



REWILD CAPITAL



PROJECT IDEA NOTE

Project name:

Tswalu Kalahari Carbon Project

Project Developer:

Oppenheimer Generations

Project proponent:

Rewild Capital

Carbon Registry and Standard:

Credible Carbon (Pty) Ltd

Registration number: 2016/027710/07



PIN prepared by

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Draft: 23 November 2021

Review by Credible Carbon: 26 November 2021

Second Draft: 9 December 2022

Audit response notes: 30 January 2023

1 Summary of audit findings

The audit of the Tswalu Kalahari Carbon Project by the Green House found that the models used to calculate soil carbon sequestration from the project interventions are in line with Verra methodologies and correctly conservative in estimation. Specifically, the audit finds: “Although the estimation of soil carbon changes is uncertain, the project proponents have presented two peer-reviewed approaches which align in their calculations within the limits of uncertainty”. Furthermore, the conversion of wildlife stocking densities in large stock equivalents (LSUs) for use incorporation into the SNAPGRAZE model was deemed fit for propose. However, it was noted that, due to the heterogenous landscape of Tswalu Kalahari Reserve (TKR), the carbon sequestration estimates should be confirmed through in-field sampling and monitored periodically to validate sequestration estimates. This recommendation is part of the original next steps in the Project Idea Note (PIN) and will be established as a validation technique to ensure credit issuance is accurate over the project period (see section 2). Specifically, the project will establish permanent soil carbon monitoring stations at an existing network of 111 vegetation sampling plots, which are distributed across TKR to enable stratified random sampling of soil types. Soil carbon cores will be collected and analysed at four-year intervals to validate model predictions (both remote and process-based) and be used to adjust credit issuance over time.

The major audit finding concerned the lack of robust information to be able to determine the additionality of carbon sequestration from the project interventions. This centred on whether the primary intervention, that of reducing wildlife stocking densities to enable grass recovery, was part of a climate change mitigation and carbon sequestration strategy or simply a response to prolonged droughts in the region. As such, the audit found that “there is not a clear case that carbon credit revenues would be the primary driver for reducing stocking levels nor for the purchase of additional land for incorporation into the reserve”. We have resolved this concern in the revised PIN by summarising management plans, internal strategies, commissioned research and financial reports that demonstrate additionality through the concerted development of a coherent climate change strategy at TKR (compared to the baseline where there was no such strategy) along with the financial loss incurred by such a strategy compared to counterfactual land-uses.

Overall, the audit has helped improve the quality and robustness of the Tswalu Kalahari Carbon Project and will help TKR to expand its conservation work in future through rewilding neighbouring lands and improving ecosystem functioning.

2 Summary of revisions

The table below provides detail on how the audit findings were incorporated into the revised PIN and the carbon sequestration calculations revised. In summary, we have:

- Compiled evidence from various internal reports (Table 2 in revised PIN and text additions in introduction) that show c. 2019 marks a step-change in management to explicitly address climate change mitigation and adaptation and that expanding TKR to meet this goal, and using carbon finance to facilitate it, are key components of the management strategy.
- Presented financial information (Table 3 in revised PIN and text additions in introduction) on TKR and the counterfactual land-use (cattle farming) showing that cattle farming is more

profitable when the costs of conservation on TKR are considered and thus the strategy to manage for climate and conservation is not the most financially viable scenario and is uncommon practice (thereby meeting the additionality criterion).

- To ensure there is additionality in sequestration and thus credit generation, we back-calculated the maximum soil organic carbon (SOC) achieved in the baseline period for each land parcel and used this to determine the net incremental sequestration from the interventions (as per Verified Carbon Standard VM0032 methodology). This ensures that SOC in the project period is only counted if it exceeds the maximum achieved in the baseline and presents a more conservative accounting of the credits.
- We reformatted the graph on stocking rates to show the project start period and the subsequent reduction in stocking rates compared to the baseline period, to highlight the main project intervention as a step-change.

Specific audit query	Response and revision
Correction to model description in section 3.1 (<i>m</i> unit mistakenly omitted)	$SOC_{stock} (Kg C m^{-2})$
<p>The switch from cattle to game on this project is probably not additional - it predates any carbon intentions and while cattle farming might still be more common, no evidence is presented to show that what has been done on this land is, "uncommon and ordinarily financially unfeasible".</p>	<p>The original switch from cattle to game at Tswalu in 1998 was not 'for carbon' but for conservation (and remains financially unfeasible). However, the recent purchase of the neighbouring cattle farm and reduction in stocking density on Tswalu overall are part of a climate mitigation and adaptation management plan and therefore represents additional mitigation effort compared to the baseline of 'high stocking density on Tswalu itself' and 'high cattle stocking on the Whyenbah property'. We 1) present evidence of this intention from various management plans, strategies and commissioned research that have been specifically designed to combat climate change and increase carbon sequestration (these plans were developed in the period 2017-2019, leading to the decision to reduce stocking density and purchase the neighbouring farm); and 2) present the financial loss of this strategy showing the opportunity cost of reducing stocking density and purchasing neighbouring land to allow the ecosystem to recover. We include in this analysis the costs of anti-poaching of game that currently accounts for about 45% of the Tswalu operating expenditure, which is higher than the typical operating expenditure of cattle farms</p>
<p>"Proving the viability of this model would also incentivize the continued expansion of the Tswalu Reserve"this is not an argument for additionality until the financial numbers are documented. No evidence has been presented to support the assertion that the purchase of the land and its management was informed by</p>	<p>The intentionality of land acquisition to meet climate goals and financial additionality are covered in the documents above. Specifically, the Oppenheimer Generations Sustainability Programme (2020) states "[OGSP will] expand our conservation and rewilding work for greater greenhouse mitigation measures". This</p>

Specific audit query	Response and revision
the stated aim of the project, namely "the primary project activity of the Tswalu Kalahari Carbon project, lowering herbivore stocking rate".	includes land acquisition strategies to increase the area of TKR and alleviate overall grazing pressure.
<p>When it comes to stewardship, the ecological requirement of veld stability should be the baseline. The "recommended" 0.03 LSU/hectare to retain veld condition (van Rooyen and Van Rooyen, 2017) should be the de facto baseline on any proclaimed land. Additional credits would then only be awarded to projects stocking below this level.</p>	<p>We addressed this concern in two ways: 1) <i>Recommended LSU/Hectare</i>: the van Rooyen and Van Rooyen (2017) study is not the industry 'norm', but rather the long term grazing capacity guidelines from Department of Agriculture, Land Reform and Rural Development (DALRRD) suggests a stocking density of 13-15 ha / LSU [0.07-0.08 LSUs / ha] in the region. This is more appropriate to being called an industry norm and more closely tracks counterfactual stocking densities in the region. We have revised the PIN the report accordingly. <i>Accounting for additionality</i>: We have now used the Verified Carbon Standard baseline criteria for nature-based projects ("projects applying a modelled approach, must apply the maximum SOC achieved in the previous 10 years") to set the baseline SOC stock from which net sequestration gains are measured. We have adjusted the credit estimates accordingly in Tables 1 and 11 of the revised PIN.</p>
Please present the evidence for project implementation in 2019-2022 in the Figure 2 to show a trend discontinuity at the commencement of the project (2019)	Figure 2 reformatted to show commencement of intervention compared to baseline period.
<p><i>Monitoring and verification plan.</i> The PIN mentions soil sampling potentially being used for confirmation of model results. Given the heterogeneity of the TKR mentioned previously and uncertainty with modelling soil carbon, the idea of using soil samples to support modelled findings that soil carbon is increasing is supported. A selection of soil samples could be taken as soon as possible (to be reflective of the baseline) and at intervals throughout the project period</p>	<p>As described in the PIN, a soil carbon monitoring network will be established at TKR using a network of 111 existing vegetation monitoring plots to align data collection and monitoring efforts. Soil carbon will be measured at 4-year intervals to validate the remotely sensed SOC stocks and rerun the process-based models (using achieved stocking density) and adjust credit issuance if necessary. Soil carbon monitoring will commence in 2023.</p>

3 Auditor sign-off on revisions

I have noted the updates to the PIN and the comments above, and am comfortable that my concerns with the original PIN have been addressed to the point of the project being suited for registration for generation of carbon credits by Credible Carbon.



Brett Cohen, 6 February 2023