
Saramacca Olivine Surinam (CNIC)

Rock-solid mineralisation of CO₂ to olivine/basalt on pasture land

Available volume tCO₂:

2.300 – 11.500 CORCs (subject to number of hectares deployed from a pre-negotiated plot)

Price per CORC:

€ 115 per CORC

Permanence: (Estimation acceptable)

Millenia, clearly over 100+ years (mineralisation is permanent in geological time span)

Project Description

This project removes CO₂ by means of enhanced weathering of olivine/basalt.

One ton of olivine has the potential to bind 1.25 tons of CO₂. This is a slow, but steady, natural process. However, the weathering can be accelerated by applying it in a specific way.

Therefore, the Carbon Neutral Initiative will scatter olivine in a location in Saramacca, Surinam. This location is ideal to scatter olivine as the soil conditions are ideal for a relative fast removal of CO₂. Furthermore, enhanced weathering works best in humid tropical circumstances.

Co-benefits

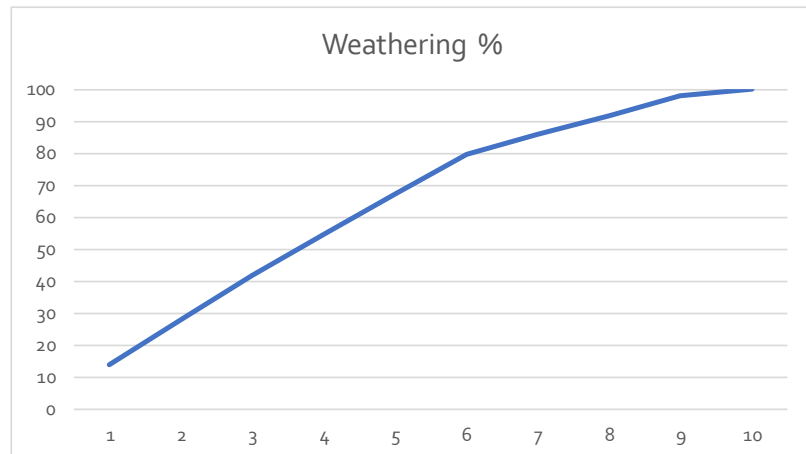
This project helps the Carbon Neutral Initiative to gain experience in order to scale up the removal of CO₂. The Netherlands Institute of Applied Scientific Research TNO conducts further research to the speed of weathering in order to further improve carbon accounting of this carbon removal method.

The enhanced weathering takes place in Surinam and the basalt and olivine is sourced in Surinam and Guyana, transport and scattering of olivine/basalt are being conducted by local companies. As a result more than half of the CORCs-revenues will remain in the local economy benefiting the local population.

Quantification

2,000 tonnes of olivine will be scattered in this location. This will remove 2,500 tonnes of CO₂. The lion's share of the removal takes place within the first years. More can be scattered depending on the funding of the project. *Figures below are preliminary: weathering rate can be faster or slower depending on the soil analysis.*

Year	Weathering %	CORCs
1	14	350
2	28	350
3	42	350
4	55	315
5	67	315
6	80	315
7	86	152
8	92	152
9	98	152
10	100	50



Economic acceleration impact

Carbon removal by means of enhanced weathering can be scaled fast. The pre-commitment helps us to increase the amount of olivine to be scattered and consequently the amount of CO₂ removed. Furthermore, there are viable lessons to be learned from this project in our cooperation with TNO, the Netherlands' Institute of Applied Scientific Research. Main goal of their research is a better understanding of the weathering speed of olivine and basalt, which will help us to identify possibilities to increase weathering speed. Furthermore, it helps us make our future projects more predictable, a prerequisite to scale our carbon removal.

