NON-PERMANENCE RISK REPORT FOR THE CIKEL BRAZILIAN AMAZON REDD APD PROJECT

Document Prepared By

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Contact Information

Project Title	CIKEL BRAZILIAN AMAZON REDDAPD PROJECT – AVOIDING PLANNED DEFORESTATION
Version	01
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1 INTERNAL RISK

Document and substantiate the risk and/or mitigation for each risk factor applicable to the project. Include any relevant documentary evidence. Where a risk or mitigation is not relevant to the project, please write "Not applicable".

Project Management		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Not applicable. No trees were planted as part of the project activity.	0
b)	Ongoing enforcement is required to prevent encroachment by outside actors. CKBV maintains security personnel and infrastructure on the Rio Capim Complex (RCC) property, and also maintains good relationships with the surrounding neighbors, to prevent actions by external agents wanting to invade the area for illegal activities, like wood extraction and hunting.	2
c)	The management of the project activity proposed is under the responsibility of the Socio-environmental Responsibility Direction (Diretoria de Responsabilidade Socioambiental (RSA), in its original language) of CKBV, which comprises the areas of Forest Management, Environment, Specialized Service of Security and Work Medicine (SESMT) and Social Responsibility. The current team has a director, with a degree in business administration; two forest engineers, two environment engineers, an engineer in occupational safety, a psychologist and workers with experience in GIS/mapping, communication and social management. Also, on-site CKBV has a team of managers, forest technicians, technicians in security and other professionals, each with 5 to 15 years experience in forest and land management.	0
d)	CKBV has a permanent office complex and project management staff on the RCC property. The RSA management team is located at the CKBV headquarters in Ananindeua city, five hours by road from the project site.	0
e)	This is CKBV's first REDD project, and its team, with the exception of outside contractors, does not have prior experience in the development of AFOLU projects.	0
f)	Sustainable Forest Management/Reduced Impact Logging (SFMRIL) activities at RCC are carried out in conformance with the Sustainable Forest Management Plan (SFMP), which provides overall guidance for forest management on the RCC property and project area toward goals of economic, social and environmental viability. SFMP was elaborated according to the Normative Instruction (NI) n°04, 2002 and more recently, NI n°05, 2006, and is revised every 5 years to respond to changing conditions and incorporate technical alterations in operational processes. Management activities are also updated in the Annual Operational Plans (AOP). CKBV procedures detailed in the Instructions of Operational Work, Security and Environment (ITOSMAs, in Portuguese), are updated annually. Finally, CKBV's management procedures are subject to annual FSC audits.	-2
Total Project Management (PM) [as applicable, (a + b + c + d + e + f)] Total may be less than zero.		**0**

Financial Viability		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Not applicable. Project cash flow breakeven point is not greater than 10 years from the current risk assessment.	0
b)	Not applicable. Project cash flow breakeven point is not between 7 and up to 10 years from the current risk assessment.	0
c)	Not applicable. Project cash flow breakeven point is not between 4 and up to 7 years from the current risk assessment.	0
d)	Project cash flow breakeven point is less than 4 years from the current risk assessment, documented in cash flow analysis "FINAL CIKEL APD Non-permanent Risk Analysis.xls" Annual cash flow is positive in year 3.	0
e)	Not applicable. Project has not secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven.	0
f)	Not applicable. Project has not secured 15% to less than 40% of funding needed to cover the total cash out required before the project reaches breakeven.	0
g)	Not applicable. Project has not secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven.	0
h)	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven, due primarily to revenues from timber harvest exceeding cash out in the first years of the project, prior to realization of VCU revenues. REDD project development costs are also covered by finances secured by CKBV and 33 Forest Capital. Details are provided in cash flow analysis "FINAL CIKEL APD Non-permanent Risk Analysis.xls"	0
i)	Not applying: Mitigation: Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven.	0
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)	NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with project activities. NPV from most profitable land use alternative, Alternative 1 in the PD additionality analysis, is BRL 80,512,738 for the 20 year crediting period, equal to 372.9% of the project NPV (including VCU revenues) of BRL 21,589,798 for the same period, equal to a difference of 272.9%. Details are provided in "FINAL CIKEL APD Non-permanent Risk Analysis.xls"	8
b)	Not applicable. NPV from the most profitable alternative land use activity is not expected to be between 50% and up to100% more than from project activities.	0
c)	Not applicable. NPV from the most profitable alternative land use activity is not expected to be between 20% and up to 50% more than from project activities.	0
d)	Not applicable. NPV from the most profitable alternative land use activity is not expected to be between 20% more than and up to 20% less than from project activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated.	0
e)	Not applicable. NPV from project activities is not expected to be between 20% and up to 50% more profitable than the most profitable alternative land use activity.	0
f)	Not applicable. NPV from project activities is not expected to be at least 50% more profitable than the most profitable alternative land use activity.	0
g)	Not applicable. Project proponent is not a non-profit organization.	0
h)	Not applicable. Project is not protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period.	0
i)	Not applicable. Mitigation: Project is not protected by legally binding commitment to continue management practices that protect the credited carbon stocks over at least 100 years.	0
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g or h)] Total may not be less than 0.		**8**

Project Longevity		
a)	Without legal agreement or requirement to continue the management practice. The project area is managed under the Sustainable Forest Management Plan (SFMP) approved by IBAMA in 2000, and re-approved by SEMA in 2011, and hence the only legally authorized land use in the project area is forest management (i.e. deforestation or any conversion to an alternative land use is not allowed and thus the area must be maintained as forest). This commitment is established in accordance with the Brazilian Forest Code Law 4771 of September 15, 1965. The SFMP does not have an expiration date, and is intended to guide perpetual forest management, though periodically adjusted to respond to changing conditions and management needs. CKBV's intent is to maintain the project area as forest in perpetuity, and to also maintain its FSC certification status, which would be revoked in any event of native forest being converted to another land use. CKBV has specified in its management plan, amended in January 2012, that the project area will be maintained under sustainable forest management through at least July 2107 (100 years from the project start date).	4 =24-(100/5)
b)	Not applicable. Without legal agreement or requirement to continue the management practice.	0
Total Project Longevity (PL) May not be less than zero		**4**

Internal Risk	
Total Internal Risk (PM + FV + OC + PL) Total may not be less than zero.	**12**

2 EXTERNAL RISKS

Document and substantiate the risk and/or mitigation for each risk factor applicable to the project. Include any relevant documentary evidence. Where a risk or mitigation is not relevant to the project, please write "Not applicable".

Land Ownership and Resource Access/Use Rights		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	Not applicable. Not all ownership and resource access/use rights are held by same entity.	0

b)	Ownership and resource access/use rights are held by different entity(s). Cikel Group has the legal title of all areas of RCC. The project is a private area, however according to de Brazilian legislation Cikel Group is owner of the land and the União (Brazilian Government) owns the subsoil natural resources.	2
c)	The project area is wholly owned by Cikel Group, and no disputes over land tenure exist. The property recently (2008) was geo-referenced and officially registered in the cadaster (Cadastro Ambiental Rural), a process which involved on the ground assessment of all property boundaries and consultations with neighboring land owners and resolution of any existing boundary disputes (none were identified).	0
d)	As above, the project area and all use rights (except mineral rights, as explained above, but for which the Brazilian Government has no known plans to exercise) are held by CKBV and no disputes exist. Some neighboring communities engage in subsistence hunting occasionally in the project area, which CKBV allows, and hence rights are not in dispute (nor does hunting pose any impact on forest carbon stocks).	0
e)	Not applicable. Project area is not protected by legally binding commitment (eg, a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period	0
f)	Not applicable. No disputes over land tenure, ownership or access/use rights exist.	0
Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e+ f)] Total may not be less than zero.		**2**

Community Engagement		
Risk Factor	Risk Factor and/or Mitigation Description	Risk Rating
a)	There are no communities living in the project area.	0
b)	Around RCC there are other farms, private areas with productive activities. Only three communities were identified as such in the surrounding of the project area, two indigenous communities and a group of eight families traditionally living out of family agriculture, that rely on parts of the project area for subsistence hunting, which CKBV allows. CKBV knows its neighbors and ensures a good relationship with those communities, so that their living conditions are not	0

	affected by the company's activities. Also, CKBV maintains adherence to principles 3 and 4 of the FSC certification, which is verified through annual auditing. The development of this REDD project was communicated to all the neighbors in community meetings and technical presentations in the municipalities of Paragominas and Goianésia do Pará, detailed in the PD, section Stakeholder Comments.	
c)	The REDD project generates a positive impact on the surrounding communities since with the permanence of the forest areas it is possible to ensure the maintenance of the biodiversity, allowing for subsistence hunting and fishing; also, with the SFMRIL activity, every year business opportunities are generated related to the products produced by the communities (flour and fish) which are acquired to feed the officers at RCC. Assessment of net positive benefits has not yet been conducted.	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. Governance score is not less than -0.79	0
b)	Not applicable. Governance score is not -0.79 to less than -0.32	0
c)	Governance score of -0.32 to less than 0.19 = 0.0097. Details are provided in "FINAL CIKEL APD Non-permanent Risk Analysis.xls" and http://info.worldbank.org/governance/wgi/index.asp	2
d)	Not applicable. Governance score is not 0.19 to less than 0.82	0
e)	Not applicable. Governance score is not 0.82 or higher	0
f)	Mitigation: Brazil is implementing REDD+ Readiness or other activities, as set out in this section 2.3.3	-2
Total Political (PC) [as applicable ((a, b, c, d or e) + f)] Total may not be less than zero.		**0**

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

3 NATURAL RISKS

Fire	
Discussion/ Evidence	As illustrated in Figure 1.5 of the PD, most of the project area is un-fragmented forest, with few areas of bordering pasture/non-forest. Most forest fires that occur in the region are anthropogenic, and thus sources of fire outbreaks (from escaped deliberate burns) in the project area are limited. A study[1] in Paragominas and Tailândia documented a relationship between fire incidence and distance from forest edge, with decreasing fire return intervals with increasing distance from edge. The same study estimated average fire return intervals in Paragominas of from 10 to 15 years, and lower frequencies in Tailândia forests, which at the time of the study (1984 to mid-late 1990's), were less fragmented, as are the forests currently in the project area. Emissions resulting from forest fires depend on the extent and condition of fuel sources, with initial burns averaging 8% loss of total biomass stocks, and subsequent more severe burns, with higher, drier fuel loads, resulting in losses ofup to 45% of original stocks[2].
Significance	Minor (5% to less than 25% loss of carbon stocks)
Likelihood	Every 10 to 15 years
Score (LS)	2
Mitigation	Prevention measures applicable to the risk factor are implemented and project proponent has proven history of effectively containing natural risk. CKBV has had a fire management/prevention plan in place on the Rio Capim Complex property and project area since 2000, involving an equipped fire brigade on-site that conducts annual trainings, forest fire prevention signs visible along roads, and

[1]Cochrane M.A.& Laurance W.F., 2002. Fire as a large-scale edge effect in Amazonian forests, Journal Of Tropical Ecology, 18:311-325.

[2]Cochrane M.A., Alencar A., Schulze M.D., Souza C.M., Nepstad D.C., Lefebvre P. & Davidson E.A., 1999. Positive feedbacks in the fire dynamic of closed canopy tropical forests, Science, 284(5421):1832-1835.

Cochrane M.A.& Schulze M.D., 1999. Fire as a recurrent event in tropical forests of the eastern Amazon: Effects on forest structure, biomass, and species composition, Biotropica, 31(1):2-16.

	weekly safety meetings with employees and third parties and annual meeting with neighbors for covering fire risk and prevention. Details on fire prevention and control protocols are contained in the CIKEL BRASIL VERDE MADEIRAS LTDA-COMPLEXO RIO CAPIM. Plano de Manejo Florestal Sustentável de Uso Múltiplo Empresarial-v2 (Feb 2011) and Plano de Prevençao de Combate e Incêndios Florestais,. No forest fires have occurred on the Rio Capim Complex property since 2000. (Mitigation deduction =* 0.25)

Pest and Disease	
Discussion/ Evidence	The forests of the project area have a high diversity of tree species, with over 275 tree species >15 cm dbh[3], and like other diverse tropical forests, are not known to be subject to catastrophic disturbance by insect pests or forest diseases. Forest pests and diseases as a source of risk are more relevant in temperate forests or plantations, with low species diversity and consequently susceptible to extensive damage due to pest and disease outbreaks, which tend to be concentrated on single host species. Further, there is no history of catastrophic forest disturbance due to forest pests or diseases in the region.
Significance	Insignificant
Likelihood	Not applicable to the project area
Score (LS)	0
Mitigation	None

Extreme Weather	
Discussion/ Evidence	Extreme weather events have been recorded at the Rio Capim Complex property where the project is located, including: • Storm in 1989 damaging ~650 ha • Storm in 2010 damaging ~600 ha Thus, over a 22 year period (1989 to 2011), two extreme weather events occurred, with each damaging 0.3% of the total area (209,130.54 ha). Loss of carbon stocks (emissions) at the property level resulting from these storms would be less than 0.3%, as not all live trees are destroyed in the impact areas of these

[3]CIKEL BRASIL VERDE MADEIRAS LTDA-COMPLEXO RIO CAPIM. Plano de Manejo Florestal Sustentável de Uso Múltiplo Empresarial-v2 Feb 2011

	events. Recurrence intervals for large blow down disturbances such as these in the eastern Amazon have been estimated at 90,000 years[4]. Significance * likelihood assessment references the site-specific data above.
Significance	Insignificant <5% loss of carbon stocks
Likelihood	Every 10 to 25 years
Score (LS)	1
Mitigation	None

Geologic Risk	
Discussion/ Evidence	Neither volcanoes nor active tectonic fault lines are present within the project area. Landslides are not likely to occur within the project area because project sites are uniformly level (less than 5% slope) in these flat floodplain areas.
Significance	Minor
Likelihood	Once every 100 years or more
Score (LS)	0
Mitigation	None

Score for each natural risk applicable to the project (Determined by (LS × M)	
Fire (F)	0.5
Pest and Disease Outbreaks (PD)	0
Extreme Weather (W)	1
Geological Risk (G)	0
Other natural risk (ON)	
Total Natural Risk (as applicable, F + PD + W + G + ON)	**1.5**

It should further be noted that natural risks are mitigated by the dispersed distribution of the project area, which is composed of multiple discrete parcels located through the Rio Capim Complex property. Where a natural risk does occur it is unlikely to affect multiple isolated parcels, and thus unlikely to ever remove >50% of total project carbon stocks; i.e. the relative significance of impacts affecting a given parcel are reduced at the overall project level.

[4]Espírito-Santo, F.D.B.; Keller, M.; Braswell, B.; Nelson, B.W.; Frolking, S.; Vicente, G. 2010. Storm intensity and old-growth forest disturbances in the Amazon region. Geophysical Research Letters. 37, L11403, doi:10.1029/2010GL043146.

4 OVERALL NON-PERMANENCE RISK RATING AND BUFFER DETERMINATION

4.1 Overall Risk Rating

Risk Category	Rating
a) Internal Risk	12
b) External Risk	2
c) Natural Risk	1.5
Overall Risk Rating (a + b + c)	**15.5**

4.2 Calculation of Total VCUs

Calculations of number of GHG credits eligible for issuance as VCUs are presented in the table below. Baseline, project, and leakage emissions are from the CIKEL Brazilian Amazon REDD APD Project Project Description.

Years	Estimated baseline emissions or removals (tCO_{2e})*	Estimated project emissions or removals (tCO_{2e})	Estimated leakage emissions (tCO_{2e})	Risk buffer (%)	Deductions for AFOLU pooled buffer account (tCO_{2e})	GHG credits eligible for issuance as VCUs (tCO_{2e})
2008	1,815,232	0	354,183	15.5%	281,361	1,179,688
2009	1,700,492	0	353,252	15.5%	263,576	1,083,663
2010	1,707,561	116,917	367,230	15.5%	246,550	976,863
2011	1,716,590	984,349	283,122	15.5%	113,497	335,621
2012	900,252	0	353,407	15.5%	139,539	407,306
2013	821,758	0	324,016	15.5%	127,372	370,369
2014	1,537,097	0	338,687	15.5%	238,250	960,160
2015	814,410	0	290,685	15.5%	126,234	397,492
2016	1,613,270	0	366,269	15.5%	250,057	996,944
2017	1,236,940	0	299,184	15.5%	191,726	746,031
Total	13,863,600	1,101,266	3,330,034		1,978,162	7,454,138