NON-PERMANENCE RISK REPORT MADRE DE DIOS AMAZON REDD PROJECT

Document Prepared By Greenoxx NGO

Project Title	MADRE DE DIOS AMAZON REDD PROJECT
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1 INTERNAL RISK

Project Management		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Not applicable. The Madre de Dios Amazon REDD Project is based on the management of an Amazonian tropical forest through natural regeneration. The system does not contemplate the use of exotic species.	0
b)	The Madre de Dios Amazon REDD Project must implement activities in order to ensure the custody of the forest and avoid its deforestation and degradation. Patrolling actions are carried out periodically and permanent control posts have been established on the access points to the area. The deforestation modeling indicates that if these procedures are not implemented, after 30 years more than half of the forest cover of the area would have been lost due to the invasion of external agents.	2
c)	Not applicable. The Madre de Dios Amazon REDD Project is developed by a professional team, whose staff has more than 5 years experience in all the different areas involved in the project. **Documentary evidence:** CVs of Maderacre and Maderyja staff involved in the project, which will be available to the auditors.	0
d)	Not applicable. The administrative and technical offices of the Madre de Dios Amazon REDD Project are located less than 1 hour away from the project area. Those responsible for the project implementation maintain a continuous presence within the project area.	0
e)	The Madre de Dios Amazon REDD Project is developed by a team of professionals with relevant experience in the development and implementation of REDD Projects, who have also participated in the validation process of the project under the CCB Standards, having achieved the Gold Validation Status for the project. In addition to this, said staff has been responsible for the registry and commercialization of Madre de Dios Amazon REDD Project PIUs within the Markit platform. **Documentary evidence:** Markit's sales registry; press release of the sale of Madre de Dios Amazon REDD Project credit's to the Scotiabank, Dakar Rally, etc.; SCS CCBA Madre de Dios Amazon REDD Project Validation Report; CVs of Greenoxx and Greenoxx staff involved in the project; CVs of BAM and BAM staff involved in the project, CVs of AIDER and AIDER staff involved in the project; that will be available to the auditors.	-2

f)	The Madre de Dios Amazon REDD Project implements an Adaptive Management System, which includes different management tools that define the activities to be implemented (Forest Management Plans and instructions for the implementation of the activities), the same that identify the procedures for monitoring, the systematization of the information and the feedback for continuous improvement of the procedures by updating the instructions and the system itself. **Documentary evidence:** Forest Management Plans of the concessions and Monitoring Plan that will be available to the auditors.	-2
Total Project Management (PM) [as applicable, (a + b + c + d + e + f)] Total may be less than zero.		**-2**

Financial Viability		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Not applicable. Project cash flow breakeven point is <u>not</u> greater than 10 years from the current risk assessment.	0
b)	Not applicable. Project cash flow breakeven point is <u>not</u> between 7 and up to 10 years from the current risk assessment.	0
c)	Project economic cash flow breakeven point is 6 years from the current risk assessment. Revenues from timber sustainable exploitation (under the forest management model), added to income from VERs sale, accelerates the investment recuperation period. **Documentary evidence:** Cash flow of the Madre de Dios Amazon REDD Project that will be available to the auditors.	1
d)	Not applicable. Project cash flow breakeven point is <u>not</u> less than 4 years from the current risk assessment.	0
e)	Not applicable. Project has secured <u>more</u> than 15% of funding needed to cover the total cash out before the project reaches breakeven.	0
f)	Not applicable. Project has secured <u>more</u> than 40% of funding needed to cover the total cash out required before the project reaches breakeven.	0
g)	Not applicable. Project has secured <u>more</u> than 80% of funding needed to cover the total cash out required before the project reaches breakeven	0

h)	Project has secured 36% more than the total funding needed to cover the total economic cash out before the project reaches breakeven (136% or funding needed was available from equity and international cooperation). **Documentary evidence:** Cash flow of the Madre de Dios Amazon REDD Project that will be available to the auditors.	0
i)	***Mitigation***: *Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven. The Project used equity and international financial aid to assure the investment needed in FSC and CCB Certification of the forest concessions.* **Documentary evidence:** Cash flow of the Madre de Dios Amazon REDD Project that will be available to the auditors.	-2
Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)] Total may not be less than zero.		**0**

Opportunity Cost		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Not applicable. NPV from project activities is expected to be at least 66% more profitable than the most profitable alternative land use activity (cattle ranching).	0
b)	Not applicable. NPV from project activities is expected to be at least 66% more profitable than the most profitable alternative land use activity (cattle ranching).	0
c)	Not applicable. NPV from project activities is expected to be at least 66% more profitable than the most profitable alternative land use activity (cattle ranching).	0
d)	Not applicable. NPV from project activities is expected to be at least 66% more profitable than the most profitable alternative land use activity (cattle ranching).	0
e)	Not applicable. NPV from project activities is expected to be at least 66% more profitable than the most profitable alternative land use activity (cattle ranching).	0
f)	NPV from project activities is expected to be at least 66% more profitable than the most profitable alternative land use activity (cattle ranching). The REDD Project has a profit of US$ 83.23 per hectare, whereas the cattle ranching expected profit is US$ 50 per hectare[1]. The second best alternative is	-2

[1] According to "Estrategias de conservación a lo largo de la Carretera Interoceánica en Madre de Dios, Peru. Un Análisis Económico Espacial. Conservación Estratégica. Serie Técnica 10, Marzo 2010", the expected profit for the cattle ranching activity is approximately US$50 per hectare.

	agriculture (crops), with a profit per hectare is in average US$42.50[2], which is half the profit expected from REDD Project.	
f) cont.	**Documentary evidence:** Cash flow of the Madre de Dios Amazon REDD Project and the books referenced that will be available to the auditors.	
g)	Not applicable. Maderacre and Maderyja are private-owned companies, not NGOs.	0
h)	Not applicable.	0
i)	Not applicable.	0
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g or h)] Total may not be less than 0.		**0**

Project Longevity		
a)	Not applicable The Madre de Dios Amazon REDD Project has concession contracts and management plans that ensure the continuity of the management practices beyond the duration of the project. The forest concessions are located within an area recognized by the Forest Law as “Permanent Production Forest”, areas where the state ensures that sustainable management systems of forest resources and services are implemented.	0
b)	The Madre de Dios Amazon REDD Project area comprises two adjacent forest concessions, that are sustained in their Concession Contracts granted by the Peruvian State for a period of 40 years renewable, that is to say for 80 years, which ensures that the management of the area will continue until after the end of the Madre de Dios Amazon REDD Project duration. **Documentary evidence:** Maderacre SAC and Maderyja SAC Concession Contracts, especially see the third clause of said contracts; Aide Memoire of the Legal Framework of the Forest Concessions, that will be available to the auditors. The management system carried out within the Madre de Dios Amazon REDD Project area allows the maintenance over time of the mix of species that occur naturally in the forest, because the system is based on the selective logging of a group of commercial species and the natural regeneration of the forest. In this sense, in each harvesting only those trees that have reached the optimum age for harvesting are extracted, which is defined by the minimum harvesting diameter (MHD) as stipulated within the Forest Management Plans of the concessions in compliance with the guidelines set out in the Annexes of the Departmental Resolution Nº 109-2003-INRENA. **Documentary evidence:** Departmental Resolution RJ 109-2003-INRENA	10

[2] Reference: “Estrategias de conservación a lo largo de la Carretera Interoceánica en Madre de Dios, Peru. Un Análisis Económico Espacial. Conservación Estratégica. Serie Técnica 10, Marzo 2010”.

	and its annexes; that will be available to the auditors.	
b) cont.	The Maderacre SAC and Maderyja SAC forest concessions have, since January 2007, FSC Forest Management and Chain of Custody Certification. **Documentary evidence:** FSC Certificates: SW-FM/COC-002175 for Maderyja SAC and SW-FM/COC-002176 for Maderacre SAC; that will be available to the auditors.	
Total Project Longevity (PL) May not be less than zero		**10**

Internal Risk	
Total Internal Risk (PM + FV + OC + PL) Total may not be less than zero.	**8**

2 EXTERNAL RISKS

Land Ownership and Resource Access/Use Rights		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Not applicable. The land is owned by the Peruvian Government, though the use right has been given in concession to Maderacre and Maderyja.	0
b)	The land is owned by the Peruvian State. However, the Government gave the forests in concession to Maderacre SAC and Maderyja SAC, signing long-term contracts for 40 years, renewable, through a public auction which took place in 2002. In this sense, Maderacre SAC signed the Contract Nº 17-TAH/C-J-001-02, for 49,376 hectares and Maderyja SAC the Contract Nº17-TAH/C-J-004-02, for 49,556 hectares. Both contracts were ratified in May 2006, in order to register them in the Peruvian Public Register Office. A very low number of the forest concessions in Peru ratified their contracts and registered them in the Public Register Office, so this adds even more security to the concessions given to Maderacre SAC and Maderyja SAC by the Peruvian state. **Documentary evidence:** Aide Memoire of the Legal Framework of the Concessions; Concession Contracts; Electronic Registration of the Concession Contracts in the Peruvian Public Register Office; that will be available to the auditors.	2
c)	Not applicable. There is no dispute over land tenure or ownership, the Peruvian State is the owner. **Documentary evidence:** Law of Forestry and Wildlife.	0

d)	Not applicable. There is no dispute over use rights. **Documentary evidence:** Cadastral Certificate of Maderacre and Maderyja concessions from the Public Records (in process).	0
e)	The areas covered by Maderacre SAC and Maderyja SAC concessions have the title of "Permanent Production Forests", recognized by the Peruvian State, being their conservation as such guaranteed, since they are defined in the Forestry Legislation as "Forest areas that due to their biotic and abiotic characteristics are suitable for permanent and sustainable production of timber and other environmental goods and services; and which have been classified as such by the INRENA within the forest zoning". These areas are made available to individuals in the form of granting recognized by the Ministry of Agriculture for sustainable and permanent use of forest resources and services, this being what will allow to continue with the necessary practices to ensure the forest carbon stocks during the entire crediting period of the Madre de Dios Amazon REDD Project **Documentary evidence:** Law of Forestry and Wildlife (Law Nº 27308) and its Regulations (Supreme Decree 014-2001-AG); that will be available to the auditors. In addition to this, both concessions have achieved the FSC Certification on Forest Management and Chain of Custody and the CCB Gold Validation Status of the Madre de Dios Amazon REDD Project, which ensures that they are meeting and improving the legal obligations stated and required by the Peruvian Government. This, in practice, would permit to extend the duration of the concession contracts beyond 40 years, provided the concessions continue to meet these standards, which mitigates the risk of losing the concession. **Documentary evidence:** FSC Certificates; SCS CCB Madre de Dios Amazon REDD Project Validation Report; that will be available to the auditors. Furthermore, Maderacre and Maderyja do not have any problems with the definition of their boundaries. Besides the fact that most of the boundaries are defined by rivers and streams, both concessions have signed agreements with all their neighbors. **Documentary evidence:** Adjoining Acts; that will be available to the auditors. Additionally, the project has official statements from the Peruvian Public Register Office agreeing with the concession's perimeters and recognizing that no other property title is registered inside the same perimeter. **Documentary evidence:** Cadastral Certificate of Maderacre and Maderyja concessions from the Public Records.	-2
f)	Not applicable. As there are no disputes over land tenure or use rights, there is no need for actions to solve them.	0

Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e+ f)] Total may not be less than zero.	**0**

Community Engagement		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Not applicable. There is no population living within the Madre de Dios Amazon REDD Project area (Maderacre and Maderyja concessions).	0
b)	As described in the VCS Madre de Dios Amazon REDD Project PD Template, the population living within 20 km of the Madre de Dios Amazon REDD project area own their own land for food, fuel and timber resources, or they are employed and thus receive a salary that allow them to buy these products in the urban area of Iñapari. This means that they are not reliant on the forest concessions' resources directly. The reliance is over the employment opportunities that the forest concessions currently offer. In the case of the Belgium Native Community, the closest native community to the Madre de Dios Amazon REDD project area, they own more than 50,000 hectares for 16 families, which means that there is enough land for them to carry out their hunting and agricultural activities, as well as for their timber and medicine demand. Of course, the pressure for lands will increase with immigration, but this should be controlled by the planned Madre de Dios Amazon REDD project activities, that would be carried out with the income from the sale of the project's carbon credits.	0
c)	Not applicable. There are no native communities living within the project area.	0
Total Community Engagement (CE) [where applicable, (a+b+c)] Total may be less than zero.		**0**

Political Risk		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Not applicable.	0
b)	Not applicable.	0
c)	The Peruvian "Governance score" is -0.341 for the period 2005-2009 (last 5 years data available currently).	4
d)	Not applicable.	0
e)	Not applicable.	0
f)	Peru is implementing the following activities: 1) It has created, in 2000, its own Certification Initiative, officially recognized by the FSC (www.cfperu.com). 2) It counts with an approved CDM Reforestation Project, the "Reforestación, producción sostenida y secuestro de carbono en los bosques secos de la Comunidad Campesina José Ignacio Távara Pasapera" Project. 3) It has designated the Minister of Environment (represented by Mr. Antonio Brack) as the National Authority before the CDM. 4) The jurisdiction in which the project is located is participating in the Governor's Climate and Forest Taskforce (GCF). In this sense, the Regional Government of Madre de Dios has taken steps to become a member of the GCF.	-2
Total Political (PC) [as applicable ((a, b, c, d or e) + f)] Total may not be less than zero.		**2**

External Risk	
Total External Risk (LT + CE + PC) Total may not be less than zero.	**2**

3 NATURAL RISKS

Natural Risk: Fire (F)	
Significance	No carbon stock losses due to forest fires were reported within the Madre de Dios Amazon REDD project area.
Likelihood	According to the "Historical Deforestation Interpretation" for the project zone (a) and to the "2010 Deforestation Monitoring Report" submitted to the CCBA (b), both of them developed by the NGO AIDER, it can be inferred that within the Madre de Dios Amazon REDD project area there were no carbon stock losses due to forest fires since 21 years ago. **Evidence:** Satellite Images of 30x30m, Landsat type: (a) images of the years 1990, 1995, 2000, 2005 and 2008 and (b) images of the years 2009 and 2010; which will be available to the auditors. There is a very low risk of occurrence of forest fires within the Madre de Dios Amazon REDD project area, because although it is common practice for local people to deforest for the installation of agriculture and livestock systems using fire, the fire spread to the surrounding forests is low, according to the INDECI statistics, which show that within Madre de Dios, although burning is a very common practice, a very low number of forest fire events are reported. **Evidence (references):** http://www.indeci.gob.pe/estadisticas/res_2006/res_2006_a.pdf http://www.indeci.gob.pe/estadisticas/2007/1er_tri_a.pdf http://www.indeci.gob.pe/estadisticas/2008/1er_tri_a.pdf http://www.indeci.gob.pe/estadisticas/2009/1_eme_reg_fen.pdf http://www.indeci.gob.pe/estadisticas/2010/1_eme_reg_fen.pdf http://sinpad.indeci.gob.pe/UploadPortalSINPAD/COEN_Noticia/mon_nac_inc_forest_31.05.06.pdf
Score (LS)	0
Mitigation	Despite having a very low risk of forest fires, the Madre de Dios Amazon REDD Project will seek to mitigate this risk in several ways: Within the monitoring system planned for the Madre de Dios Amazon REDD Project, the monitoring of fires and burns is contemplated. In this regard, the Project will be actively engaged with the Regional Plan of Burning, designed specifically for the Madre de Dios region, which was approved by the Regional Ordinance Nº 039-2010-GRMDD/CR. The organization at community level will be also essential to prevent the impacts of these burnings. In the framework of the Madre de Dios Amazon REDD project activities, the strengthening of the communities capacities in the management of controlled burning is included, as well as the implementation of awareness and environmental education programs in schools of the towns within the scope of the project.

	In addition to this, the active participation of the Madre de Dios Amazon REDD Project members within the Management Committee of the Acre River Forest should be highlighted, a space where the development of projects to evaluate the impacts of burning and their mitigation is promoted.

Natural Risk: Pest and Disease outbreaks (PD)	
Significance	No carbon stock losses due to pests and diseases were reported within the Madre de Dios Amazon REDD project area.
Likelihood	According to the “Historical Deforestation Interpretation” for the project zone (a) and to the “2010 Deforestation Monitoring Report” submitted to the CCBA (b), both of them developed by the NGO AIDER, it can be inferred that within the Madre de Dios Amazon REDD project area there were no carbon stock losses due to pests and diseases that have affected forest massifs since 21 years ago. **Evidence:** Satellite Images of 30x30m, Landsat type: (a) images of the years 1990, 1995, 2000, 2005 and 2008 and (b) images of the years 2009 and 2010; which will be available to the auditors. The amount of carbon stocks lost due to pests or diseases within the Madre de Dios Amazon REDD project area, which is a tropical natural forest, is insignificant, this due to the high heterogeneity of forest species and pest and diseases control species that occur within it. The processes of tree mortality in this ecosystem are part of its natural dynamics and these areas are quickly covered by the natural regeneration. This can be verified considering that the National Service of Agrarian Sanitation (in Spanish Servicio Nacional de Sanidad Agraria – SENASA) has not registered the occurrence of forest pests within the Madre de Dios Amazon REDD project area nor in its surroundings. **Evidence (references):** http://www.senasa.gob.pe/0/modulos/JER/JER_Interna.aspx?ARE=0&PFL=2&JER=1989
Score (LS)	0
Mitigation	Not required.

Natural Risk: Extreme Weather (W)	
Significance	No carbon stock losses due to extreme weather were reported within the Madre de Dios Amazon REDD project area.
Likelihood	According to the "Historical Deforestation Interpretation" for the project zone (a) and to the "2010 Deforestation Monitoring Report" submitted to the CCBA (b), both of them developed by the NGO AIDER, it can be inferred that within the Madre de Dios Amazon REDD project area there were no carbon stock losses attributable to extreme weather, either by strong winds, hail or floods by heavy rains that have devastated forest massifs since 21 years ago. **Evidence:** Satellite Images of 30x30m, Landsat type: (a) images of the years 1990, 1995, 2000, 2005 and 2008 and (b) images of the years 2009 and 2010; which will be available to the auditors. The Madre de Dios department does not present important risks of extreme weather events. Except the case of a cyclical event called "friaje", which is an incursion of Antarctic air masses that result in a sudden decrease in the air temperature (up to 15º C), increasing stratiform-type clouds, intensifying the winds and increasing the atmospheric pressure. The department most affected by this phenomenon, due to its geographic location, is Madre de Dios (Marengo, 1983). However, being this a natural cyclical event that does not reach freezing temperatures, it does not represent a risk to the permanence of the standing forest. As stated in the VCS Madre de Dios Amazon REDD PD Template, the project area mostly corresponds to the physiographic type of low hills, existing little flood areas that could suffer flooding in the event of heavy rain. Flooding is restricted to the lower terraces, being these events that characterize the natural dynamics of the forests of this area. **Evidence (references):** http://www.indeci.gob.pe/estadisticas/res_2006/res_2006_a.pdf http://www.indeci.gob.pe/estadisticas/2007/1er_tri_a.pdf http://www.indeci.gob.pe/estadisticas/2008/1er_tri_a.pdf http://www.indeci.gob.pe/estadisticas/2009/1_eme_reg_fen.pdf http://www.indeci.gob.pe/estadisticas/2010/1_eme_reg_fen.pdf Bernal *et al* 2001 http://sinpad.indeci.gob.pe/estadis/repemexcrono.aspx
Score (LS)	0
Mitigation	Not required.

<table>
<tr><th colspan="2">Natural Risk: Geological Risk (G)</th></tr>
<tr><td>Significance</td><td>No carbon stock losses due to geological disasters were reported within the Madre de Dios Amazon REDD project area.</td></tr>
<tr><td>Likelihood</td><td>The hypsographic map (contour lines) shows that the Madre de Dios Amazon REDD project area is characterized by the low hills physiographic type, with no volcanoes within the area and its surroundings.

The not so steep slopes of the hills, as well as the permanent presence of forests, can control any risk of major landslides.

Madre de Dios is a geologically stable department, according to the National Geophysical Data Centre (in Spanish Centro Nacional de Datos Geofísicos – CNDG), being a region with no seismic activity (Bernal et al 2001), as shown in the following figure. The same can be verified in the INDECI statistics, which show that the occurrence of earthquakes, landslides and other geological phenomena are very rare in Madre de Dios.

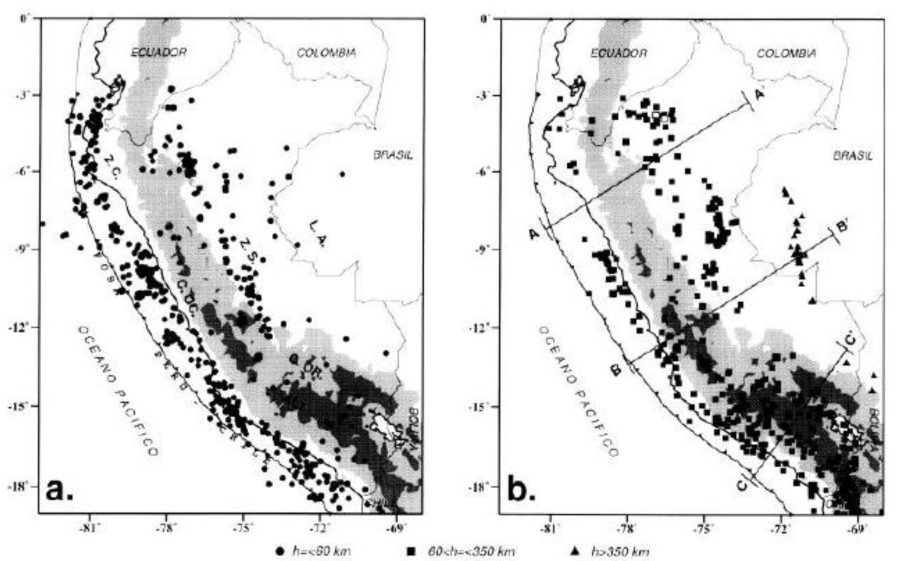

Figura 1.- Sismicidad del Perú para el periodo 1960 - 1995, magnitud mb ≥ 5.0 según Tavera 1998. a) Distribución de epicentros con foco superficial (h ≤ 60 km). b) Distribución de epicentros con foco intermedio (60< h≤350 km) y profundo (h> 300 km). ZC, Zona de Costa; COC, Cordillera Occidental; ALT, Altiplano; COR, Cordillera Oriental; ZS, Zona Subandina y LA, Llano Amazónico. Los símbolos en negro indican la profundidad de los sismos.

Evidence (references):
http://www.indeci.gob.pe/estadisticas/res_2006/res_2006_a.pdf
http://www.indeci.gob.pe/estadisticas/2007/1er_tri_a.pdf
http://www.indeci.gob.pe/estadisticas/2008/1er_tri_a.pdf
http://www.indeci.gob.pe/estadisticas/2009/1_eme_reg_fen.pdf
http://www.indeci.gob.pe/estadisticas/2010/1_eme_reg_fen.pdf
Bernal et al 2001
http://sinpad.indeci.gob.pe/estadis/repemexcrono.aspx</td></tr>
<tr><td>Score (LS)</td><td>0</td></tr>
<tr><td>Mitigation</td><td>Not required.</td></tr>
</table>

Score for each natural risk applicable to the project (Determined by (LS × M)	
Fire (F)	0
Pest and Disease Outbreaks (PD)	0
Extreme Weather (W)	0
Geological Risk (G)	0
Other natural risk (ON)	-
Total Natural Risk (as applicable, F + PD + W + G + ON)	**0**

4 OVERALL NON-PERMANENCE RISK RATING AND BUFFER DETERMINATION

4.1 Overall Risk Rating

Risk Category	Rating
a) Internal Risk	8
b) External Risk	2
c) Natural Risk	0
Overall Risk Rating (a + b + c)	**10**

4.2 Calculation of Total VCUs

Year	Total GHG credits (tCO2e)	Risk Rating	Nº of Buffer credits (tCO2e)	GHG credits to be issued as VCUs (tCO2e)
2009	1.162.914	10%	116.291	**958.679**
2010	1.305.876	10%	130.588	**1.093.193**
TOTAL	**2.468.790**		**246.879**	**1.052.873**