Gold Standard for the Global Goals

TEMPLATE

KEY PROJECT INFORMATION & PROGRAMME DESIGN DOCUMENT (POA-DD)

PUBLICATION DATE **31.05.2022**

VERSION **2.1**

RELATED SUPPORT

Programme of Activity requirements

This document contains the following Sections

Key Project Information

SECTION A – General description of PoA
SECTION B - Management System and Inclusion Criteria
SECTION C – Demonstration of additionality
SECTION D – Duration of PoA
SECTION E - Outcome of Stakeholder Consultations

Appendix 1 – Contact information of coordinating/managing entity and responsible person(s)/ entity(ies)

KEY PROJECT INFORMATION

GS ID of Programme	GS12094
Title of Programme:	TERRAGRN – Land Regeneration through Agroforestry in Mpumalanga, South Africa
Type of PoA	☐Non – Forestry and/or Non -AGR PoA ☒Forestry and/or AGR PoA
VPAs scale included in the PoA *Note that same PoA can included VPAs of different scales. Please select all applicable.*	☒Microscale ☒Small scale ☒Large scale
Start Date of POA	29/11/2022
Date of Design Certification	-
Start date of crediting cycle of PoA	29/11/2022
Version number of the PoA-DD	03
Completion date of the PoA-DD	03/11/2023
Coordinating/managing entity	TERRAGRN PRIVATE LIMITED
Project Participants and any communities involved	TERRAGRN SA (PYT) LIMITED
Host Country (ies)	SOUTH AFRICA
Activity Requirements applied	☐ Community Services Activities ☐ Renewable Energy Activities ☒ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Other Requirements applied	i.GS4GG Programme of Activity Requirements and Procedures, Version 2.

Methodology (ies) applied and version number	ii. Methodology for Afforestation/Reforestaion (A/R) GHGs Emission Reduction & Sequestration, Version 2. iii. LUF AR Methodology Soil Carbon Tool, Version 1.
Product Requirements applied	☒ GHG Emissions Reductions & Sequestration ☐ Renewable Energy Label ☐ N/A

Real case VPAs (all real case VPAs included in the PoA)	
GS ID	Title
GS12095	TERRAGRN – Land Regeneration through Agroforestry in Mpumalanga, South Africa – VPA 01

SECTION A. General description of PoA

A.1. Purpose and general description of the PoA

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i. The policy/measure or stated goal that the PoA seeks to promote

TERRAGRN PRIVATE LIMITED (henceforth referred to as TERRAGRN), the CME of the PoA is a UK private sector enterprise, with a wholly owned subsidiary incorporated in South Africa (Reg No. 2021 / 898846 / 07). TERRAGRN's mission is to create positive social, environmental, and economic change through innovative nature-based solutions (NbS), developed in collaboration with local communities. TERRAGRN, through this PoA will be transforming degraded and unutilised large lands into a sustainable, biodiverse, and carbon-sequestering agroforests. By revitalising degraded lands, the PoA addresses and mitigates the environmental, social, and economic impacts of the climate crisis. The agroforests will safeguard food security, accelerate socio-economic development among local communities, and also support energy transition away from fossil fuels to renewable sources through bamboo plantations.

TERRAGRN's clear objective is to restore the planet by investing time and capital into nature to revive biodiversity, sequester carbon, improve productive yield, generate jobs, bring more women into the workforce, and create socio-economic progress and a safer planet for the future generations. TERRAGRN applies regenerative and circular economy practices across its business model. The company is creating an open-source, community-centric business model blueprint which will be replicated in this PoA through its VPAs and will next be scaled up to other countries.

This PoA is focusing on Mpumalanga Province in South Africa. TERRAGRN is uniting Government agencies, local communities, global foundations, Multilateral Banks, Development Finance Institutions, Institutional investors, research universities, regional NGOs, and Corporations to deliver the vision, underpinned by six key pillars:

1. **Holistic and Integrated solution:** solving interconnected issues of climate, energy, food, employment, and socio-economic development, through an integrated solution
2. **Impact at scale:** making a big difference is the only way to tackle climate crisis, energy transition, food security, and job creation.

3. **Community-centric:** fostering a lasting relation between business and the local community, by using a novel concept of offering equity ownership to the workforce and the Community Property Association (CPA).
4. **Bamboo as a climate agent:** factoring the climate and soil benefits of planting and sustainable harvesting bamboo in a species diverse, regenerative agroforestry model
5. **Carbon consciousness:** understanding and using carbon innovatively is key to TERRAGRN's and our planet's success. The company wants to use carbon to reward patient investors, the community who look after the agroforest, and pay for insurance to protect the forest investment.
6. **Sustainable investment return:** ability to generate sustainable returns in the mid-teens over 15-20 years for shareholders and local stakeholders – resulting in attracting Foreign Direct Investment into South Africa

In Mpumalanga, through its several Voluntary Project Activities (VPAs), TERRAGRN will transform up to 200,000 hectares of degraded land and will plant more than 200 million plants and trees, with species diversity, sequestering over 5.4 million tonnes of carbon dioxide annually in South Africa alone, and creating 50,000 jobs within 10 years. This business will sustainably harvest and provide annually several thousand tonnes of food solutions and about 10 million tonnes of dry bamboo biomass for creating energy and materials solutions for customers locally and internationally.

ii. A framework for the implementation of the PoA and inclusion of VPAs in the PoA

TERRAGRN will be implementing the PoA through its South African subsidiary TERRAGRN SA (Pyt) Ltd (herewith referred to as TERRAGRN SA). In case of any other organization implementing the VPA, the CME will approve the inclusion of the VPA into the PoA after having checked the compliance with the eligibility criteria outlined in this PoA. Prior to inclusion, it will be verified and confirmed that the VPA and its corresponding project areas have not been already included in another existing PoA or under this PoA. The CME and VPA implementer sign an agreement governing the rights and responsibilities of each of the Parties and which regulates the legal ownership of carbon credits generated under the respective VPA.

iii. A confirmation that the PoA is a voluntary action by the CME

The proposed PoA is a voluntary action undertaken by TERRAGRN, the coordinating and Managing Entity (CME). There are no local regulations or laws that mandates the CME to implement the proposed landscape restoration projects within the boundaries of the South Africa included under this PoA. The PoA and its VPAs would not be implemented without the incentive of carbon finance.

A.2. Physical/ Geographical boundary of the PoA

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Country: South Africa

Province: Mpumalanga

Mpumalanga Province, South Africa

Fig 1: Geographical location of the PoA and its associated VPAs

A.3. Technologies/measures and eligibility under Gold Standard

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Technologies/measures: The project activity is agroforestry, wherein predominantly bamboo plantations will be done along with fruit and indigenous trees and nitrogen fixers. Bamboo, *Bambusa balcooa* which is the main species that will be planted is one of the commercially grown bamboos in South Africa. Originally from India, it was

introduced in South Africa in 1660 and has since become naturalized[1]. It can grow in virtually any soil type and can reach a height of up to 20 meters if left unchecked, with culms growing up to 15cm in diameter. As a clumping species, *Bambusa balcooa* does not send out runners as some species do. It also does not set seed, but sends out new shoots at the base of the clump which can be cultivated. These characteristics mean that this species will not be invasive or threaten surrounding indigenous vegetation. The fact that it does not set seed also rules out the problem of attracting rodents, which in turn may attract snakes[2].
The single modelling unit (MU) that will be adopted is Bamboo plantations with fruit trees but the number of bamboo trees and the fruit trees may differ based on the area and soil conditions. The number of bamboo clumps in each hectare will be as follows:
MU-01: 400 bamboo grid MU-02: 121 bamboo grid
MU-03: 264 bamboo grid MU-04: 300 bamboo grid
MU-05: 464 bamboo grid

Irrespective of the MU, the measures adopted for the project activity is the same and is as follows:

Planting area will be determined after analyzing the following layers of data.

1) GIS Study - Desktop Research Showing Eligibility of land for planting (Vegetation Maps)
2) Soil Studies - Shows suitability of soil for selected plants and intensity of soil inputs
3) Landscape scale plans - To conserve areas of high conservation value, Biodiversity hotspots and corridors to conserve and enhance biodiversity.

a) Fencing: Once the area of planting is identified a low fence for preventing cattle from entering and damaging new plantation to be implemented in the

[1] http://www.brightfields.co.za/bamboo-farming#:~:text=Known%20to%20some%20as%20%22giant,runners%2C%20and%20has%20sterile%20seeds.
[2] https://www.southafrica.com/blog/bamboo-south-africa-s-versatile-renewable-resource/

perimeter. The Site office, nursery and equipment storage areas to be fenced properly up to 6 feet height.

b) Land Preparation: Land Preparation includes all activities involved in making the selected land parcel ready to use.
   i. The chosen land parcel post fencing is crimped or cleared of grass that has covered the degraded lands.
   ii. The grass is piled and stored for use as mulch and necromass in strategic positions for use after planting
   iii. Short woody bushes termed as bush encroachers are cleared from the area and broken into small usable pieced for use in pit filling or as part of compost process.

c) Grid and Pit marking:
   i. Grid of 1 ha to be isolated and marked on the ground - 100m by 100m
   ii. Refer to experimental design layout and identify which of the 5 grid designs is the grid allocated to the area.

Mark the pits according to the dimensions of 40x40 cm square according to the grid layout specified. The plants are spaced to accommodate canopy size and sufficient rhizome development area to create the 5 different modelling units. Each modelling unit varies in number of bamboo per hectare. Every modelling unit has been designed to accommodate bamboo, fruit trees, indigenous trees, nitrogen fixers and cover/cash crops.

d) Wind and Fire Breaks: Around the plantations wind and fire breaks will be established as shown above.
e) Digging: Dig pits to a depth of 40 cm depth.
f) Piling removed soil onto the side of the pit sloping towards lower elevation with a wide base and flattened top. This minimizes soil loss to wind and rain.
g) Soil Interventions: Soil interventions are organic and does not include applying inorganic fertilizers and pesticides. The soil regenerations strategy includes one of the following
   i. Necro-mass pit filling
   ii. Manure + Compost filling
   iii. No pit filling – Topical application

h) Resting period before planting: Each method has a varied resting period before planting. For pits filled with necro-mass it is 3 months after filling in the pits

that the planting will be done, while for Manure + Compost pit filling, planting will be done after 1 month and for No pit filling – Topical application, planting will be done immediately.

i) Planting
   i. Plants will be transported from nursery to grid area in a tractor and further distributed internally using wheelbarrows.
   ii. While planting remove the plastic bag or pot in which plant arrived in and place separately for collection and transportation back to nursery.
   iii. The plants stems are to be covered in soil only upto the depth it arrived in pot.
   iv. Post plantation the plant is to be watered with 2 litres of water
   v. One 10 litre bucket of manure is added per plant only for plants undergoing soil regeneration by topical application
   vi. Mulch is applied at the base to cover the watered and manure region

For each of the grid the number of seedlings that will be planted are as follows:

MU Grid	**Bamboo**	**Fruit trees**	**Indigenous/ nitrogen fixing trees**	**Large deep rooted trees**	**Integrated pest management plants**	**Total**
MU-01	400	40	100	10	80	**630**
MU-02	121	276	55	10	276	**738**
MU-03	264	264	122	10	264	**924**
MU-04	300	150	140	10	150	**750**
MU-05	464	121	111	10	121	**827**

j) Care and maintenance including survival rate and replanting, check on all grids for health of plants and organic fertilizer application

k) Sustainable Harvest: In a bamboo plantation, each clump sends out new shoots every year. These shoots grow very fast and attain their maximum height in 6 to 8 months. In the successive years, the new shoots which are sent out are thicker and taller than the previous year and this increase in growth happens till the bamboo forest reaches steady state in about 8 years. Each clump will have culms which can be categorized into 4 groups of one year old culms (y1), two

year old culms (y2), three year old culms (y3) and four year old culms (y4). Culms which have completed 4 years of growth will be harvested in the 5th year. As only the mature 4th year culms comprising 25% of the total culms are harvested, the green cover is maintained by the remaining 75% culms. The total green cover gets restored in a one year because of the new culms which reach their full height within 6 to 8 months of its emergence. This cycle continues each year over its entire lifecycle of nearly 100 years.

Eligibility under the GS4GG General Eligibility Criteria according to section 3.1.1 of GS4GG Principles and Requirements

a) Types of project	Eligible projects shall include physical action/ implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.	Afforestation & Reforestation project is identified as eligible by GS4GG[3]
b) Location of Project	Projects may be located in any part of the world.	The PoA and its VPA will be located in Mpumalanga Province, South Africa
c) Project Area, Project Boundary and Scale	The Project Area and Project Boundary shall be defined. Projects may be developed at any scale. In order to avoid double counting the Project shall not be included in any other voluntary or compliance standards programme unless approved by Gold Standard (for example through dual certification). Also, if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature, the project shall demonstrate that there is no double counting of impacts at design and performance certification (for example use of similar technology or practices through which the potential arises for double counting or misestimation of impacts amongst projects).	The project area and project boundary will be described in the VPAs and will all be in Mpumalanga Province, South Africa. The VPAs will be large-scale. However, VPAs of large scale, small scale or microscale can also be included, if required. The CME and VPA Implementer will provide in writing that there is no double counting.
d) Host Country Requirements	Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	The project will be in compliance with South Africa's policies[4] which includes the legal, environmental, ecological and social regulations. Depending on the extent of area planted for each of the sub plots, the required

[3] OPTIONAL REQUIREMENT - GHG Emissions Reduction & Sequestration Product Requirements v.2.1 (goldstandard.org) – Page 6.
[4] General Profile | FAOLEX Database | Food and Agriculture Organization of the United Nations

		clearances as per host country requirements will be obtained. Appendix 2 shows the regulations that would be applicable to plantations[5].
e) Contact Details	As part of the Project Documentation the Project Developer shall provide (i) name and (ii) contact details of all Project Participants; AND in case of an organization (iii) the legal registration details and (iv) documentation by the governing jurisdiction that proves that the entity is in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors). Gold Standard retains the right (at its own discretion) to refuse use of the Standard where reputational concerns are highlighted.	i.Contact details of CME are provided in Appendix 1 and can also be seen at TERRAGRN website[6]. ii.TERRAGRN is the only project participant. The lands are leased to TERRAGRN SA, subsidiary of TERRAGRN on which the project is being implemented. iii. TERRAGRN is a UK private sector enterprise, with a wholly owned subsidiary TERRAGRN SA incorporated in South Africa (Reg No. 2021 / 898846 / 07) iv. TERRAGRN has provided is writing of good standing and as a legal entity to operate in South Africa.
f) Legal Ownership	Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall be demonstrated. Where such ownership is transferred from project	CME will demonstrate full and uncontested legal land title/tenure and ownership of the carbon credits generated under Gold

[5] https://www.forestrysouthafrica.co.za/wp-content/uploads/2021/06/ENVIRONMENTAL-GUIDELINES-2021-June-email.pdf
[6] https://www.terragrn.com/

	beneficiaries this must be demonstrated transparently and with full, prior and informed consent (FPIC). Note that for certain Project types there is a requirement for full and uncontested legal land title/tenure to be demonstrated. These are contained within specific Activity or Product Requirements. All projects shall immediately report to Gold Standard any land title/tenure disputes arising.	Standard Certification at VPA level.
g) Other Rights	As well as legal title and ownership, the Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project (for example, access rights, water rights etc.). Any known disputes or contested rights must be declared immediately to Gold Standard by the Project Developer and resolved prior to further project implementation in affected areas.	If applicable, CME will demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project at VPA level.
h) ODA Declaration	All Project Developers applying for project activities located in a country named by the OECD Development Assistance Committee's ODA recipient list and seeking Gold Standard Certification for carbon credits shall declare the Official Development Assistance (ODA) support.	No ODA is involved in the PoA, as confirmed by the CME. The signed ODA declaration is uploaded to the Registry.
Section 2.2.1., General Requirements as per GS4GG Land Use and Forestry Activity Requirements		
Eligible project type	Eligible project types are Afforestation & Reforestation Projects (A/R) and Agriculture Projects (AGR).	The project type is Afforestation & Reforestation (A/R)
a) No deforestation b) In the case when the eligible area has been deforested during the last 10 years prior to project start date, the eligibility of the project shall be determined by	The eligible area shall not meet the definition of forest 10 years before project start date and at project start date. The Project Developer shall provide evidence that the deforestation activity has not taken place with an intention to implement project activities that generate Gold Standard Certified SDG Impact Statements and/or Products, such as GSVERs.	The eligibility of the planting area will be demonstrated by following the guidelines of Annex C – Guidelines to conduct a spatial forest/non-forest assessment of GS4GG LUF Activity Requirements, Version 1.2.1 or latest guideline by GS4GG. The evidence of unintentional

Gold Standard as part of the Preliminary Review.		deforestation for a carbon project shall be provided at VPA level, if required, through verifiable evidences.
c) Double Counting	Projects issuing GSVERs with a vintage of 2021 or later and which are used i) towards an NDC or domestic climate mitigation target other than that of the Host Country; ii) under CORSIA shall conform to the GHG Emissions Reduction and Sequestration Product Requirements - Annex A. Annex A requirements are not applicable for projects generating GS VERs which do not fall under the abovementioned uses.	Full compliance with the double counting requirements of the Gold Standard as per GHG Emissions Reduction & Sequestration Product Requirements, Annex A will be proven in case that GS VERs are used towards an NDC or domestic climate mitigation target other than that of the Host Country or under CORSIA. A Letter of Authorization is not needed in case the GS VERs are not used for one of the abovementioned purposes.
d) Eligible A/R Projects	Can include planting trees Can include single-species plantations Can apply all silvicultural systems, e.g. conservation forests (no use of timber); forests with selective harvesting; rotation forestry All projects can include agriculture (agroforestry) or pasture (silvopasture) activities	The details of the planting trees and system will be provided at the VPA level based on land category and appropriate species for the land type. The planting system will be one or more of the follows: i. Conservation forests (no use of timber); ii. Forests with selective harvesting; iii. Rotation forestry or iv. Agroforestry or v. Pasture (silvopasture) activities
e) FSC dual certification	Not Applicable	Not Applicable
f) Secured Titles	For all project participants, the following information and evidence shall be provided: (a) Name and contact details	The requirements will be provided at the VPA level for the following:

	(b) Each entity's legal registration number and documentation by the governing jurisdiction that proves that the entity is in good standing. AND (c) For the duration of the crediting period the Project Developer: i. must own the CO_2 user rights or carbon sequestration rights for the project area, AND ii. hold an uncontested legal land title for the Project Area, AND iii. own the rights for timber and non-timber forest products for the project area, AND iv. hold all necessary permits to implement the project (planting permits, infrastructure permits, harvesting permits, etc.), AND v. participate in the financing of the project.	(a) Name and contact details (b) Each entity's legal registration number and documentation by the governing jurisdiction that proves that the entity is in good standing. (c) For the duration of the crediting period the Project Developer: i. will own the CO_2 user rights or carbon sequestration rights for the project area, AND ii. hold an uncontested legal land title for the Project Area, AND iii. own the rights for timber and non-timber forest products for the project area, AND iv. hold all necessary permits to implement the project (planting permits, infrastructure permits, harvesting permits, etc.), AND v. participate in the financing of the project.
g) Safeguarding principles and requirements	The Project Developer shall conduct the Safeguarding Principles assessment following Safeguarding Principles & Requirements and Risks & Capacities Guideline assessed for the Project Area, taking into account likely issues in the context of the Project Region.	The safeguarding principles assessment will be conducted and submitted for the VPAs and updated as required for design certification and performance certification.
h) Protected areas	A minimum of 10% of the total Project Area shall be identified and used to protect or enhance the biological diversity following High Conservation Value (HCV) approach.	Depending on the land type, the protected area of 10% will be identified and followed with exception of agroforestry.
i) Buffer zones for water bodies	The Project Developer shall maintain a buffer zone of 15 meters for water bodies on both sides of any permanent or temporary water bodies such as lakes, streams, rivers,	In buffer zones for water bodies except irrigation channels, (a) All existing native trees shall be kept, AND

	wetlands, etc. Irrigation channels are excluded from this requirement.	(b) No fertilizer and pesticides shall be used, AND (c) No logging activities shall take place, AND (d) No heavy machinery shall be used, AND (e) No cropping is allowed, AND (f) In case trees are being planted, these will be native tree species.
j) Stakeholder inclusivity	The Stakeholder Consultation shall be conducted prior to the project start date. The Project Developer shall refer to Stakeholder Consultation Engagement Requirements for further details.	The stakeholder consultation report shall be submitted for preliminary review, which will be done for a group of VPAs that will be added for 2 years.
k) Crediting period	The crediting period shall be a minimum of 30 years and maximum 50 years. The crediting period starts either with the Project Start Date or three years prior to the date of Project Design Certification, whichever occurs later.	The crediting period shall be 50 years for the PoA and 30 years for the VPAs.
l) Verification and issuance	Verification shall be completed at least every 5 years until the end of the crediting period.	Verification shall be completed atleast every 5 years for each of the VPA.
m) Additionality	Any VPA shall demonstrate additionality as per the Principles & Requirements, or GHG Emissions Reduction and Sequestration Product Requirements, as applicable.	Additionality shall be proven with satisfactory information and evidence provided. The project shall apply one of the following options to demonstrate project additionality: Option 1 – CDM tool: the latest version of the A/R CDM 'Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities'. The CDM specific terms

		of the A/R CDM additionality tool (tCERs, A/R CDM project, etc.) shall be interpreted in the context of Gold Standard. The 'Guideline on the assessment of investment analysis' and the 'Guidelines for objective demonstration and assessment of barriers' can be used. Option 2 – Positive List: the project shall meet the requirements of the list as per AR_LUF-Activity Requirements paragraph 3.1.16 section (b) i.

A.4. Target/Indicator for each of the minimum three SDGs targeted by the PoA

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Sustainable Development Goals Targeted	Most relevant SDG Target	SDG Impact Indicator (Selected in SDG tool)
13 Climate Action (mandatory)	GHG Sequestration	GHG Sequestration
2 Zero Hunger	**2.4** By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality	Food Produced
5 Gender Equality	**5.5** Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	Number of women employed Gender wage equality

8 Decent Work and Economic Growth	**8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	i. Number of jobs created ii. Number of local jobs created due to the project activity
15 Life on Land	**15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	i. Area planted ii. Total number of species planted iii. Increase in Biodiversity
17 Partnerships for the Goals	**17.3** Mobilize additional financial resources for developing countries from multiple sources	Investment for implementation of the project from multiple sources

A.5. Coordinating/managing entity

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TERRAGRN Private Limited a UK private sector enterprise, with a wholly owned subsidiary incorporated in South Africa (Reg No. 2021 / 898846 / 07) is the Coordinating/Managing entity for the project activity.

A.6. Funding sources of PoA

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The PoA will be funded by multiple private funding partners including TERRAGRN and/or external private investors. The CME confirms that no public funding or ODA is involved in the PoA.

TERRAGRN is exploring funding opportunities for the innovative ways of managing, measuring and valuing the impacts of the project. In practice this means that future carbon mitigation assets like carbon credits or other positive impacts expected to be delivered by the project could be used to secure loans. TERRAGRN has partnered with

R2O (https://regions20.org/ now https://www.catalyticfinance.org/) for funding and signed a MOU with Gold Standard[7] for private funding the project activity.

[7] https://www.goldstandard.org/blog-item/new-ways-valuing-climate-and-sustainable-development-impact-unlock-funding-innovative

SECTION B. MANAGEMENT SYSTEM AND INCLUSION CRITERIA

B.1. Management System

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TERRAGRN is the CME for this PoA and will be responsible for the overall operation, management, coordination and monitoring of the PoA. The description of the management system will be as follows:

The VPA Implementer will be TERRAGRN SA for the VPAs that will be added.

I. Roles and responsibilities

a. The CME, TERRAGRN will be responsible for:

i. General management of the PoA, including appointing all personnel / groups of personnel involved in the PoA development and VPA implementation;
ii. Inclusion of VPAs, confirming that all eligibility requirements are met
iii. Channeling carbon finance for project implementation
iv. Coordination and communication with the Gold Standard, SustainCert and the VVB for VPA inclusion, design certification and performance certifications.
v. Coordination and communication with VPA Implementers (VPAIs)
vi. Coordinating and managing the implementation of the monitoring plan
vii. Calculating emissions reductions based on monitoring data received from the VPAIs
viii. Improvement of the PoA management system as and when required.

b. The VPA Implementer TERRAGRN SA will be responsible for:

i. Identification and acquisition of suitable and eligible land.
ii. Coordination of the procurement of seeds and seedlings, land preparation and initial planting
iii. Maintenance of the planting area (e.g., weeding, pest control, forest fire prevention) and forest management (e.g. pruning, thinning, enrichment planting) - if and where applicable
iv. Implementation of a monitoring system for SDG indicators in accordance with the monitoring plan

v. Coordinating the monitoring as per monitoring requirements set out in the registered monitoring plan and reporting of the data to the CME
vi. Any other task and responsibilities assigned by CME as and when required.

II. Training and capacity development for personnel

a. The VPA Implementer will maintain records of all personnel, or groups of personnel, appointed to undertake the above roles.
b. The VPA Implementer will be responsible for the training and capacity development of personnel, as applicable, required to complete their roles in respect of the PoA's requirements and Gold Standard / SustainCERT rules. Records of such training and capacity building will be maintained in VPA Implementer's document management system.

III. Technical review of inclusion of VPAs

a. VPAs will be designed and written by the CME in partnership with the VPA Implementer.
b. The CME will conduct a technical review of all documentation and emissions reductions calculations prior to submission to the Gold Standard / SustainCERT and the VVB.

IV. Avoiding double counting

a. Double counting is not an issue, as these are greenfield projects that will be implemented by subsidiary company TERRAGRN SA.
b. Nevertheless, each VPA's inclusion will include a specific procedure to avoid double counting, which include:
    i. Clearly defined boundaries of the eligible planting areas
    ii. shape files of each planting area
    iii. Specific species composition of the planting area

These checks and balances will ensure that the VPA is not double-counting GHG emission reductions.

V. Records and documentation

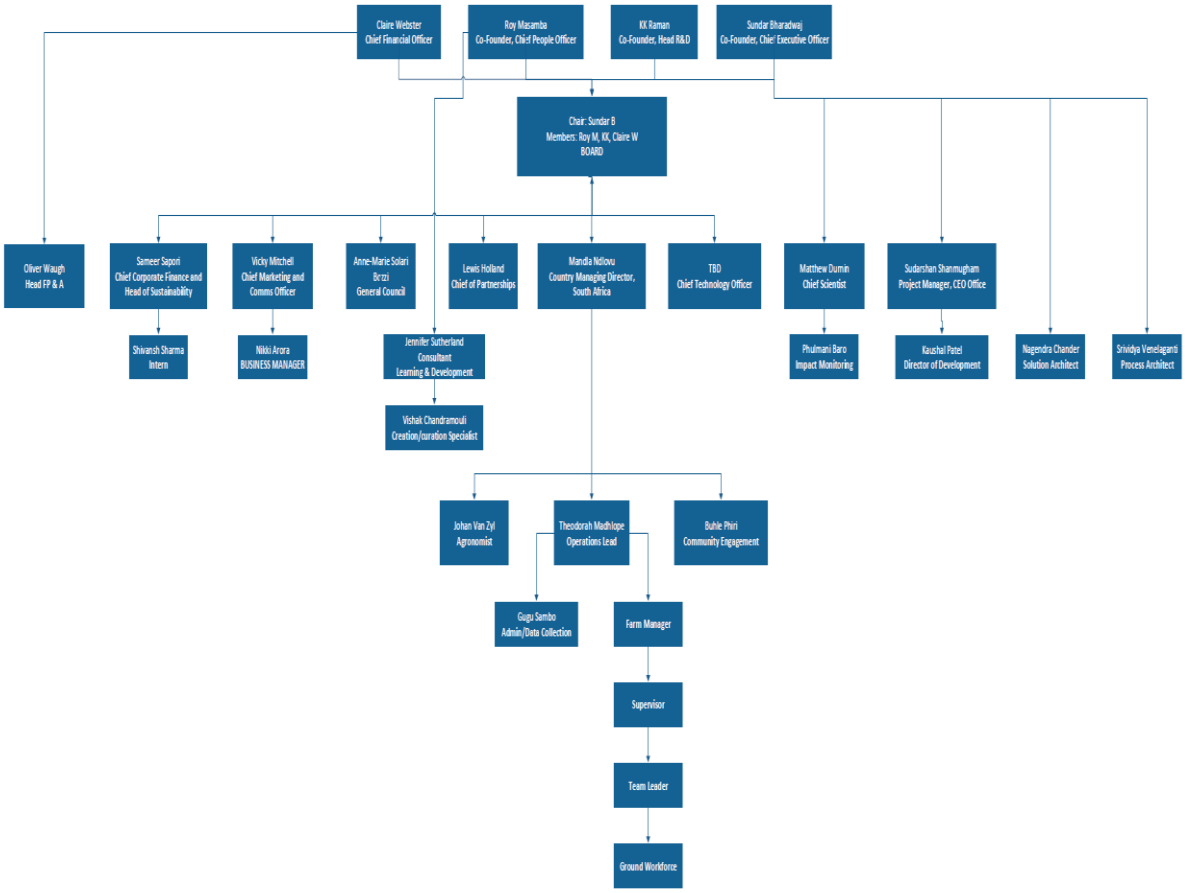
a. The CME will train the VPA Implementer and its personnel on the data collection and recording process.
b. The CME will define a standard operational procedure for the forest inventories. Forest inventory data collected by the VPA Implementer will be maintained in the main office of the VPA Implementer TERRAGRN SA.

c. The monitoring database will be maintained by the VPA Implementer and the CME will conduct a QA/QC process to ensure that collected data is accurate and representative.

VI. Measures for continuous improvements of the PoA management system

a. The CME will review the PoA management system defined above on a regular basis to ensure the continuous improvement of the above processes that will result in greater accuracy of the collected data and additional capacity building for VPA Implementers.

Organogram of the CME and VPA Implementer



Roles and Responsibilities

Group Chief Executive Officer: The Group CEO defines, develops and implements Terragrn Group's people strategy. He is responsible for translating brand essence to employee and channel behaviours, communications, policies and practices. Lead the business in defining, implementing and achieving a high performing value based organisation.

Chief Executive Officer: Determines the company's strategic vision and manages total profitability. Leads and formulates overall business objectives, policies and strategic plans, making key strategic decisions on their execution and delivery against financial targets. He is responsible for implementation of global strategy into country strategic plans and leads delivery in the local market, oversees performance management of the company, sets financial and operational objectives in accordance with long term company vision and leads people under his responsibility ensuring the correct implementation of company policies and the alignment with the company's Vision & Values and Business Principles

Chief Operations Officer: As second-in-command to the Chief Executive Officer (CEO), the Chief Operating Officer (COO) picks up whatever is needed, helping the CEO cover areas that they and any other cofounders don't have the capacity or skills to deliver on. The COO is a part of the Executive Committee of TERRAGRN ("Company") and will have sole and shared accountabilities reporting to the CEO. Peers will include but not limited to: Chief Financial Officer (CFO), Chief Marketing Officer (CMO)/ Director of Marketing, Chief Technology Officer (CTO) /Chief Information Officer (CIO), General Counsel, Director of Partnerships, Chief Human Resources Officer (CHRO), and Country Managing Directors.

Chief Marketing and Communications officer: The Chief Marketing and Communications Officer ("CMO") is responsible and accountable to TERRAGRN and its subsidiaries for the setup, strategy, operations, and management of all marketing and communications capabilities.

General Council: Providing relevant, accurate, and timely advice to the Company on a variety of legal topics that relate to the Company's business activities across the jurisdictions the Company operates.

Chief Financial Officer: The Chief Financial Officer ("CFO") is responsible and accountable to TERRAGRN and its subsidiaries for the setup, strategy, operations, and management of all finance capabilities, including, but not limited to, accounting, audit, financial planning, analysis, controls and reporting, tax, regulatory filings and compliance, working capital, treasury, and mergers and acquisitions. The CFO will also be responsible to review and influence the financial controls and growth/ divestment strategies of affiliate organizations of TERRAGRN.

Chief Corporate Finance Officer and Head Of Sustainability: To provide the Company with advice, technical expertise, and assistance in Corporate Finance and Sustainability.

Chief Officer Partnerships: The Chief Officer Partnerships is responsible for the delivery of the TERRAGRN vision and strategy through the setup, orchestration, and collaborative execution of the partner ecosystem.

Managing Director: Responsible for strategy execution of the South Africa operational plans and delivery against KPIs.

Chief Technical Officer: Manage the technology department, ensuring Network and IT systems planning, development, implementation and operations provide the best customer experience in terms of quality and adequacy of capacity achieving business objectives while being aligned with One Terragrn guidelines and Group directions.

Forest Operations Lead: To provide leadership and direction to the SA Country site operation regarding land management which includes plantation and maintenance to ensure achieve culture of high performance aligned with the Terragrn values.

Director of Science: Operating within the TERRAGRN country program team, reporting into the Country Managing Director, this role is critical within TERRAGRN and is part of the country programs senior leadership team. The Director of Science provides technical and scientific leadership and support for all soil, water, carbon and biodiversity conservation science initiatives and measures and monitoring (M&E). The person will formulate and conduct systematic problem area resolution of considerable scope and complexity. He/She will supervise and manage staff members and will drive efforts to establish TERRAGRN as a global leader in the application of Nature Based Solutions to soil, water and conservation challenges including the global climate challenge.

Director of Operations: As second-in-command to the SA Managing Director (MD), the Director of Operations picks up whatever is needed, helping the MD to be externally focused. Oversees the day-to-day activities of the South African operations, ensuring goals are met, that the team is collaborating.

Community and Stakeholder Facilitator: Is responsible for facilitation and coordinating community Engagement strategy for Terragrn. She will coordinate with the local

community and the royal family to ensure their support and participation. The person is also responsible to coordinate with the local organizations.

Agronomist – South Africa: Scoping, designing a biodiverse agroforest, working with internal and external experts to ensure the forest develops to deliver to the intended impact KPIs.

Field staff – the field staff will be responsible for all the planting activities on the project area including land preparation, pitting, planting, soil and water works and after care and maintenance.

B.2. Application of methodologies

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The VPAs to be included under the PoA apply the following methodologies, being the latest versions

- Methodology for Afforestation/Reforestation (A/R) GHGs Emission Reduction & Sequestration, Version 2.
- 403_V1.0_0.7_LUF_AR Methodology_Soil Carbon Tool.xlsm

B.2.1. Multiple technologies/measures

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There are no multiple technologies/measures applied under the PoA.

B.3. Eligibility criteria for inclusion of a VPA in the PoA

Any VPA to be included in the PoA will fulfill the criteria mentioned in A.3:

- Eligibility criteria as per section 3.1.1 of GS4GG Principles & Requirements
- General eligibility criteria as per section 2.1.1 of GS4GG Land Use & Forests Requirements.

In addition, VPAs should comply with the following eligibility criteria as per section 4.12.1 of the PoA Requirements and procedures, Version 2 and template guidelines:

No.	Eligibility Criterion	Description/ Required condition	Means of Verification/Supporting evidence for inclusion

1	*a. Geographical boundaries of the VPA consistent with that of the PoA*	The geographic boundary of the VPA shall be Mpumalanga Province, South Africa	The details of province, and district will be provided in the VPA and shall be within Mpulamanga Province, South Africa
2	*b. Conditions to avoid double counting of GHG emission reductions or net anthropogenic GHG removals, such as unique identifications of product and end user locations*	The VPA shall not previously be registered as a project activity or included as a VPA in any other registered PoA or deregistered as a VPA of a PoA.	The CME/VPA Implementer shall provide the details and shape maps of land parcels that are part of the VPA. They shall not be part of any other VPA or PoA or standalone project activity within GS and other standards.
3	*c. Conditions to check the start dates of VPA through documentary evidence*	The start date of the VPA shall be on or after the start date of the PoA	The project start date is confirmed through the first planting that is done for the VPA, which will be confirmed through field records and photographs.
4	*d. Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardised baselines and the other applied methodological regulatory documents*	The only methodology used for VPAs under the PoA is "LUF_AR-Methodology-GHGs-emission-reduction-and-Sequestration-Methodology, Version 2". The tool "LUF AR Methodology Soil Carbon Tool" is used in order to calculate the Soil Organic Carbon	Compliance with the methodology applicability criteria will be demonstrated in section B.2. of the VPA-DD.
5	*e. Conditions to ensure that VPA meet the requirements for demonstration of additionality*	For demonstration of additionality, one of the two options will be applied: Option 1: Latest version of A/R Methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities Option 2: Latest version of Positive list (as per 3.1.16, (b) of the Land Use & Forests Activity Requirements)	Section B.5. of the VPA shall describe the chosen option and steps toward the determination of additionality.
6	*f. Condition to ensure that the real case VPA and its*	The only methodology used for VPAs under the	Compliance with the methodology applicability

	regular VPAs meet the applicability criteria of selected methodology of combination of methodologies	PoA is "LUF_AR-Methodology-GHGs-emission-reduction-and-Sequestration-Methodology Version 2". The tool "LUF AR Methodology Soil Carbon Tool" is used in order to calculate the Soil Organic Carbon	criteria will be demonstrated at VPA level.
7	*g. Conditions to ensure that real case and its regular VPAs systematically demonstrate additionality in accordance with Principles & Requirements.*	For demonstration of additionality, one of the two options will be applied: Option 1: Latest version of A/R Methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities Option 2: Latest version of Positive list (as per 3.1.16, (b) of the Land Use & Forests Activity Requirements)	The VPA will describe the chosen option and steps toward the determination of additionality.
8.	*h. Target group*	N/A	N/A
9.	*i. Conditions related to sampling requirements for the PoA*	Any VPA will follow the sampling requirements for forest inventories described in the LUF_AR-Methodology-GHGs Emission Reduction & Sequestration Methodology.	As means of verification, section B.7.2. of the VPA shall refer to the forest inventory guidelines to be prepared by the CME, outlining the sampling requirements
10.	*j. Conditions to ensure that CPAs that will be included meet the small-scale or microscale thresholds and remain within those thresholds throughout the crediting period*	The conditions of the GS4GG LUF Activity Requirements for small-scale or microscale thresholds will be applied depending on the VPA scale that will be included	The small scale will be 16,000 tCO2 removals/year and for microscale it will be project area to 500 ha along with capping GHG removals at 10,000 tCO_2/year
11.	*k. Conditions to be met for retroactive VPAs*	The start date shall be after the start date of the PoA and retroactive VPAs shall submit the required documents to Gold Standard within five years of its start date (time of first submission) according to the GS4GG	The proof of the start date and the consideration of carbon credits will be submitted for retroactive e VPAs.

		LUF Activity Requirements and prove that carbon credits were considered for the activity.	
12.	*l. Conditions to be met for CER Labelling*	Not applicable, as it is a VER project	Not Applicable
13.	*m. Conditions to be met in multi-country PoAs*	No applicable, as it is a single country, South Africa	Not applicable

In addition, the section A.1. of the real case VPA DD will include the following:

a. Description of the present environmental conditions of the area planned for the VPAs, including the climate, hydrology, soils and ecosystems
b. Describe the presence, if any, of rare and endangered species and their habitats
c. Describe the species and varieties selected for the Forestry VPA
d. Describe the measures and know-how that will be transferred to the host Party, if applicable
e. Describe or list the legal title(s) to the land, current land tenure and rights enabling determination of the owner of the GS VERs to be issued for the Forestry VPAs.

SECTION C. DEMONSTRATION OF ADDITIONALITY

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According to the GS4GG PoA Procedures and Guidelines, the CME shall demonstrate additionality at PoA level by establishing that in the absence of Gold Standard Certification related finance:

a. the proposed VPAs would not be implemented.

The PoA is a purely voluntary action implemented by the CME and is only possible because of carbon finance. Gold Standard and R20 are working with TERRAGRN and partners to explore innovative ways of managing, measuring, and valuing its impact on the climate and the UN's Sustainable Development Goals (SDGs). Valuing a diversity of impacts such as mitigation, adaptation, water, soil health, gender and welfare will allow TERRAGRN to use the impacts as a form of collateral that increases the amount of investment in their project. In practice this means that carbon mitigation assets like carbon credits or other positive impacts are expected to be delivered by the project would be used to secure a low-interest loan[8].

It is therefore stated that in the absence of Gold Standard Certification related finance, none of the VPA that will be implemented under the PoA and within the proposed PoA boundaries would occur.

b. the mandatory policy/regulation would systematically not be enforced and that non-compliance with those requirements is widespread in the country/region, or c. the PoA will lead to a greater level of enforcement of the existing mandatory policy/regulation or to a greater level of adoption of an existing voluntary scheme.

The African Forest Landscape Restoration Initiative (AFR100), supported by the African Union Development Agency-NEPAD and 32 additional technical partners, involves 30 countries including South Africa. It responds to the African Union's

[8] https://www.goldstandard.org/blog-item/new-ways-valuing-climate-and-sustainable-development-impact-unlock-funding-innovative

mandate to restore 100 million hectares of degraded lands by 2030, in accordance with the political declaration approved in October 2015 for the creation of the African Resilient Landscapes Initiative. It complements the African Landscapes Action Plan and the broader Climate Change, Biodiversity, and Land Degradation programme of the African Union. AFR100 contributes to the achievement of national commitments to restoration and sustainable development in the context of the Bonn Challenge and the New York Declaration on Forests, among many other goals[9]. The project activity will lead to a greater level of adoption of this existing voluntary scheme of AFR100.

The opportunities for scaling up restoration is vast in Africa including South Africa. But there are key challenges. These include[10]:

- Unclear delegation of rights to farmers and rural households to manage trees and forest resources
- Insufficient empowerment of community based institutions to support sustainable land management
- Framework conditions such as governance of natural resources and policy coherence often do not favor restoration at scale, which include weak institutional co-ordination, a failure to devolve resource management authority to local resource users, and insufficient economic incentives for local and foreign investments in sustainable land management[11].
- Difficulties in accessing markets for products from sustainable forestry and agriculture production systems
- Low capacities for supporting the widespread adoption of sustainable land use practices
- Lack of integrated land use planning and management, limited institutional capacities and limited coherence between sector policies

[9] https://www.inbar.int/wp-content/uploads/2020/12/May-2021_LI-Yanxia_Bamboo-for-Landscape-Restoration-in-CW-Af_v2.pdf
[10] https://afr100.org/sites/default/files/AFR100%20Overview_ENG.pdf
[11] https://afr100.org/sites/default/files/AFR100%20Overview_ENG.pdf

- Insecurities for long term investments and lack of funds reduce opportunities for scaling up Forest Landscape Restoration approaches
- Bamboo plantations as an initiative to forest restoration has several challenges. Access to appropriate land remains an important challenge to bamboo project developers. There are many complex relationships that need to be negotiated with communities and traditional authorities. Despite lengthy negotiations, access to tenure often remains insecure. Without clear tenure security, few companies or organizations are willing to make the large capital investments into commercial bamboo growing, which is a very risky undertaking[12]. Further, prior financial investments by the public and private sectors to support the key links of the bamboo sector are insufficient. Additionally, in a still young Forest Landscape Restoration sector, financial institutions are reluctant to provide financing[13].
- There are not many agroforestry models or area under agroforestry in South Africa and there exists socio-economic barriers to adoption of agroforestry. These include a lack of market for products from new or novel agroforestry species, perceptions of high initial capital and labour costs, and delayed returns on initial investments (particularly in timber plantations). Furthermore, there are management challenges associated with integrating trees and shrubs into cropping systems (and integrating crops into forestry systems). Building a sound economic argument to support agroforestry is necessary[14].

The PoA addresses these challenges by working with policy makers, communities and development partners to improve framework conditions for accelerating the widespread adoption of restoration practices by providing more effective planning and management processes, incorporating income generation opportunities for communities, improve rural livelihoods and providing socially, economically and ecologically responsible incentives for increased investments in restoration.

[12] https://www.academia.edu/35190753/Bamboo_for_green_development_The_opportunities_and_challenges_of_commercialising_bamboo_in_South_Africa
[13] https://www.inbar.int/wp-content/uploads/2020/12/May-2021_LI-Yanxia_Bamboo-for-Landscape-Restoration-in-CW-Af_v2.pdf
[14] https://www.dffe.gov.za/sites/default/files/docs/agroforestrystrategyframework.pdf

As can be seen from the information on AFR100[15], there are projects under the AFR100 program by 72 non-profit organizations, 3 by government and 27 by enterprises. Of them only one project is in South Africa by an enterprise other than the CME[16].

This project by TERRAGRN is a greenfield project and is not part of the AFR100. As mentioned in the above section, TERRAGRN's GS4GG project is purely a voluntary action and is partnering with Gold Standard to explore innovative ways of managing, measuring, and valuing its impact on the climate and the UN's Sustainable Development Goals (SDGs). The CME has signed an MoU with Gold Standard to explore carbon finance and other impact finance for the project activity. Valuing a diversity of impacts such as mitigation, adaptation, water, soil health, gender and welfare will allow TERRAGRN to use the impacts as a form of collateral that increases the amount of investment in their project. In practice this means that carbon mitigation assets like carbon credits or other positive impacts are expected to be delivered by the project would be used to secure a low-interest loan[17].

Hence the project will lead to a greater level of adoption of the ambition of the AFR100 in African region which is additional to the ongoing efforts under AFR100.

SECTION D. DURATION OF PoA

D.1. Date of first submission of PoA to Gold Standard

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26/03/2023

[15] Projects | AFR100
[16] Regreening South Africa for a Sustainable Future | AFR100
[17] https://www.goldstandard.org/blog-item/new-ways-valuing-climate-and-sustainable-development-impact-unlock-funding-innovative

D.2. Duration of the PoA

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50 Years for the PoA – 29/11/2022 to 28/11/2072

30 Years for the VPAs

SECTION E. OUTCOME OF PoA LEVEL STAKEHOLDER CONSULTATION

E.1. Summary of stakeholder consultation at PoA Level

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The CME conducted the PoA design consultation digitally to obtain feedback from governments, relevant national authorities, NGO communities, and other stakeholders and Gold Standard representative and relevant international Gold Standard NGO Supporters. The design consultation email, which included the (i) Non-technical Summary and (ii) Design Consultation feedback form in English and local language isiNdebele was sent out on 30th August 2022 and was open to sending their feedback for a month till 30th September 2022. Reminder to send their feedback was sent on 27th August 2022 through email.

There was one feedback received during the consultation period. Please see Design Consultation Report for more details.

The stakeholder consultation will be conducted for a group of VPAs that will be included in the next two years of the stakeholder's consultation meeting i.e. until 02/02/2025 conducted for the first stakeholder's meeting.

E.2. Consideration of stakeholder comments received

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There were one feedback received during the design consultation at the PoA level. VPA level stakeholder consultations was also held to get feedback.

The feedback during design consultation was from the local municipality representative. As per the feedback, the PoA is well designed with clear objectives and in line with the national and regional SDGs for restoration of degraded lands through reforestation. He stressed upon good communication and interaction with the municipality including ward councillors, environmental division, traditional leadership

and local people. He also agreed to the suggestion of stakeholder's meeting at least biennially for a group of VPAs.

Based on both the consultation process, there was only positive feedback. The feedback was with regard to having continued partnership with various organizations and stakeholders through out the project activity, provide jobs for local communities and especially women and build capacities amount local people and youth. These feedbacks will be implemented by TERRAGRN.

E.3. Final Continuous Input / Grievance Mechanism at PoA Level

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Method	Include all details of Chosen Method (s) so that they may be understood and, where relevant, used by readers.
Continuous Input / Grievance Expression Process Book (mandatory)	A process book will be kept at the site office as it is accessible to local people on-site to log their grievance
GS Contact (mandatory)	help@goldstandard.org
Other	Raise grievance with TERRAGRN through email help@terragrn.com especially for people who cannot travel to the site.

The grievance received at the site will be resolved by the Site Manager. In case it is not resolved by the Site Manager, it will be reported to the Country Head and resolved. Issues related to Human Resources will be resolved by the country head, while any site related matters will be addressed by the Site Manager.

APPENDIX 1 - CONTACT INFORMATION OF COORDINATING/MANAGING ENTITY AND RESPONSIBLE PERSON(S)/ ENTITY(IES)

CME and/or responsible person/ entity	☒ CME ☒ Responsible person/ entity for application of the selected methodology(ies) and, where applicable, the selected standardized baseline(s) to the PoA
Organization	TERRAGRN Private Limited
Street/P.O. Box	106
Building	The Avenue
City	Pinner HA 5BJ
State/Region	
Postcode	
Country	United Kingdom
Telephone	+44 7818 454555
E-mail	sundar@terragrn.com
Website	www.terragrn.com
Contact person	
Title	CEO
Salutation	Mr.
Last name	Bharadwaj
First name	Sundar

Appendix 2: Compliance with South Africa's policies which includes the legal, environmental, ecological and social regulations.

The environmental legislation that governs the Forest Industry in South Africa is extensive and consists, inter alia, of the following important Acts and associated Regulations:

- ✓ National Forests Act 84 of 1998;
- ✓ National Water Act 36 of 1998;
- ✓ National Environmental Management Act 107 of 1998.
- ✓ National Environmental Management: Biodiversity Act 10 of 2004 (includes regulations on alien and invasive species, threatened and protected species and threatened and protected ecosystems);
- ✓ National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEMICMA)
- ✓ National Environmental Management: Protected Areas Act 57 of 2003;
- ✓ National Environmental Management: Waste Act 59 of 2008;
- ✓ Conservation of Agricultural Resources Act 43 of 1983;
- ✓ National Heritage Resources Act 25 of 1999;
- ✓ Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 36 of 1947;
- ✓ Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 36 of 1947: Adoption of Pesticide Management Policy for South Africa, 2010; and
- ✓ Hazardous Substances Act 15 of 1973.

Revision History

Version	Date	Remarks
2.1	31 May 2022	Editorial changes and revisions
2.0	04 May 2022	Key Project Information table revised to cater for the following information: - Scale of PoA - Title and GS ID of all real case VPAs included in the PoA A new Management System section included Safeguarding Principles Assessment section removed Outcome of PoA Level Stakeholder Consultation section revised in the following manner: - Justification for Stakeholder Consultation at PoA Level Only section removed A new Consideration of Stakeholder Comments Received section added
1.1	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Inclusion criteria table added Clarification on POA level LSC and Safeguard Principles Assessment Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on Stakeholder Consultation information required Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.0	10 July 2017	Initial adoption