakage emissions from road transportation of freight" version 01.1.0;
-TOOL 05: "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation", version 03.0;
- TOOL 22: "Leakage in biomass small-scale project activities", version 04.0.

A.5. Crediting period type and duration

>> Renewable crediting period. (second crediting period), from 01/10/2011 till 30/09/2018.

SECTION B. Implementation of project activity

B.1. Description of implemented project activity

>> The project activity herein described consists in the implementation and operation of a renewable biomass-fired cogeneration system with a thermal and electrical nominal installed capacity of 84.78 MW and 9.43 MW, respectively.

The cogeneration system consists in a high-pressure aquatubular boiler, which works with a closed water circuit and with automatic fuel feed. The steam produced is conducted to a turbine at 64 kgf/cm^2 and then directed to the process with a pressure of 9.5 kgf/cm^2. This system has also a gas washer in the chimney, which reduces the amount of suspended particulate from atmospheric effluents, and the residues obtained from biomass burning are applied on Celulose Irani's forest plantations.

Suppliers from the project region and the own plantations of Celulose Irani provide the renewable biomass that fuels the cogeneration system. This biomass consists in residual biomass (e.g. residual woodchip and sawdust), woodchips from energetic forests, and forest and process residues (e .g. barks), that are mixed and stored in silos before being conducted to the project plant2[1].

The project activity only accrues from the emissions reductions from the renewable electricity production (and not from renewable heat generation). The project activity displaces electricity that would otherwise be consumed from SIN by generating a net average amount of 42,387,5 MWh of renewable electricity annually.

[1] It is important to notice that, although the project cogeneration system also burns biomass from energetic forests, the additional amount demanded by the project operation is supplied only by biomass residues and, therefore, it does not affect the energetic forest's biomass production.

Table 1. Project activity cogeneration system composition.

Equipment	Aquatubular boiler	Turbines	Generator
Model	VS 5090/2	TME 15000A	SPW 900
Manufacturer	Sermatec www.sermatec.com.br	TGM Turbinas www.grupotgm.com.br	Weg Indœstrias S.A. www.weg.com.br
Installed capacity	84.78MW	9.35MW	9.43MW
Year	2003	2004	2004

B.2. Post-registration changes

B.2.1. Temporary deviations from the registered monitoring plan, applied methodologies or standardized baselines

>>There are not temporary deviations from the registered monitoring plan, applies methodologies or standardized baselines.

B.2.2. Corrections

>>There are not corrections to be described.

B.2.3. Changes to the start date of the crediting period

>>There are not changes to the start date of the crediting period.

B.2.4. Inclusion of monitoring plan

>> There are not post-registration changes to include a monitoring plan into the PDD.

B.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools

>> There are not permanent changes to the registered monitoring plan, or permanent deviation of monitoring from applied methodologies, applied standardized baseline, or other applied standards or tools.

B.2.6. Changes to project design

>> There are not changes to the project design.

SECTION C. Description of monitoring system

>> There are not any changes to the project design of the project activity.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante

Data/Parameter	ω_{OM}
Unit	%
Description	Weighting of operating margin emissions factor
Source of data	Latest version of Tool 07: "Tool to calculate the emission factor for an electricity system"
Value(s) applied	25
Choice of data or measurement methods and procedures	This value was selected because the project activity does not consist on wind or solar energy generation, and is under the third crediting period.
Purpose of data	Calculation of baseline and project emissions
Additional comment	-

Data/Parameter	ω_{BM}
Unit	%
Description	Weighting of operating build emissions factor
Source of data	Latest version of Tool 07: "Tool to calculate the emission factor for an electricity system"
Value(s) applied	75
Choice of data or measurement methods and procedures	This value was selected because the project activity does not consist on wind or solar energy generation, and is under the third crediting period.
Purpose of data	Calculation of baseline and project emissions
Additional comment	-

Data/Parameter	$EF_{grid, BM,y}$
Unit	tCO_2/MWh
Description	Build margin CO_2 emission factor in year y
Source of data	Brazilian Interministerial Commission on Global Climate Change
Value(s) applied	0.1056
Choice of data or measurement methods and procedures	As defined in the latest version of Tool 07: "Tool to calculate the emission factor for an electricity system" regarding the third crediting period, the value to be used should be the build margin emission factor calculated for the second crediting period.
Purpose of data	Calculation of baseline and project emissions
Additional comment	Ex-ante estimated build margin emission factor of the National Interconnected System, as published by the Brazilian DNA.

Data/Parameter	$EF_{CO2,f}$
Unit	$gCO_2/t.km$
Description	Default CO_2 emission factor for freight transportation activity *f*

Source of data	Latest version of Tool 12: "Project and leakage emissions from road transportation of freight"
Value(s) applied	**Vehicle class** / **Emission factor (gCO_2/t.km)**: Heavy vehicles / 129
Choice of data or measurement methods and procedures	Biomass transportation is carried out by Heavy vehicles (Trucks). Thus, each time that biomass transportation itineraries distance exceeds 200 km from the project activity site, the emissions were calculated.
Purpose of data	Calculation of project emissions
Additional comment	---

D.2. Data and parameters monitored

Data/Parameter	$EF_{grid,CM,y}$
Unit	tCO_2/MWh
Description	Combined margin CO_2 emission factor in year y
Measured/calculated/ default	Calculated
Source of data	Calculated accordingly formula (4) in section B.6.1 of the last approved PDD.
Value(s) of monitored parameter	**Year** / **Value**: 2011 / 0,1522; 2012 / 0,2086; 2013 / 0,2275; 2014 / 0,2251; 2015 / 0,2191; 2016 / 0,2349; 2017 / 0,2262; 2018 / 0,2140
Monitoring equipment	Not applicable.
Measuring/reading/recording frequency	Annually.
Calculation method (if applicable)	Calculated accordingly formula (4) in section B.6.1 of the last approved PDD.
QA/QC procedures	As per the latest version of Tool 07 "Tool to calculate the emission factor for an electricity system".
Purpose of data/parameter	Calculation of baseline and project emissions
Additional comments	-

Data/Parameter	$EF_{grid,OM,y}$
Unit	tCO_2/MWh
Description	Operating margin CO_2 emission factor in year y
Measured/calculated/ default	Calculated
Source of data	Data provided by the DNA (Designated National Authority) monthly. The DNA in Brazil is named Brazilian Interministerial Commission on Global Climate Change.

Value(s) of monitored parameter	<table><tr><th>Year</th><th>Value</th></tr><tr><td>2011</td><td>0,2920</td></tr><tr><td>2012</td><td>0,5176</td></tr><tr><td>2013</td><td>0,5932</td></tr><tr><td>2014</td><td>0,5837</td></tr><tr><td>2015</td><td>0,5597</td></tr><tr><td>2016</td><td>0,6228</td></tr><tr><td>2017</td><td>0,5882</td></tr><tr><td>2018</td><td>0,5390</td></tr></table>
Monitoring equipment	Not applicable.
Measuring/reading/recording frequency	Monthly.
Calculation method (if applicable)	As per the latest version of Tool 07: "Tool to calculate the emission factor for an electricity system".
QA/QC procedures	As per the latest version of Tool 07: "Tool to calculate the emission factor for an electricity system".
Purpose of data/parameter	Calculation of baseline and project emissions
Additional comments	-

Data/Parameter	$EG_{BL,y}$
Unit	MWh
Description	Quantity of net electricity displaced in year *y.*
Measured/calculated/ default	Calculated
Source of data	On-site measurements
Value(s) of monitored parameter	<table><tr><th>Year</th><th>Value</th></tr><tr><td>2011</td><td>10,785</td></tr><tr><td>2012</td><td>43,086</td></tr><tr><td>2013</td><td>39.148</td></tr><tr><td>2014</td><td>41,349</td></tr><tr><td>2015</td><td>42,738</td></tr><tr><td>2016</td><td>41,293</td></tr><tr><td>2017</td><td>43,584</td></tr><tr><td>2018</td><td>34,730</td></tr></table>
Monitoring equipment	The net electricity generated corresponds to the difference from the gross electricity (EG_{gross}) produced by the project plant minus the consumption of the plant (EC_{plant}) and the project shredders ($EC_{shredder}$). The values were aggregated monthly and yearly for each parameter. The meter used to monitor EG_{gross} was produced by Weg, model MFR3 until August 2013. This meter presents an accuracy of ±2% specified by the producer. In August 2013 the meter was changed for one by Schweittzer, model SEL 700G. This meter presents an accuracy of ±3% specified by the producer.
Measuring/reading/recording frequency	Continuously.

Calculation method (if applicable)	Calculated accordingly formula (3) in section B.6.1 of the last version of the PDD. $EG_{BL, y} = EG_{gross} - EC_{shredder} - EC_{plant}$
QA/QC procedures	The Weg and Schweitzer electricity meters should have been calibrated each 3 years, like defined in the last PDD. As this did not occur, the accuracy of each meter was discounted in each appropriated period.
Purpose of data/parameter	Calculation of baseline emissions
Additional comments	In the periods that the calibration had not been done, the accuracy was discounted in the measures.

Data/Parameter	$EC_{PJ,j,y} = EC_{plant} + EC_{shredder}$
Unit	MWh
Description	Quantity of electricity consumed by the project electricity consumption source j in year y.
Measured/calculated/ default	Measured
Source of data	On-site measurements
Value(s) of monitored parameter	**Year** / **Value**: 2011: 1,687; 2012: 6,582; 2013: 10,042; 2014: 10,546; 2015: 11,275; 2016: 12,178; 2017: 12,070; 2018: 7,722
Monitoring equipment	Electricity meters measured the electricity consumption of the plant and shredder of the project activity, which were continuously analyzed and monitored. Values were aggregated monthly and yearly for each parameter. The meters used were produced by Allen-Bradley, model Powermonitor 3000. According to the latest calibration certificates, the meters present an accuracy of ±1% specified by the producer.
Measuring/reading/recordi ng frequency	Continuously.
Calculation method (if applicable)	-
QA/QC procedures	The Allen-Bradley electricity meters should have been calibrated each 3 years, like defined in the last PDD. As this did not occur, the accuracy of each meter was added in each appropriated period.
Purpose of data/parameter	Calculation of project emissions
Additional comments	In the periods that the calibration had not been done, the accuracy was added in the measures.

Data/Parameter	$D_{f,m}$
Unit	Kilometre

Description	Road distance (round trip) between the origin and destination of freight transportation activity *f* in monitoring period *m*
Measured/calculated/ default	Measured
Source of data	Recorded by project participants.
Value(s) of monitored parameter	Available in the tab "biomass suppliers" in the sheets "ERs_2011.xls", "ERs_2012.xls", "ERs_2013.xls", "ERs_2014.xls", "ERs_2015.xls", "ERs_2016.xls", "ERs_2017.xls" and "ERs_2018.xls".
Monitoring equipment	The project participants recorded the address of the biomass supplier and calculated the distance by a road map. Whenever the round trip distance exceeded 200 km of distance, this parameter was applied for the transport emissions calculation.
Measuring/reading/recordi ng frequency	Continuously.
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data/parameter	Calculation of project emissions
Additional comments	-

Data/Parameter	$FR_{f,m}$
Unit	Tones
Description	Total mass of freight transported in freight transportation activity *f* in monitoring period *m*
Measured/calculated/ default	Measured
Source of data	Records by project participants.
Value(s) of monitored parameter	Available in the tab "biomass suppliers" in the sheets "ERs_2011.xls", "ERs_2012.xls", "ERs_2013.xls", "ERs_2014.xls", "ERs_2015.xls", "ERs_2016.xls", "ERs_2017.xls" and "ERs_2018.xls".
Monitoring equipment	This parameter was measured continually (at every freight arrival to the plant) by two scales, for the suppliers that were located in a round trip distance of over 200 km from the project activity site. Such measured data was aggregated in monthly and yearly values from each supplier and for the whole plant. The two scales used by the project activity were produced by Toledo, model 820. According to the latest calibration certificates, the scales present a resolution of 10 kg and 20 kg for a calibrated range of 11 tons. The calibration process is made every 120 days, according to internal Quality Procedure P02-CAL-6-332. This parameter will be applied for the transport emissions calculation.
Measuring/reading/recordi ng frequency	Continuously.
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data/parameter	Calculation of project emissions

Additional comments	-

Data/Parameter	$TDL_{j,y}$
Unit	%
Description	Average technical transmission and distribution losses for providing electricity to source j.
Measured/calculated/ default	Default
Source of data	Tool 05: "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation".
Value(s) of monitored parameter	20
Monitoring equipment	Default value for project emissions framed on scenario A1 of the Tool 05: "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation"
Measuring/reading/recordi ng frequency	Annually.
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data/parameter	Calculation of project emissions
Additional comments	-

D.3. Implementation of sampling plan

>> Not applicable.

SECTION E. Calculation of emission reductions or net anthropogenic removals

E.1. Calculation of baseline emissions or baseline net removals

>> *Emission reductions calculation*

Emission reductions of the project activity are calculated as follows:

(1) $ERy = BEy – PEy – LEy$

Where:

ERy Emissions reductions in the year y (tCO2e);
BEy Baseline emissions of the displacement of electricity consumption from grid in the year y (tCO_2e);
PEy Project emissions during year y (tCO2e);
LEy Leakage emissions during year y (tCO2e).

Baseline emissions

The baseline emissions are determined according to AMS-I.F as "the product of amount electricity displaced with the electricity produced by the renewable generating unit and an emission factor" as follows:

(2) $BE_y = EG_{BL,\,y} * EF_{CO2,\,y}$

Where:

BE_y Baseline emissions in year y (tCO2e);
$EG_{BL,y}$ Quantity of net electricity displaced as a result of the implementation of the CDM project activity in year y (MWh);
$EF_{CO2,y}$ Emission factor (tCO2e/MWh).

Only the net electricity generated will be taken into account. Thus, the energy consumed by the project shredder and by the biomass plant will be discounted as demonstrated in the following equation.

(3) $EG_{BL,\,y} = EG_{gross} - EC_{shredder} - EC_{plant}$

Where:

$EG_{BL,y}$ Quantity of net electricity displaced as a result of the implementation of the CDM project activity in year y (MWh);
EG_{gross} Quantity of electricity generated by the project activity in the year y (MWh);
$EC_{sheredder}$ Quantity of electricity consumed by the project shredders in the year y (MWh);
EC_{plant} Quantity of electricity consumed by the project plant in the year y (MWh).

Regarding to the emission factor, the AMS-I.C determines that this parameter shall be calculated as per procedures established by AMS-I.D. Following the AMS-I.D the project activity falls under option (a), which indicates the "Tool to calculate the Emission Factor for an electricity system" to the calculation of the grid emission factor.

The project activity will displace electricity consumption of the Brazilian Interconnected System (SIN). The Brazilian DNA has published the delineation of SIN to be adopted for the purposes of CDM projects. As per Resolution nº8 of the Brazilian DNA, the electric grid considered in this project activity is considered as a single system consisted by the sub-markets of SIN as the definition of the electric system of the project. Off-grid plants will not be included in the calculation of $EF_{grid,CM,\,y}$.

$EF_{grid,CM,\,y}$ will be calculated using the latest version of the "Tool to calculate the emission factor for an electricity system". The following formulae applies:

(4) $EF_{grid,CM,\,y} = EF_{grid,OM,\,y} * w_{OM} + EF_{grid,BM,y} * w_{BM}$

Where:

$EF_{grid,CM,\,y}$ Combined margin CO2 emission factor in year y (tCO2/MWh);
$EF_{grid,BM,\,y}$ Build margin CO2 emission factor in year y (tCO2/MWh);
$EF_{grid,OM,\,y}$ Operating margin CO2 emission factor in year y (tCO2/MWh);
w_{OM} Weighting of operating margin emissions factor (25%);
w_{BM} Weighting of build margin emissions factor (75%).

The weighting factors for build and operating margin for the third crediting period were selected according to guidance provided in the Tool 07: "Tool to calculate the emission factor for an electricity system".

For the third crediting period, the operating margin emission factor will be updated annually, ex-post, while build margin emission factor shall continue to be fixed ex ante.

The parameters $EF_{grid,OM,\,y}$ and $EF_{grid,BM,\,y}$ were calculated and published by the Brazilian Inter-ministerial Commission for Global Climate Change, the Brazilian Designated National Authority, according to the most recent version of the "Tool to calculate the emission factor for an electricity

system". By using these published values and the yearly electricity generating ($EG_{BL,y}$) it will be possible to calculate the associated baseline emissions (BE_y).

E.2. Calculation of project emissions or actual net removals

>> The project emissions associated to the electricity generation component are related to biomass transportation, when the itineraries distance exceeds 200 km. Normally the biomass suppliers are located in areas inside of 200 km radius from that project activity site. Whenever the biomass transportation surpasses this limit, emissions due to transportation will be accounted using the option B of the Tool "Project and leakage emissions from road transportation of freight" as follows.

(1) $$\left.\begin{matrix} PE_{TR,m} \\ LE_{TR,m} \end{matrix}\right\} = \sum_f D_{f,m} \times FR_{f,m} \times EF_{CO2,f} \times 10^{-6}$$

Where:

$PE_{TR,m}$	=	Project emissions from transportation of freight monitoring period *m* (t CO_2)
$LE_{TR,m}$	=	Leakage emissions from transportation of freight monitoring period *m* (t CO_2)
$D_{f,m}$	=	Return trip distance between the origin and destination of freight transportation activity *f* in monitoring period *m* (km)
$FR_{f,m}$	=	Total mass of freight transported in freight transportation activity *f* in monitoring period *m* (t)
$EF_{CO2,f}$	=	Default CO_2 emission factor for freight transportation activity *f* (g CO_2/t km)
f	=	Freight transportation activities conducted in the project activity in monitoring period *m*

Another source of project emissions can be related to the electricity consumption of the project plant and shredders. This consumption is normally deducted from the energy generated by the project activity, but whenever is exceeds the projects generation the "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" (Option A1 to calculate the emission factor) will be applied as follows.

(6) $$PE_{EC,y} = \sum_j EC_{PJ,j,y} \times EF_{EF,j,y} \times (1 + TDL_{j,y})$$

Where:

$PE_{EC,y}$ Project emissions from electricity consumption in year y (tCO2/yr);

$EC_{PJ,j,y}$ Quantity of electricity consumed by the project electricity consumption source j in year y (MWh/yr);

$EF_{EL,j,y}$ Emission factor for electricity generation for source j in year y (tCO2/MWh);

$TDL_{j,y}$ Average technical transmission and distribution losses for providing electricity to source j in year y (20%).

E.3. Calculation of leakage emissions

>> According to AMS-I.C the leakage emissions can be neglected since no equipment was transferred from or to another activity. However, according to the "General guidance on leakage in biomass project activities" the leakage emissions from competing use of biomass shall be evaluated.

Brasil has a large wood industry, with more than 1200 sawmills. Most industries (87%) are located in the Southern region. As an example, Parana and Santa Catarina states host almost 80% of all Pinus spp. wood consumption (Sant'anna et.al[2]). The Brazilian technologies in sawmills in general are very poor, and less than 50% of wood is transformed in products. The other 50% are wood residues. Given the large number of sawmills in south region the biomass residue generation is concentrated in south region, creating an excess of biomass residues that the market cannot absorb.

This fact can be demonstrated by the study of Pöyry Silviconsult (2012)[3], which indicated a surplus of woody residues in the neighboring region of Vargem Bonita (project activity site). These researchers studied the region and have obtained data from industries that mechanically process wood. The results indicated the existence of available biomass that could be sold and used for energy purposes. Their study assumes conservative approaches based on a sample of approximately 95% of potential woody residues consumer industries in the region covered by the survey, as indicated by information collected by PSC from January to December 2011.

The results of Pöyry Silviconsult (2012) estimatives are demonstrated in the table below:

Table 5: Surplus of biomass residues according to the industries' data.

	200 km radius	**150 km radius**	**100 km radius**
Biomass residues production (t/year)	3,800,000	2,800,000	1,400,000
Biomass residues consume[4] (t/year)	2,500,000	1,000,000	600,000
Biomass residues surplus (%)	34,2	64,3	57,1

As demonstrated above, there are 34.2% of biomass residues surplus in the region, considering the most conservative scenario presented in Pöyry Silviconsult study. Therefore, leakage from competing use can be neglected for this period.

E.4. Calculation of emission reductions or net anthropogenic removals

	Baseline GHG emissions or baseline net GHG removals (t CO_2e)	**Project GHG emissions or actual net GHG removals (t CO_2e)**	**Leakage GHG emissions (t CO_2e)**	**GHG emission reductions or net anthropogenic GHG removals (t CO_2e)**		
				Before 01/01/2013	**From 01/01/2013**	**Total amount**
Total	53,373	12,307	0	8,431	44,942	53,373

[2] Sant'Anna, Mário; Teddy A. Rayzel; Mário C. M Wanzuita, 2004. Indústria consumidora de Pinus no Brasil. Rev. da Madeira. no 83 - ano 14 - Agosto de 2004

[3] Pöyry Silviconsult, 2012. Mercado de Biomassa: Pinus e Eucalyptus. 14 pp.

[4] Including the project activity consume.

E.5. Comparison of emission reductions or net anthropogenic removals achieved with estimates in the registered PDD

Amount achieved during this monitoring period (t CO_2e)	Amount estimated ex ante (t CO_2e)
53,373	33,452

E.6. Remarks on increase in achieved emission reductions

>>The value of the emission reductions had an increase of 60% due to the value of the EF_{OM} occurred to have been 84% above the estimated in the corresponding PDD. Thus, the project activity had greater methane avoidance and higher emission reductions.

- - - - -

Document information

Version	*Date*	*Description*
06.0	7 June 2017	Revision to: • Ensure consistency with version 01.0 of the "CDM project standard for project activities" (CDM-EB93-A04-STAN); • Make editorial improvements.
05.1	4 May 2015	Editorial revision to correct version numbering.
05.0	1 April 2015	Revisions to: • Include provisions related to delayed submission of a monitoring plan; • Provisions related to the Host Party; • Remove reference to programme of activities; • Overall editorial improvement.
04.0	25 June 2014	Revisions to: • Include the Attachment: Instructions for filling out the monitoring report form (these instructions supersede the "Guideline: Completing the monitoring report form" (Version 04.0)); • Include provisions related to standardized baselines; • Add contact information on a responsible person(s)/ entity(ies) for completing the CDM-MR-FORM in A.6 and Appendix 1; • Change the reference number from *F-CDM-MR* to *CDM-MR-FORM*; • Editorial improvement.
03.2	5 November 2013	Editorial revision to correct table in page 1.
03.1	2 January 2013	Editorial revision to correct table in section E.5.
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB 70, Annex 11).
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01.0	28 May 2010	EB 54, Annex 34. Initial adoption.

Decision Class: Regulatory
Document Type: Form
Business Function: Issuance
Keywords: monitoring report