



## **OxCarbon Limited**

Company Number: 13398658

# **Verification Report and Issuance Notice**

14 March 2023

**Project Name:**

001-OxC: Global Mangrove Trust Restoration & Conservation Project in North Sumatra

**Account Name:**

The Global Mangrove Trust Limited

**Monitoring Period:**

28 November 2021 to 14 November 2022

**Mitigation Amount:**

Risk Buffer Allocation: 114,086 tCO<sub>2</sub>e

2022 Vintage Issuance: 93,343 tCO<sub>2</sub>e

**Name of Auditor:**

Stephen Lezak, Carbon Accounting Lead, OxCarbon

*OxCarbon reviews and registers projects under the OxCarbon Principle-Based Standard in alignment with the Oxford Offsetting Principles.*

*OxCarbon Limited is a not-for-profit company, limited by guarantee, established in 2021.*

*OxCarbon Limited - John Eccles House, Robert Robinson Avenue, Oxford Science Park, Oxford, Oxfordshire, OX4 4GP. United Kingdom*



## OxCarbon Limited

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Robert Robinson Avenue,  
Oxford Science Park,  
Oxford, Oxfordshire,  
OX4 4GP.  
United Kingdom

Company Number: 13398658

**Project Name:** 001-OxC: Global Mangrove Trust Restoration & Conservation project in North Sumatra

**Monitoring Period:** November 28<sup>th</sup> 2021 to November 14<sup>th</sup> 2022

**Monitoring Report:** KACSAT State Change Report for 001-OxC: Global Mangrove Trust Restoration & Conservation project in North Sumatra Dec28-2022.pdf

**Project Developer:** Global Mangrove Trust Limited

### **Additionality Assessment:**

OxCarbon evaluates the integrity of all prospective projects based on their conformance with the Oxford Offsetting Principles (hereafter “Oxford Principles”). The Oxford Principles are a living document; as they evolve, so does our process for evaluating additionality

OxCarbon currently applies two key tests to determine whether the offsets are being established relative to a compelling counterfactual baseline.

Additionality must be both **financial** and **jurisdictional**.

- **Financial additionality:** Does the investment in the offset create the required conditions for the emissions reduction or removal project to take place? To qualify, the project in question must be reasonably unlikely to happen absent offset-driven investment.
- **Jurisdictional additionality** (also known as “legal additionality”): Is the offset undertaken independent of any legally-binding commitment made by a government? To qualify, the project in question cannot be also be counted toward a jurisdictional commitment. Put differently, a project cannot be credited for an action mandated by law.

The burden of proof for additionality will be that a project must be additional beyond a reasonable doubt.

With respect to the 001-OxC project, OxCarbon is satisfied that the burden of proof for additionality has been met. This is based on the following observations:

- **The analysis from the KACSAT baseline report showed evidence of significant deforestation between 2017 and 2021 within the project reference area (the entire Eastern coast of North Sumatra up to 20km inland) of 7.18% annually.** This reference area is approximately 500,000 hectares, over 200x the project area, leaving minimal scope for over-optimisation of the reference area to manufacture an inappropriate baseline.
- The drivers of deforestation appear to be entirely economic—not due to natural forces. Land-use change (such as substitution for palm oil and aquaculture) supports the assessment of financial additionality as carbon financing is required in order for conservation/restoration activities to compete economically.
- Another key driver of forest degradation was identified as illegal logging (at small scale but repetitively), a factor also caused by the absence of income for firewood or fuel. The carbon financing is required to support local jobs in these communities which should reduce deforestation.
- The establishment of mangrove nurseries and the restoration of the project area with these seedlings is exclusively financed by the sales of offsets from the project and is financially additional.
- The project has registered the conservation activities with the relevant government authorities (in this case the Ministry of Environment and Forestry (MOEF) in Indonesia that operates the SRN, a national database of climate impact projects). This ensures that no other claims are being made for credit on conservation activity and that the land is not already protected by law. The fact that permits for land-use change (and forest land cleared accordingly) were observed during the baseline data collection and also during the 2022 vintage crediting period also provides de facto evidence of jurisdictional additionality.

## Mitigation Amount

As technology is expected to improve over time (both in terms of data availability and analytical tools), OxCarbon requires estimation of carbon changes to be made on a like-for-like basis between crediting periods. OxCarbon sees project methodologies as ‘living documents’.

For example, the launch of Sentinel made 10m resolution data widely available which was a significant improvement on the 30m resolution from Landsat. However, comparing a carbon stock estimate derived using Sentinel data with one from the previous year derived from Landsat data would not be appropriate as any observed difference in carbon stock could be a result of the input data rather than the reality on the ground. To estimate the change in carbon stock over a crediting period, the same data sources and methods must be used as the basis for comparison

OxCarbon expects approaches to improve over time although it is not always possible (such as when new data sources become available) to re-state historical estimates. As part of the OxCarbon Principles, validators are expected to utilise improvements in technology as soon as it is economic to do so. To ensure that adoption of improved approaches can be facilitated effectively whilst maximising transparency, estimates will be presented in a ‘point-in-time’ format so that restatements of prior estimates can be easily understood.

As set out in the KACSAT State Change Report, an improved machine-learning model was developed since the original baseline estimates were published. This advance resulted in a downgrade to the baseline carbon stock of 1.43% on average.

The issuance for the 2022 vintage is therefore based on observed changes in the carbon stock from the updated baseline, not the original estimate. This decision is made to prevent any issuance being a result of methodology as opposed to state change.

In addition, instances of atmospheric haze over part of the project area (Salahaji) during the late-2022 image capture window mean that a carbon stock estimate (for this area) for the end of the 2022 vintage crediting window cannot be relied upon. As a result, no issuance will be made for this part of the project area in the 2022 vintage. At the end of the next crediting window (presuming clean data can be obtained), this area will be assessed against the baseline for both crediting periods and adjusted issuance made at that time.

OxCarbon requires all issuance to be supported by data to ensure that any OxCarbon offset is entirely science-based. Whilst it is not always possible to acquire the requisite data in the desired timeframe, OxCarbon would require issuance to be delayed rather than based on any ex-ante assumptions.

Baseline carbon stock (ex-Salahaji) at start of 2022 crediting period = 2,766,194 tCO<sub>2</sub>e

Baseline carbon stock (ex-Salahaji) at end of 2022 crediting period: = 2,567,581 tCO<sub>2</sub>e

Ex-post carbon stock (ex-Salahaji) at end of 2022 crediting period: = 2,775,010 tCO<sub>2</sub>e

Assumed Leakage (ex-post) = 0

Additionality estimate = 207,429 tCO<sub>2</sub>e

Risk buffer allocation = 114,086 tCO<sub>2</sub>e

2022 vintage issuance = 93,343 tCO<sub>2</sub>e

Signed on behalf of OxCarbon



Stephen Lezak  
Carbon Accounting Lead, OxCarbon

**OxCarbon  
Limited**

Company Number: 13398658

Vintage: 2022

001-OxC: Global Mangrove Trust Restoration  
& Conservation Project in North Sumatra**Project Profile - Global Mangrove Trust****Project Name:**

001-OxC Global Mangrove Trust Restoration &amp; Conservation Project in North Sumatra

**Project Description:**

001-OxC is the inaugural blue carbon conservation project launched under the OxCarbon Standard. Situated in North Sumatra, 001-OxC aims to conserve and regenerate coastal ecosystems such as mangrove forests and marine coastal areas. The project actively supports nature-based solutions to the climate crisis and fortifies sustainable long-term livelihoods for coastal communities.

The total project area is 2,305.6 hectares using KACSAT's 1-metre scale, located between coordinates 04°04'30" - 04°16'30"N and 98°06'30" - 98°14'30"E on the Southwest coast of the Malacca Strait in four registered villages: Salahaji, Pulau Kampai, Halaban, and Pangkalan Siata in Langkat district, Medan, North Sumatra, Indonesia.

Global Mangrove Trust (GMT), in collaboration with Yayasan Gajah Sumatera (YAGASU), organises field activities with the four communities using the space-based machine learning Kumi Analytics Carbon Sequestration Assessment Tool (KACSAT). GMT and YAGASU plan to scale up similar conservation and Restoration efforts across 25,000ha of coastal mangroves over the next 3-5 years, deploying 30-year conservation agreements with local communities.

[001-OxC OxCarbon Project Document Repository](#)[001-OxC OxCarbon Project Page](#)[OxCarbon Registry Project Page \(hosted by S&P Global\)](#)

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001-OxC: Global Mangrove Trust Restoration  
& Conservation Project in North Sumatra**Attestation and Receipt by Project Developer**

*The Global Mangrove Trust Limited (GMT) hereby confirms receipt and acknowledges the content of the OxCarbon Verification Report and Issuance Notice dated 10 March 2023 for the 001-OxC: Global Mangrove Trust Restoration & Conservation Project in North Sumatra for the Monitoring Period running from 28 November 2021 to 14 November 2022, duly delivered by Auditor, Stephen Lezak, Carbon Accounting Lead, OxCarbon.*

*GMT further acknowledges the following key estimates and findings of the auditor for the monitoring period and 2022 vintage issuance:*

- *Total estimated additionality = 207,429 tCO<sub>2</sub>e*
- *Risk buffer allocation = 114,086 tCO<sub>2</sub>e*
- *2022 vintage issuance = 93,343 tCO<sub>2</sub>e*

**For The Global Mangrove Trust Limited**

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Dr. Simon Schillebeeckx, Director  
14 March 2023