GROUPED REFORESTATION PROJECT BY CROPZONE AGRO FORESTRY PVT LTD

Document Prepared by EKI Energy Services Limited

Project Title	Reforestation Project by Cropzone Agro Forestry Private Limited
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1 PROJECT DETAILS

1.1 Summary Description of the Project

Crop Zone Agro Forestry Limited (CZAFL) is proposing a grouped Afforestation, Reforestation and Revegetation (ARR) in Andhra Pradesh, Telangana, Karnataka and Maharashtra state of India. CZAFL is the Project Proponent (PP) whereas EKI Energy Services Limited (Enking International) is providing carbon credit advisory services to the PP. The CZAFL has mobilized the farmers in the selected states of India to plant various tree species on their lands. These tree species range from fruit bearing trees like Indian blackberry, Guava, Mango to commercial species like teak, mahogany and sandal. Simple tree cultivation techniques involving planting saplings in the pits with minimum disturbance to the lands have been employed. The lands selected for the project activity is fallow agriculture land. The PP has made contract with the farmers/land owners where they will be given tree saplings and technical support. In return, the PP will reap the benefits through sale of carbon credits. Initially, 501.7 hectares of land has been selected for the first project activity instance. Through carbon sequestration by the planted trees, the project is expected to generate annual average GHG emission reductions of removals of 10,571 tCO_2e.

1.2 Sectoral Scope and Project Type

Sectoral scope applicable to the project: Agriculture, Forestry and other Land Uses (AFOLU)

AFOLU Project Type: Afforestation, Reforestation and Revegetation (ARR)

The project is a grouped project.

1.3 Project Eligibility

According to the Appendix 1 of VCS Standard v4.1[1], the eligibility for ARR activities are described in the table below.

Sl. No.	Eligibility conditions	Explanation
1	that increase carbon sequestration and/or reduce GHG emissions by establishing, increasing or restoring vegetative cover (forest or non-forest) through the planting,	The present project activity proposed to plant woody perennials on barren and fallow lands and therefore aims to increase the vegetation cover

[1] https://verra.org/wp-content/uploads/2021/04/VCS-Standard_v4.1.pdf

	sowing or human-assisted natural regeneration of woody vegetation	which will increase the carbon sequestration under project scenario.
2.	Eligible ARR projects may include timber harvesting in their management plan.	Under the project activity, harvesting and replanting is part of the management plan.
3.	The project area shall not be cleared of native ecosystems within the 10 year period prior to the project start date	According to the analysis of satellite imageries of the project locations sites, none of the sites were have any forest or vegetation cover. Therefore, there were no clearing of native ecosystems.

1.4 Project Design

☐ The project includes a single location or installation only

☒ The project includes multiple locations or project activity instances, but is not being developed as a grouped project

☒ The project is a grouped project

Eligibility Criteria

The group project activity uses the UNFCCC Afforestation/Reforestation CDM methodology – AR-ACM0003 Ver. 2 – "Methodology for Afforestation and reforestation of land except wetlands" under sectoral scope 14 – Agriculture, Forestry and Other Land Uses (AFOLU). The participation to the grouped project should fulfil the following eligibility criteria of the AR-ACM0003 methodology. The conditions are as following:

(a) The land subject to the project activity does not fall in wetland category;

(b) Soil disturbance attributable to the project activity does not cover more than 10 per cent of area in each of the following types of lands, when these lands are included within the project boundary.

(i) Lands containing organic soils;

(ii) Lands which, in the baseline, is subjected to land-use and management practices and receives inputs listed in appendices 1 and 2 to this methodology.

Additional eligibility criteria for the inclusion of new instances:

(i) It should be located in the Indian state of Andhra Pradesh, Telangana, Karnataka and Maharashtra.

1.5 Project Proponent

Organization name	Crop Zone Agro Forestry Private Limited
Contact person	Mr. Saibaba Abburi
Title	Managing Director
Address	Cropzone Agro Forestry Private Limited, #8-3-222/1/2, Ahmed House, Madhura Nagar, Hyderabad, Telangana-500070, India
Telephone	+91-9849602999
Email	saibaba@cropzone.in

1.6 Other Entities Involved in the Project

Organization name	EKI Energy Services Limited
Role in the project	Project documentation, support in validation/verification and carbon credit advisory services
Contact person	Mr. Manish Dabkara
Title	CEO & MD
Address	EnKing Embassy, Office No. 201, Plot 48, Scheme 78, Part 2, Vijay Nagar, Indore, Madhya Pradesh – 452010, India
Telephone	+91-9910771187
Email	registry@enkingint.org, moonis@enkingint.org

1.7 Ownership

The PP is an aggregator or coordinator for the all the participating farmers. The PP has entered into agreement with the participating farmers. The PP has full legal right over the carbon credits whereas farmers have legal rights over their lands.

1.8 Project Start Date

The start date of the project activity is 01-June-2017 when first plantation activity took place in

1.9 Project Crediting Period

Project crediting period start date: 01-June-2017

Project crediting end date: 31-May-2036

Project crediting period: 01-June-2017 to 31-May-2036

Total number of crediting years: 20 years (Renewable).

1.10 Project Scale and Estimated GHG Emission Reductions or Removals

The estimated annual GHG emission reductions/removals of the project are:

☒ <20,000 tCO_2e/year

☐ 20,000 – 100,000 tCO_2e/year

☐ 100,001 – 1,000,000 tCO_2e/year

☐ >1,000,000 tCO_2e/year

Project Scale	
Project	x
Large project	

Year	Estimated GHG emission reductions or removals (tCO_2e)
2017	1,877

2018	7,742
2019	8,238
2020	10,681
2021	11,431
2022	11,431
2023	11,431
2024	11,431
2025	11,431
2026	11,431
2027	11,431
2028	11,431
2029	11,431
2030	11,431
2031	11,431
2032	11,431
2033	11,431
2034	11,431
2035	11,431
2036	11,431
Total estimated ERs	**2,11,427**

Total number of crediting years	20
Average annual ERs	10,571

1.11 Description of the Project Activity

The project is not located within a jurisdiction covered by a jurisdictional REDD+ program. The main aim of the project activity is to plant trees on fallow barren lands owned by the individual farmers. Prior to the plantation of trees, the farmers and local communities of the project locations in all states under the project activity were identified and mobilized. They were sensitized about the benefits of tree plantations and gave training about saplings plantation, site preparation and caring of planted saplings. The Project Proponent (PP) did all the capacity building and mobilization of the communities. Capacity building and trainings is a significant part of the project activities. Activities like training of farmers regarding planting material, cultivation and management and skill development have been carried out under this. In addition, local communities as well as well consulted and informed about the benefits of the projects through informal and formal stakeholders consultation meetings. The role of PP is to mobilize and train farmers to plant trees on their lands. The PP also give technical support to the communities in the project. The communities involved in the project have to enter in an agreement with the PP to look after the saplings. In return the communities will able to reap benefits out of fruit bearing trees, timber producing trees and medicinal trees. The PP will claim carbon credit out of the project activity whereas EKI Energy Services Limited will give the carbon credit advisory services to the PP.

The involvement of the local communities, PP and EKI Energy Services Limited has been described in the following points:

1. Project Proponent – Mobilize and train communities to plant trees on their lands and claim carbon credits out of it.
2. Local communities – Plant trees on their lands and reap benefits of various goods and services of provided by the planted trees.
3. EKI Energy Services Limited – Provide carbon credit advisory services to the PP including all the process involved such as validation, verification and issuance.

The PP has done the following management and planting activities which are crucial for successful implementation of the project:

Nursery Management:

PP has access to nurseries in various project locations to maintain stock and distribute to the participating local communities. These nurseries are with full of irrigation source, storage of water, Energy sources, Nursery Tools and equipment's and Compost unit. These small nurseries are established for avail good and healthy samplings for entire year. The nurseries are connected to road/rail networks to facilitate transport and established at selected places to protect from strong winds and or heavy rainfall.

The nurseries produce saplings through a method based on saplings in seedbeds previously prepared in the soil. Once saplings become optimum age they will be distributed to respective

project lands from concerned nurseries. This distribution is done in the month of July. More preference is given to local species. Saplings are distributed to people who are responsible of each project areas.

The seedlings are bought from various suppliers, commercial suppliers well known for their experience with the production and logistics of the tree seedlings and community tree nurseries developed under technical guidance, following the projects proceedings for tree seedlings production.

Land preparation

Land is prepared in a simple manner with minimal disturbance to the soil. Prior to the plantation of saplings, pits of appropriate sizes are dug. After that saplings are planted. Fertilization is done using organic fertilizers like cattle manure when required.

Site selection and Preparation

Degraded land / fallow land/ barren land in the project district were selected as the sites for reforestation. Most of these vacant spaces and designated lands were under developed. Site was prepared with very less damage to soil. Soil disturbance was minimum as near to no tillage was done. Organic manure were used as fertilizers. Harmful pesticides were not used to protect the saplings. Whole process of site preparation and plantation were done considering sustainable health of soil, employees working and community living nearby.

Management & Monitoring

The reforestation activity is monitored on regular interval about plants survival. The PP keeps the record of all plantation. There is a dedicated team to conduct monitoring and keeping all the record.

1.12 Project Location

The project activity is located in India. This project instance activity is spread over different districts of four different states of India – (i) Andhra Pradesh; (ii) Karnataka; (iii) Maharashtra; and (iv) Telangana.

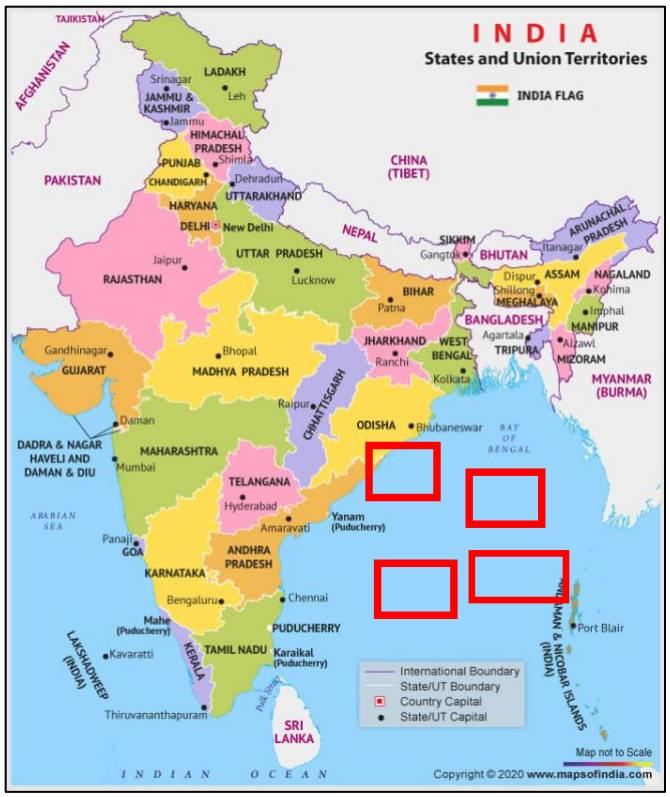

Figure 1 Map of India showing four different states where project activity is located (in red rectangle)[2]

Location of the project activity

State	District	Mandal / Taluq	Village
Andhra Pradesh	Anathapur	Ananthapur	Govindawada
	Chittor	Ramasamudram	Chokkandlapalle
	Kurnool	Bommanahalli	Bommanahalli
		Kowthalam	Badinehal
		Tuggali	Ratana
	Nellore	Sangam	Peramana
	Visakhapatnam	Devarapalli	Timmiram,vakapally
Karnataka	Bagalkot	Jamkhandi	Budni
	Bellary	Bommanahalli	Joladarasi

[2] Source of map: www.mapsofindia.com

State	District	Mandal / Taluq	Village
		Gopannagudi	Thirumala nagar
			Ygodada
			Ykaggal
		Rupanagudi	Asundi
			Y koggal
		Shankarbanda	Chaolamamidi
		Siriguppa	Dasapura
			Godehal
	Kolar	Bangarpet	Kanamanahalli
		Kolar	Kurki
	Mandya	Pandavapura	Chandre
	Shimogga	Shikaripura	Hulaginakatte
	Tumkur	Pavagada	Gujjanadu
Maharashtra	Aurangabad	Gangapur	Dhamori bk
			Dhamori budruk
			Gurudhanora
			Hanumanthgaon
			Murshidabad
			Mushidabad
			Pendapur
			Shendruwada
			Shendurwada
		Kannad	Badod
			Deulgaon
			Shelgaon
			Wanki jadid

State	District	Mandal / Taluq	Village
		Paitan	Imampur
			Shekta
		Paithan	Chitegaon
			Gadegaon
			Imampur
			Lohgaon k
			Shekta
		Phulambri	Talegoan
		Sillod	Ghatnandra
			Lohgaon
	Dhule	Dhule	Nawlane
		Shirpur	Savalde
	Jalana	Ambad	Bhivandi bodakha
			Lalawadi
		Badanapur	Akola
			Ambadgoan
			Chikhali
			Dagadwadi
			Dhamangoan
			Hivara
			Kandari
			Pirsangavi
			Tupewadi
			Ujjainpuri
			Valaha
		Bhokardan	Palaskhed

State	District	Mandal / Taluq	Village
		Ghanasangavi	Chincholi
			Chincholi
			Dahalegaon
			Ghonsi
			Masegaon
		Ghansangavi	Borgaon
			Dhalegoan
			Gurupimpri
			Jamb samarth
			Limbi
			Masegoan
			Paradgoan
			Viregavan
		Jafrabad	Dahegoan
		Jalana	Dharkalyan
			Kadavanchi
			Nandapur
			Pahegaon
			Pirkalyan
			Kumhefal
			Waghrul
		Mantha	Akani
			Belora
			Kanfodi
			Kendali
		Partur	Brahmani

State	District	Mandal / Taluq	Village
			Hatadi
			Kandari
			Likhit pimpri
			Shingona
	Jalgaon	Parchora	Nagardevla seem
	Parabhani	Jintur	Asola
	Solapur	Malshiras	Mahalung
		Uttar Solapur	Bibi darfal
Telangana	Jagityal	Jagityal	Potharam
		Medipally	Kacharam
	Nalgonda	Gurrampud	Chamled
		Marriguda	Erugandlapally
		Nalgonda	Gandhamvarigudem
			Kanchanapalle
	Rangareddy	Farukh nagar	Velijerla

1.13 Conditions Prior to Project Initiation

- **Ecosystem type:** The ecosystem type prior to the project initiation were basically terrestrial ecosystem with land classified as agricultural lands. They were barren/fallow prior to the reforestation activities. The Ecosystem type do fall in Forest, Wetland or Grassland ecosystems.

- **Current and historical land-use:** The historical land-use of the lands selected under the project activity were agricultural activities. Even though lands were under agricultural land-use, they were fallow/barren. Currently these lands have been selected for the reforestation project activity.

- Has the land been cleared of native ecosystems within 10 years of the project start date?

☐ Yes ☒ No

1.14 Compliance with Laws, Statutes and Other Regulatory Frameworks

There is no law/ regulation specific to reforestation of privately owned barren or fallow lands. The state governments of each selected states have their state forest or agroforestry policies. It should be clearly noted that these polices are a policies mainly to act as a guiding documents for the promotion of afforestation/reforestation or promotion of agroforestry and not a mandatory government instrument for encouraging forestry on privately owned barren or fallow lands.

Some of the state wise policies are described as following. To reaffirm, these policies are not mandatory and only a guiding documents on promotion of forestry on private lands:

State	Policy/Schemes	Objectives	Salient Features
Maharashtra	The Maharashtra Private Forests (Acquisition Act, 1975) [3]	An act to acquire private forests in to State for conserving their material resources and protecting them from destruction or over exploitation by their owners. Promoting systematic and scientific development and management of private forests for the purpose of attaining and maintaining ecological balance in the public interest.	• Targeted at private forests only. • Improving the socio economic condition of the rural population, and particularly of the indigenous communities and other backward communities who generally live in forests. • For assigning a part of the private forest to the rural communities for promoting employment opportunities based on forest, for meeting the requirements of forest produce including fuelwood with a view inter-alia to decrease the dependence of cowdung, and in particular, for afforestation of private forest wherever feasible on scientific lines, and for improvement of land and

[3] http://cat.org.in/wp-content/uploads/2016/07/Maharashtra-Private-Forests-Acquisition-Act-1975.pdf

			underground water resources.
Karnataka	Krishi Aranye Protsaha Yojane (KAPY)[4]	To increase the forest cover of the state, Karnataka Forest Department launched a scheme called as 'Krishi Aranya Protsaha Yojane' (KAPY) from 2011-12 by involving farmers and general public.	According to the guidelines of KAPY, the farmers, general publics, etc. may get seedlings at subsidized rates from the nurseries of the state forest department. The rates of seedlings are given in the table below.
Andhra Pradesh	The Andhra Pradesh Water, Land and Tree Act, 2004[5]	Tree plantation rules have been laid down for educational, industrial and commercial areas. Tree plantation on farmlands do not come under this.	Focus on promotion of private and institutional lands for tree plantations.
Telangana	Telangana Haritha Haram[6]	Telangana Haritha Haram a flagship programme of the Telangana Government envisages to increase the present 24% tree cover in the State to 33% of the total geographical area of the State.	Social forestry has been given importance through in the areas outside the notified forest such as road-side avenues, river and canal bank, barren hill, tank bunds and foreshore areas, institutional premises, religious places, housing colonies, community lands, municipalities, industrial parks, etc.

1.15 Participation under Other GHG Programs

1.15.1 Projects Registered (or seeking registration) under Other GHG Program(s)

The project is neither registered nor seeking registration under any other GHG program. The project activity is newly proposed and seeking registration under Verra VCS mechanism.

[4] https://aranya.gov.in/aranyacms/(S(op10gjszg3cmuro4juj33xh4))/English/IndividualScheme.aspx?HkxuiBwcRAlH/nwkzKruPQ==

[5] https://mines.telangana.gov.in/MinesAndGeology/Documents/Rules/WALTA_RULES_2004.pdf

[6] http://harithaharam.telangana.gov.in/

1.15.2 Projects Rejected by Other GHG Programs

The project has not been rejected by any other GHG program. The project activity is newly proposed and seeking registration under Verra VCS mechanism.

1.16 Other Forms of Credit

1.16.1 Emissions Trading Programs and Other Binding Limits

Does the project reduce GHG emissions from activities that are included in an emissions trading program or any other mechanism that includes GHG allowance trading?

☐ Yes ☒ No

1.16.2 Other Forms of Environmental Credit

Has the project sought or received another form of GHG-related credit, including renewable energy certificates?

☐ Yes ☒ No

If yes, provide the name of the other program(s) under which the project has sought or received another form of GHG-related credit.

1.17 Sustainable Development Contributions

Sustainable Development Goals	Description	Project activity contributions	Role in Nationally stated sustainable development priorities
	**SDG 3 – Good health and well-being:** Trees will release oxygen as part of their photosynthesis process as well as protect the people from noise pollution by acting as a sound barrier. The trees, forests and rural green patches can act as a recreational places	The project activity will make use of unutilized barren and fallow lands and covert those into lush green forests which can have positive impact	Niti Aayog, The Planning Commission, Govt. of India has adopted United Nations SDGs to track sustainable development in each of individual 17

	helping many to maintain good mental health and wellbeing of people living in the surroundings.	on the air quality and mental health of local communities.	SDGs. Therefore, the project will also contribute to SDGs of India as well where the project activity is located.
	**SDG 13 – Climate Action** - Afforestation and reforestation project activity can mitigate the climate change through carbon sequestration. The trees will sequester carbon dioxide from atmosphere for many decades. Since these trees are planted for non-timber use, these trees will stand for ages sequestering carbon from the project area. Only mahogany species will going to harvest after 21 years and rest of the species will stand still which will support the climate change. This will help the project area in reducing carbon emissions.	The project activity will enhance the carbon sequestration on the barren/fallow by through plantation of various tree species. The carbon sequestration by woody perennials can reduce the CO_2 gas in the atmosphere. Therefore the project activity will contribute to the climate change mitigation.	

	**SDG 15 – Life on Land -** Variety of birds, insects, animals and reptiles live and thrive on the trees for food and shelter. Trees can hold the top layer soil intact protecting it from any erosion. A protected soil can hold the nutrients for a longer period and therefore can support further growth and survival of vegetation.	The project activity involves plantation on barren/fallow lands. Barren/fallow lands are exposed and there prone to soil erosion by wind and precipitation runoffs. tree plantation	

1.18 Additional Information Relevant to the Project

Leakage Management

There is now displacement of pre-project activity due to the project activity. Therefore there is no requirement of leakage management considered under the project activity.

Commercially Sensitive Information

No commercially sensitive information is presented.

Further Information

No further information as of now for the VCS PD.

2 SAFEGUARDS

2.1 No Net Harm

Summarize any potential negative environmental and socio-economic impacts and the steps taken to mitigate them.

2.2 Local Stakeholder Consultation

Describe the process for, and the outcomes from, the local stakeholder consultation conducted prior to the joint validation and verification. Include details on the following:

- *The procedures or methods used for engaging local stakeholders (e.g., dates of announcements or meetings, periods during which input was sought).*
- *The procedures or methods used for documenting the outcomes of the local stakeholder consultation.*
- *The mechanism for on-going communication with local stakeholders.*
- *How due account of all and any input received during the consultation has been taken. Include details on any updates to the project design or justify why updates are not appropriate.*

For AFOLU projects, also demonstrate how the project has or will communicate the following:

- *The project design and implementation, including the results of monitoring.*
- *The risks, costs and benefits the project may bring to local stakeholders.*
- *All relevant laws and regulations covering workers' rights in the host country.*
- *The process of VCS Program validation and verification and the validation/verification body's site visit.*

2.3 Environmental Impact

Summarize any environmental impact assessments carried out with respect to the project, where applicable.

2.4 Public Comments

Demonstrate how due account of all and any comments received during the public comment period has been taken. Include details on any updates to the project design or demonstrate the insignificance or irrelevance of comments.

2.5 AFOLU-Specific Safeguards

For AFOLU projects, provide details on the following:

- *Local stakeholder identification process and a description of results.*
- *Risks to local stakeholders due to project implementation and how the project will mitigate such risks.*
- *Risks to local stakeholder resources due to project implementation and how the project will mitigate such risks, including the plans to ensure the project will not impact local stakeholder's property rights without the free, prior and informed consent.*

- *Processes to ensure ongoing communication and consultation with local stakeholders, including a grievance redress procedure to resolve any conflicts which may arise between the project proponent and local stakeholders.*

For AFOLU projects with no impacts on local stakeholders, provide evidence of such.

For non-AFOLU projects, this section is not required.

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

Title of the methodology applied: AR-ACM0003: Afforestation and reforestation of lands except wetlands

Reference:
https://cdm.unfccc.int/methodologies/DB/C9QS5G3CS8FW04MYYXDF0QDPXWM4OE

Version no. – Version 2.0

Applied tools:

(a) Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities[7].

(b) Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/RCDM project activities[8].

(c) Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities[9].

3.2 Applicability of Methodology

As per the applied methodology AR-ACM0003, the applicability conditions are described in the following table:

Applicability Criteria AR-ACM0003	Description

[7] https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-02-v1.pdf

[8] https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-14-v4.2.pdf

[9] https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-16-v1.1.0.pdf

The land subject to the project activity does not fall into the wetland category.	*(a)* The area in which the project activity instance is situated does not come under the category of wetland. There is no wetland in the project area.
Soil disturbance attributable to the project activity does not cover more than 10 per cent of area in each of the following types of land, when these lands are included within the project boundary	*(b)* Soil disturbance attributable to the project will in no case cover more than 10% of the total surface. No machinery will be used for the preparation and installation of trees in the ground.
C). Land containing organic soils Land which, in the baseline, is subjected to land-use and management practices and receives inputs listed in appendices 2 and 3 to this.	The land on which the reforestation has been established does not contain organic soils. The soils of the initial project instances and the grouped project area were classified according to the procedures of the Intergovernmental Panel on Climate Change (IPCC) utilizing soil maps, vector files and maps, soil classification. The land selected for the reforestation activity do not get subjected to land-use and management practices and receives inputs listed in appendices 2 and 3 to this.

3.3 Project Boundary

Define the project boundary and identify the relevant GHG sources, sinks and reservoirs for the project and baseline scenarios (including leakage if applicable).

Source		Gas	Included?	Justification/Explanation
Baseline	Source 1	CO_2		
		CH_4		
		N_2O		
		Other		

Source		Gas	Included?	Justification/Explanation
	Source 2	CO_2		
		CH_4		
		N_2O		
		Other		
Project	Source 1	CO_2		
		CH_4		
		N_2O		
		Other		
	Source 2	CO_2		
		CH_4		
		N_2O		
		Other		

In addition to the table, provide a diagram or map of the project boundary, showing clearly the physical locations of the various installations or management activities taking place as part of the project activity based on the description provided in Section 1.8 (Description of the Project Activity) above.

For non-AFOLU projects, include in the diagram the equipment, systems and flows of mass and energy. Include the GHG emission sources identified in the project boundary.

For AFOLU projects, include in the diagram or map the locations of where the various measures are taking place, any reference areas and leakage belts.

3.4 Baseline Scenario

Identify and justify the baseline scenario, in accordance with the procedure set out in the applied methodology and any relevant tools. Where the procedure in the applied methodology involves several steps, describe how each step is applied and clearly document the outcome of each step.

Explain and justify key assumptions, rationale and methodological choices. Provide all relevant references.

3.5 Additionality

Demonstrate and assess the additionality of the project, in accordance with the applied methodology and any relevant tools, taking into account of the following:

- *Where a project method is applied to demonstrate additionality and the procedure in the applied methodology or tool involves several steps, describe how each step is applied and clearly document the outcome of each step. Indicate clearly the method selected to demonstrate additionality (e.g., investment analysis or barrier analysis in the case of the CDM Tool for the demonstration and assessment of additionality). Where barrier analysis, or equivalent, is used to demonstrate additionality, only include the most relevant barriers. Justify the credibility of the barriers with key facts and/or assumptions and the rationale. Provide all relevant references.*
- *Where a performance method is applied to demonstrate additionality, demonstrate that performance can be achieved to a level at least equivalent to the performance benchmark metric.*
- *Where the methodology applies an activity method for the demonstration of additionality, use this section to demonstrate regulatory surplus (only) and include a statement that notes that conformance with the positive list is demonstrated in the Applicability of Methodology section above.*

Provide sufficient information (including all relevant data and parameters, with sources) so that a reader can reproduce the additionality analysis and obtain the same results.

3.6 Methodology Deviations

Describe and justify any methodology deviations applied during this monitoring period. Include evidence to demonstrate the following:

- *The deviation will not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.*
- *The deviation relates only to the criteria and procedures for monitoring or measurement, and does not relate to any other part of the methodology.*

4 ESTIMATED GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

Describe the procedure for quantification of baseline emissions and/or removals in accordance with the applied methodology. Include all relevant equations, and explain and justify all relevant methodological choices (e.g., with respect to selection of emission factors and default values).

4.2 Project Emissions

Describe the procedure for quantification of project emissions and/or removals in accordance with the applied methodology. Include all relevant equations, and explain and justify all relevant methodological choices (e.g., with respect to selection of emission factors and default values).

4.3 Leakage

Describe the procedure for quantification of leakage emissions in accordance with the applied methodology. Include all relevant equations, and explain and justify all relevant methodological choices (e.g., with respect to selection of emission factors and default values).

4.4 Estimated Net GHG Emission Reductions and Removals

Describe the procedure for quantification of net GHG emission reductions and removals. Include all relevant equations. For AFOLU projects, include equations for the quantification of net change in carbon stocks.

Provide the ex-ante calculation (estimate) of baseline emissions/removals, project emissions/removals, leakage emissions and net GHG emission reductions and removals in the table below for the project crediting period.

For data and parameters monitored, use the estimates provided in Section 5.2 below. Document how each equation is applied, in a manner that enables the reader to reproduce the calculation. Provide example calculations for all key equations, to allow the reader to reproduce the calculation of estimated net GHG emission reductions or removals.

Year	Estimated baseline emissions or removals (tCO_2e)	Estimated project emissions or removals (tCO_2e)	Estimated leakage emissions (tCO_2e)	Estimated net GHG emission reductions or removals (tCO_2e)
Year A				
Year B				
Year C				
Year…				
Total				

5 MONITORING

5.1 Data and Parameters Available at Validation

Complete the table below for all data and parameters that are determined or available at validation, and remain fixed throughout the project crediting period (copy the table as necessary for each data/parameter). The values provided are used to estimate the net GHG emissions and removals for the project crediting period in Section 4 above. Data and parameters monitored during the operation of the project are included in Section 5.2 (Data and Parameters Monitored) below.

Data / Parameter	
Data unit	*Indicate the unit of measure*
Description	*Provide a brief description of the data/parameter*
Source of data	*Indicate the source(s) of data*
Value applied:	*Provide the value applied*
Justification of choice of data or description of measurement methods and procedures applied	*Justify the choice of data source, providing references where applicable. Where values are based on measurement, include a description of the measurement methods and procedures applied (e.g., what standards or protocols have been followed), indicate the responsible person/entity that undertook the measurement, the date of the measurement and the measurement results. More detailed information may be provided in an appendix.*
Purpose of Data	*Indicate one of the following:* • *Determination of baseline scenario (AFOLU projects only)* • *Calculation of baseline emissions* • *Calculation of project emissions* • *Calculation of leakage*
Comments	*Provide any additional comments*

5.2 Data and Parameters Monitored

Complete the table below for all data and parameters to be monitored during the project crediting period (copy the table as necessary for each data/parameter). The values provided are used to estimate the net GHG emissions and removals for the project crediting period in Section 4 above. Data and parameters determined or available at validation are included in Section 5.1 (Data and Parameters Available at Validation) above.

Data / Parameter	
Data unit	*Indicate the unit of measure*
Description	*Provide a brief description of the data/parameter*
Source of data	*Indicate the source(s) of data*
Description of measurement methods and procedures applied	*Specify the measurement methods and procedures, any standards or protocols followed, and the person/entity responsible for the measurement. Include any relevant information regarding the accuracy of the measurements (e.g., accuracy associated with meter equipment or laboratory tests).*
Frequency of monitoring/recording	*Specify measurement and recording frequency*
Value applied:	*Provide an estimated value for the data/parameter*
Monitoring equipment	*Identify equipment used to monitor the data/parameter including type, accuracy class, and serial number of equipment, as appropriate.*
QA/QC procedures applied	*Describe the quality assurance and quality control (QA/QC) procedures applied, including the calibration procedures where applicable.*
Purpose of data	*Indicate one of the following:* • *Calculation of baseline emissions* • *Calculation of project emissions* • *Calculation of leakage*
Calculation method	*Where relevant, provide the calculation method, including any equations, used to establish the data/parameter.*
Comments	*Provide any additional comments*

5.3 Monitoring Plan

Describe the process and schedule for obtaining, recording, compiling and analyzing the monitored data and parameters set out in Section 5.2 (Data and Parameters Monitored) above. Include details on the following:

- *The methods used for generating/measuring, recording, storing, aggregating, collating and reporting data and parameters. Where relevant, include the procedures for calibrating monitoring equipment.*

- *The organizational structure, responsibilities and competencies of the personnel that carried out monitoring activities.*
- *The policies used for oversight and accountability of monitoring activities.*
- *The procedures used for internal auditing and QA/QC.*
- *The procedures used for handling any internal auditing performed and any non-conformances identified.*
- *The implementation of sampling approaches, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures. Where applicable, demonstrate whether the required confidence level or precision has been met.*

Where appropriate, include line diagrams to display the GHG data collection and management system.

6 ACHIEVED GHG EMISSION REDUCTIONS AND REMOVALS

6.1 Data and Parameters Monitored

Complete the table below for all data and parameters monitored during the monitoring period (copy the table as necessary for each data/parameter). The values provided are used to quantify actual GHG emissions and removals achieved for the monitoring period. Data and parameters determined or available at validation which remain fixed throughout the project crediting period are included in Section 5.1 (Data and Parameters Available at Validation) above.

Data / Parameter	
Data unit	*Indicate the unit of measure*
Description	*Provide a brief description of the data/parameter*
Value applied:	*Provide the monitored value for the data/parameter*
Comments	*Provide any additional comments*

6.2 Baseline Emissions

Quantify the baseline emissions and/or removals for this monitoring period, providing sufficient information to allow the reader to reproduce the calculation. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results.

6.3 Project Emissions

Quantify project emissions and/or removals for this monitoring period, providing sufficient information to allow the reader to reproduce the calculation. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results.

6.4 Leakage

Quantify leakage emissions for this monitoring period, providing sufficient information to allow the reader to reproduce the calculation. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results.

6.5 Net GHG Emission Reductions and Removals

Quantify the net GHG emission reductions and removals achieved for this monitoring period, summarizing the key results using the table below. Specify breakdown of GHG emission reductions and removals by vintages where the intent is to issue each vintage separately in the VCS registry system.

For non-AFOLU projects, use the following table:

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)
Year A				
Year…				
Total				

For AFOLU projects, include quantification of the net change in carbon stocks. Also, state the non-permanence risk rating (as determined in the AFOLU non-permanence risk report) and calculate the total number of buffer credits that need to be deposited into the AFOLU pooled buffer account. Attach the non-permanence risk report as either an appendix or a separate document.

For AFOLU projects, use the following table:

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)	Buffer pool allocation	VCUs eligible for Issuance

Year A						
Year…						
Total						

APPENDIX X: <TITLE OF APPENDIX>

Use appendices for supporting information. Delete this appendix (title and instructions) where no appendix is required.