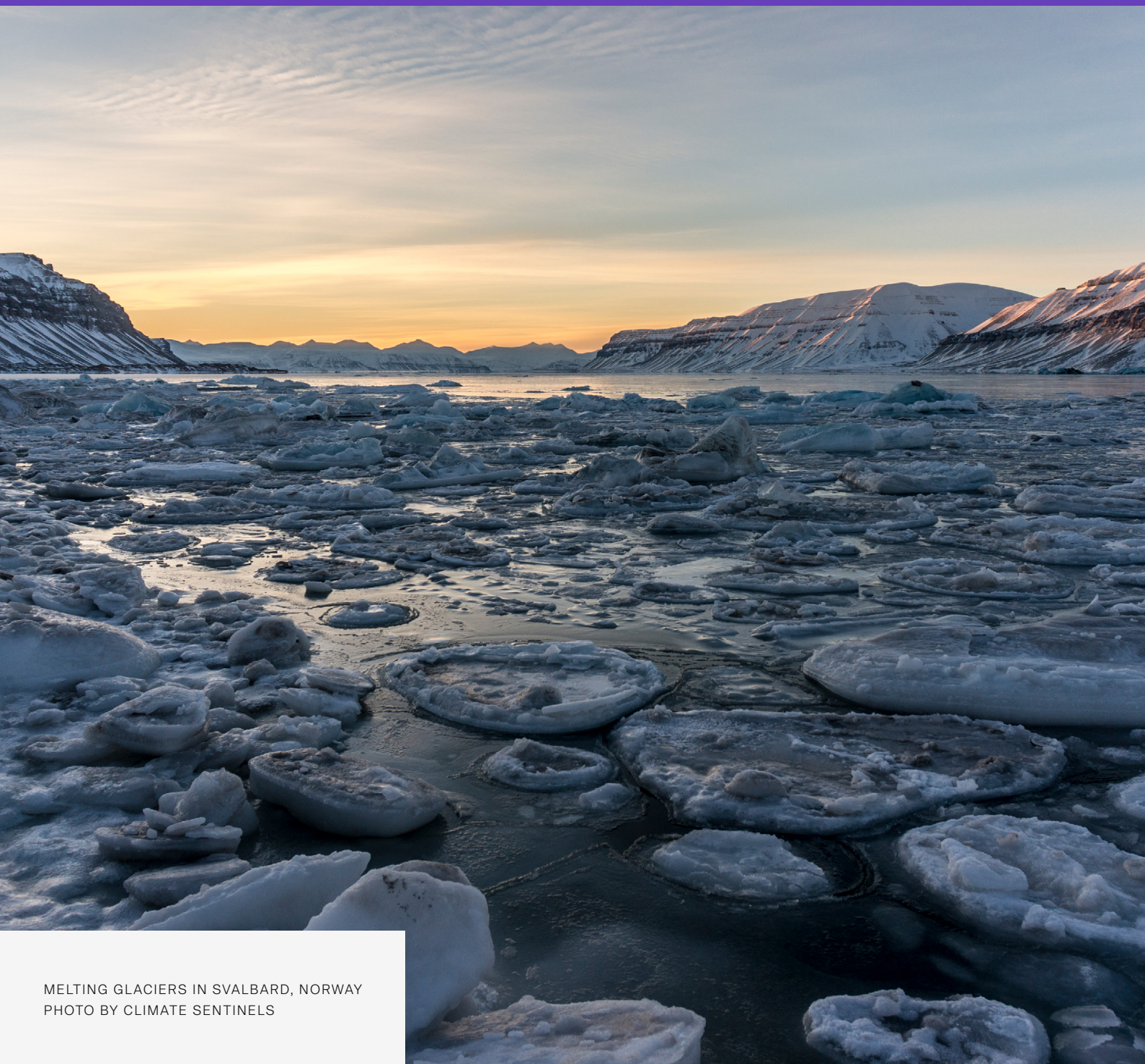
PROGRESS REPORT 2023

Milkywire

The Climate Transformation Fund



MELTING GLACIERS IN SVALBARD, NORWAY
PHOTO BY CLIMATE SENTINELS

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INTRODUCTION

The Climate Transformation Fund in brief

The charitable Climate Transformation Fund, curated by Milkywire, enables companies to fund impactful climate solutions to help reach global net zero. Established in 2021 with the collaboration and support from Klarna, the fund has supported 30 projects to date, receiving contributions from 15 partners in total.

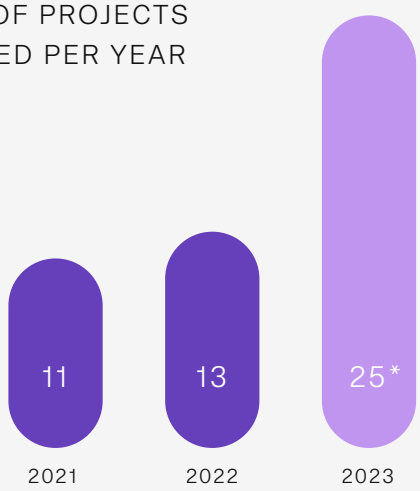
>$8M

is the cumulative amount of money going to projects within the fund since its start

20+

countries across the globe where the fund has projects today

NUMBER OF PROJECTS SUPPORTED PER YEAR



*Support for some projects is still pending for 2023, this is an anticipated number

THE FUND SUPPORTS PROJECTS ACROSS THREE PILLARS

PILLAR 1

NATURE PROTECTING AND RESTORATION

- REFORESTATION
- FOREST PROTECTION

PILLAR 2

DECARBONIZATION

- RENEWABLE ENERGY
- ADVOCACY AND POLICY

PILLAR 3

CARBON DIOXIDE REMOVAL

- DIRECT AIR CAPTURE
- BIOMASS
- ENHANCED ROCK WEATHERING
- OCEAN CO2 REMOVAL

INTRODUCTION

Words from Fund Managers

Businesses' role in reaching global climate targets is becoming increasingly important. Companies have a responsibility to not just reduce their own emissions, but also help finance the solutions that get us to global net zero.

Such external climate support is referred to as Beyond Value Chain Mitigation (BVCM) by the Science-Based Targets Initiative (SBTi). The Climate Transformation Fund (from here on referred to as the CTF) was established as a "BVCM fund" from its inception. Milkywire's vision has always been to create a blueprint of what corporate climate support should resemble, focusing on reaching global targets rather than making offset claims.

The CTF is designed for companies wishing to maximize the impact of their financial contributions to environmental initiatives. We are targeting companies that value an impact-first approach and wish to be best-in-class within their industries. Furthermore, the CTF fosters collaboration and knowledge sharing among donors through the Climate Impact Network, facilitated by regular events. From 2021 to now, over 8 million USD have been distributed to projects selected by the fund. The fund has attracted contributions from a diverse group of companies, including Klarna, Spotify, ING, Avanza, Mentimeter, Northzone, Biogaia, Planet A, Wastebox, Pangaia, Silver Lake, and Steamery.

Most companies donating to the CTF are exploring or adopting an internal carbon fee to finance climate projects. In 2022 Milkywire published a white paper with recommendations on how companies can implement a fee.

The purpose of this report is to evaluate progress of the projects previously supported and introduce new projects added to the fund in 2023. The supported projects, varying significantly in their primary methods, maturity stages, and timelines for carbon sequestration, pose challenges in providing aggregated impact metrics. It is tempting to only focus on "easy-win" projects, following established evaluation protocols that can be directly quantified. It is also clear that some numbers can be misleading and do not always represent actual impact.

As part of our ongoing effort to improve impact evaluation Milkywire started a new collaboration with Gold Standard on beyond value chain mitigation, with first publication expected by the end of 2023.

Lastly, we want to thank the donors of the Climate Transformation Fund for your support.

Robert Höglund
Fund Manager

Natalya Yakusheva Jarlebring
Senior Environmental Lead

INTRODUCTION

How we select & evaluate projects

To solve the climate crisis, a wide range of solutions will need to be deployed, including restoring forests at scale, implementing new energy solutions, and developing technologies for removing and storing CO2 from the atmosphere, and enacting policy changes. With three pillars, the CTF aims to showcase a variety of solutions needed to enable reaching global net zero where BVCM support will make the most impact.

The overall fund ambition is to reach the maximum long-term CO_2 reduction or removal per dollar spent. For the carbon removal pillar, we focus on projects that develop and deploy new technical solutions that lead to a large climate benefit, as well as starting to scale up more mature solutions such as biochar. Within the decarbonization pillar we largely focus on projects that enable scaling of climate policy to become more ambitious, directly focusing on speeding decarbonization of various economic sectors. Another focus within this pillar includes supporting projects that lead to direct substitution of fossil fuels. Under the protecting and restoring nature pillar we look for projects that scale existing nature-based climate solutions by supporting the deployment of ecological and socially sustainable re-greening practices, as well as help stop deforestation and protect high conservation value landscapes.

We look into both “seed” and “scale” types of projects. Where seed funding intends to support new technologies, whereas scale funding means taking established solutions, such as reforestation and renewable energy, and helping to roll them out in instances where external support is highly additional. The advocacy initiatives may follow under both categories depending on the maturity of the agenda in focus.

Our selection is guided by the evaluation framework that builds upon several evaluation criteria such as additionality, permanence, co-benefits, catalytic effect and risk mitigation that help us to approach the selection in a holistic way. We also include a round of consultations with our Advisory group to ensure the diversity of expert opinions represented in the selection process. This year the projects were sourced through the open call for proposal with more than 240 applications received and assessed (read more in Appendix 3).

KEY EVALUATION CRITERIA

Additionality

Will the project yield carbon reduction results that would not have been achieved without the fund contributions?

Permanence

How effective will the project be in long-term carbon removal?

Co-benefits

Other than carbon reduction, what is the positive environmental impact of the project?

Verification

Can we be certain the project will deliver on its claims?

Catalytic effect

How effective will the project be in helping advance and scale-up new technology and research?

Risk mitigation

How well does the project address potential adverse risks associated with it's implementation?

INTRODUCTION

To determine real impact, reporting and post-evaluation are carried out. Reporting and follow up on the projects supported are done to confirm that projects are meeting their expected outcomes; and to evaluate the climate impact of what has been done.

This informs our decision regarding continued support for the projects and helps refine the framework we use for project selection. As the projects supported by the fund progress, and the fund grows we will work on refining and elaborating the ways we measure impact.

It is important to realize that support for all categories is given based on the expected climate impact. For example, some advocacy projects will not result in ambitious policy changes; some carbon removal projects will be less effective or successful as anticipated; but other projects will likely exceed expectations. The best bets for climate impact are inherently uncertain, but at the same time we want to support projects that are likely to happen and to be successful; a way to balance this is to support organizations with strong capabilities and track records.

Projects included in the fund are not guaranteed renewed support. Support is given on an annual basis and re-evaluated every year based on need and performance.

	PILLAR 1: NATURE PROTECTION AND RESTORATION	PILLAR 2: DECARBONIZATION	PILLAR 3: CARBON DIOXIDE REMOVAL
EXAMPLES OF PROJECTS WE SEEK	Implementing sustainable re-greening practices Halting deforestation Safeguarding high conservation value landscapes	Enhancing ambitious climate policies Speeding up decarbonization across sectors Supporting fossil fuel substitution	New technical solutions with high future potential Scaling up existing methods in a very sustainable way
EXAMPLES OF METRICS	# trees planted or regrown # hectares protected # post hoc analysis of avoided deforestation	# of policies influenced # policy outreach events analysis of success and attribution	# tons CO_2 removed and stored Overall success of the carbon removal supplier and the method

CAMBODIAN HORTICULTURE PRODUCER USING HUSK PRODUCTS
PHOTO BY ROB SAVAGE

Pillar 1: Nature protection and restoration

Protecting and restoring nature is of paramount importance for addressing climate change. Deforestation and forest degradation result in substantial carbon emissions as forests are destroyed. Preserving the carbon stored in existing ecosystems and restoring carbon to areas that have lost it are critical steps in mitigating climate change. These actions not only help reduce greenhouse gas emissions but also have significant co-benefits for both human societies and biodiversity.

To effectively combat climate change through forest conservation and restoration, increased climate finance is essential. Adequate funding in this area will enable the implementation of necessary measures to safeguard and restore ecosystems, which, in turn, will contribute significantly to global climate resilience and carbon sequestration efforts.

7 PROJECTS SUPPORTED 2021-2023

3 NEW PROJECTS IN 2023

IMPACT IN NUMBERS

40,000

hectares of community-designated Indonesian forest are covered by forestry licenses. By reducing deforestation in the area, **200,000 tonnes of CO_2 could be avoided every year.**

WARSI

22,000

trees have been restored by local farmers in the Singida region, projected to store **4,258 tonnes of CO_2 over the next 20 years.**

Justdiggit

2,956

families are reached by the Plant with Purpose project in the Sanya River, Tanzania, enhancing local livelihoods through improved agricultural and tree-planting practices.

Plant with purpose

PILLAR 1: NATURE PROTECTION AND RESTORATION

Warsi

SUPPORTED IN 2021, 2022 & 2023 (PENDING)

BACKGROUND

Indonesian Conservation Community WARSI is one of the oldest non-profit organizations in Indonesia addressing the issues of deforestation, triggered by the land conversion and clearing out rainforest for palm oil plantations or livestock grazing. WARSI in Indonesia helps local communities get forestry licenses for their land, so they have the legal rights to it and can prevent it from being cut down. WARSI also provides capacity building and training so communities can sustainably manage and keep track of their forests.

Supporting local communities in acquiring the right to their land is a method that has proven successful in reducing deforestation. WARSI has a long track record of successfully helping local communities access forestry licenses to protect and manage their lands. They are also a long-standing partner of the Rainforest Foundation Norway, one of the world's leading NGOs engaged in rainforest protection. Our support enables them to create new projects and protect over 40,000 hectares through community land tenure in 6 villages, as well as to increase the capacity of local communities to manage their forests.

PROGRESS

The key achievements from the project to date include successful expansion of the work to 4 villages in 2022 and further extended assistance to 6 villages in 2023. The villages' forestry licenses cover over 40,000 hectares of forest, containing up to 70 million tonnes of CO_2. By reducing deforestation in the area, 200,000 tonnes of CO_2 could be avoided every year, with a long-term effect of the project in the millions of tonnes of CO_2. Long term measurements of the effect of the program on deforestation are planned to be undertaken.

Additionally, CTF support enabled WARSI to increase its organizational capacity and presence on the ground from 4 staff members to 11. WARSI managed to advance its work with data collection, necessary to establish village boundaries, which is a first step for the legal recognition, as well as the village information system necessary for forest management plans. The project has trained local villagers who enter and maintain data online in the village information system.

In a recent landmark development, Warsi has successfully established a collaboration agreement with the Malinau Regency Government. An essential step that will simplify cooperation with local government and implementation of various field activities and initiatives.

Several field activities were focused on trust building with communities. This helped strengthen local community engagement and ownership, where they actively contribute with ideas on project development and implementation. Their work is widely acknowledged, getting recognition in the local media, as a successful example of a sustainable social forestry model. WARSI also looks at ways to diversify their income sources, introducing tree adoption programs to the general public.

The continued support will lead to further engagement with more villages and protection of valuable rainforests, as well as empowering local communities to adopt sustainable social forestry model.

THE GOVERNMENT OF MALINAU SIGNS A MEMORANDUM OF UNDERSTANDING WARSI
PHOTO BY EMMY PRIMADONA

PILLAR 1: NATURE PROTECTION AND RESTORATION

Plant with Purpose

SUPPORTED IN 2022 & 2023 (PENDING)

BACKGROUND

Plant with Purpose is a non-profit organization that works with rural communities, implementing initiatives related to nature restoration and regenerative agricultural practices along watersheds, to improve crop yields, to bolster food sovereignty, and to improve water quality and access. They do it while empowering communities to find a path to self-sufficiency and resilience through so-called community Purpose Groups.

CTF support contributes to the Plant with Purpose project in the Sanya River, Tanzania, with goals to plant more than 230,000 trees, support 119 new and existing Purpose Groups and engage with 39 schools. This project showcases the positive impact of more trees and improved agricultural practices on local livelihoods, as well as empowers communities to take charge, which creates conditions for sustainable long-term community engagement and maintenance of results.

PROGRESS

The organization achieved significant milestones, including the successful planting of 237,008 trees by partner farmers despite persistent drought challenges, highlighting the resilience and commitment of both farmers and staff. They also expanded their impact by developing three new and reinforcing 36 public school partnerships, fostering collaboration with teachers and students to establish on-site demonstration farms and tree nurseries, ultimately reaching hundreds of families. Furthermore, they launched six new Purpose Groups and strengthened 115 existing groups, involving a total of 2,956 families.

They are yet to precisely quantify the CO_2 uptake resulting from their activities in Sanya River. However, assessment conducted for a similar program implemented in Wona watershed, Tanzania between 2005 - 2019, indicated that Plant With Purpose program activities have generated 6 times the amount of biomass carbon versus the control site at about 13.87 tonnes of carbon per hectare, demonstrating very promising and cost-effective results. The continued support would help Plant with Purpose expand their environmental and community work in Sanya River, leading to a more resilient nature and society.

TREE NURSERY
PHOTO BY PLANT WITH PURPOSE

PILLAR 1: NATURE PROTECTION AND RESTORATION

Justdiggit

SUPPORTED IN 2021, 2022 & 2023 (PENDING)

BACKGROUND

Justdiggit together with their partner LEAD Foundation is on a mission to regreen Africa through promoting Farmer Managed Natural Regeneration (FMNR) or Kisiki Hai method, a simple but very effective natural method to grow the remaining tree stumps into large mature trees. Trees that are part of this treecovery process grow fast because farmers select, prune, mark and protect trunks with an established root system of older trees that are still alive. Once mature, these trees contribute to more water remaining in the ground and create shade for plants to grow, increasing agricultural productivity.

The FMNR method used by Justdiggit avoids many pitfalls of traditional reforestation methods, since the restored trees rely on big and old root systems which have been built by these trees over the years, prior to being cut, making them stronger and more resilient. By supporting alternatives to traditional reforestation that relies on seedlings, Justdiggit provides almost “no-cost” solutions to farmers who want to regreen their land, bringing positive effects on incomes, biodiversity, and carbon capture. Justdiggit has an impressive track record and is working long terms with farmers, following up their projects for 20 years.

PROGRESS

During the reporting period with support from the CTF Justdiggit managed to expand their work in the Singida region, in addition to engagements with farmers in Dodoma region, central Tanzania thanks to our prior funding.

An independent report from the organization Face The Future in October 2022 showed that, with more trees recovered than was captured in manual documentation, Justdiggits efforts are likely more successful than previously thought.

With respect to the progress of the project we funded in the Singida region, more than 22,000 trees have been realized so far, resulting in storing of 4,258 tonnes CO_2 in the next 20 years. Overall, our support is expected to recover more than 100,000 trees, which will store close to 20,000 tonnes CO_2. This indicates overall successful performance of the program.

Training farmers in such methods helps to empower them to make more informed and sustainable decisions over the management of their land. In order for Justdiggit to keep growing and meet its overarching goal of enabling 350 million subsistence farmers to regenerate their land, they need continuous funding to engage in additional programs.

TREECOVERY IN TANZANIA
PHOTO BY JUSTDIGGIT

PILLAR 1: NATURE PROTECTION AND RESTORATION

WithOneSeed

SUPPORTED IN 2021

WithOneSeed is a reforestation project that pays small-scale farmers in Timor Leste to grow and maintain trees on their land, with each tree tracked via an RFID chip. This Gold Standard certified initiative has significantly increased local incomes and sustainably captures CO_2. We supported WithOneSeed by purchasing and retiring 3,366 tonnes of ex-post carbon credits, meaning the carbon paid for is already sequestered in trees.

Retirement note in GS registry:
https://registry.goldstandard.org/batch-retirements/details/89396

https://registry.goldstandard.org/credit-blocks/details/228241

New projects in 2023

LANDESA

Mangroves are important carbon sinks and among the most degraded ecosystems with high restoration potential. Landesa, a global development organization, strives to secure land rights for vulnerable populations, recognizing their significance for poverty reduction, environmental sustainability, and peace. CTF funds Landesa's project that aims to protect and restore mangrove forests in the Bay of Bengal, and engages in policy dialogues on promoting legal rights of small-holder forest owners across Southeast Asia. This project focuses on securing forest tenure, sustainable land management, reforestation, and afforestation. Landesa collaborates with six regional governments to advance sustainable mangrove management, blending on-the-ground restoration efforts with advocacy for secure tenure rights. Landesa's comprehensive strategy in the region integrates restoration efforts with advocacy for policy change. Their commitment to advocating for systemic reforms at the national level not only tackles issues of poverty but also addresses critical environmental concerns, including degradation and deforestation. Landesa's hands-on approach involves community assessments, forest mapping, and locally driven climate adaptation initiatives. This inclusive method ensures that the local communities and governments are active participants in the process, safeguarding the sustainability and long-lasting impact of their projects.

Their focus on land rights lays the groundwork for other development efforts around climate justice, food security, and gender equality benefiting coastal communities' livelihoods and mangrove health.

WOMAN PLANTS RICE IN MANGROVE BORDERLANDS IN WEST BENGAL, INDIA
PHOTO BY LANDESA

PILLAR 1: NATURE PROTECTION AND RESTORATION

New projects in 2023

CEIBO ALLIANCE

The Ceibo Alliance, an Indigenous-led organization operating in the Upper Amazon (Ecuador, Colombia, and Peru), builds power with Indigenous communities to combat deforestation and preserve vital carbon sinks across their territories. They map and monitor forests, assisting community land patrols in detecting and deterring rainforest-harming activities. Since 2015, they have safeguarded 700,000 hectares and secured legal ownership of 100,000 hectares. CTF funds the model's expansion to protect almost 800 000 hectares of rainforest in the coming year.

This project equips Indigenous-led patrols from 13 Upper Amazon communities to gather evidence of illegal activities for court use.

Ceibo Alliance's approach is rooted in their proven and effective strategy of empowering Indigenous communities to take ownership of and protect their ancestral lands. By granting them additional funding, CTF aims to amplify the impact of this successful model. This expansion will lead to the protection of more rainforest and sequestration of a larger volume of carbon.

Furthermore, the grant ensures the long-term sustainability of these efforts, fostering a lasting positive influence on both environmental conservation and Indigenous rights. Ceibo Alliance's work exemplifies a holistic approach that not only benefits the environment but also respects the rights and autonomy of Indigenous communities.

INDIGENOUS LED CONSERVATION
PHOTO BY CEIBO ALLIANCE

PLANETE URGENCE

Planète Urgence is a dynamic global organization dedicated to environmental conservation and community development, with a notable presence in Indonesia. Their work spans various critical areas, including the preservation of mangroves and coastal trees, fostering sustainable aquaculture practices, and enhancing the economic well-being of local communities.

The supported project is specifically tailored to combat the ecological harm caused by shrimp farming and deforestation in the fragile ecosystems of Borneo's Mahakam Delta and Adang Bay. This multifaceted initiative includes essential components such as environmental education, the establishment of community mangrove nurseries, and the provision of training in sustainable aquaculture practices. Through these concerted efforts, Planète Urgence aims to not only mitigate the environmental damage but also empower the local communities to adopt more sustainable livelihood practices.

Indonesia has remarkable biodiversity and could play a pivotal role in mitigating climate change, particularly through the restoration of degraded mangrove ecosystems. However, estimates indicate that without interventions, as much as 600 000 hectares of mangroves could be lost to shrimp farming by 2035.

Planète Urgence's way to approach the issue is not only reactive but also proactive, addressing the root causes of deforestation while offering sustainable alternatives that simultaneously benefit the ecosystem and the local economy.

Moreover, the project's emphasis on education and capacity building is a key factor in ensuring its long-term impact. By empowering local communities with knowledge and skills, it establishes a foundation for sustainable practices and fosters a sense of ownership and responsibility for the environment.

Read more about the scientific evidence supporting this pillar in **Appendix 4**

Pillar 2: Decarbonization

There is a need to support efforts that can reduce emissions. Change is not happening fast enough on its own. A high-impact way of accelerating emission reductions is by supporting effective organizations influencing decision-makers to implement more ambitious climate policies. Another way is to support innovation in new fossil-free energy solutions in cases where market forces are not providing the necessary funds.

7 PROJECTS SUPPORTED 2021-2023

2 NEW PROJECTS IN 2023

IMPACT IN NUMBERS

50

companies, with a combined annual revenue of **$51 billion**, supported The Deploy report, reinforcing the call for the adoption of clean energy technology.

Beyond Zero Emissions

700

megawatts coal-fired power plant in Bosnia and Herzegovina will not become operational due to suspension of permit issuance.

Human Rights Watch

55+

major players attended a New Energy Nexus roundtable, offering cleantech startups a rare opportunity for direct interaction with government officials.

New Energy Nexus

PILLAR 2: DECARBONIZATION

Clean Air Task Force

SUPPORTED IN 2021, 2022 & 2023 (PENDING)

BACKGROUND

Clean Air Task Force (CATF) is a non-profit organization dedicated to reducing atmospheric pollution and global warming. CTF funds part of their Africa Energy & Climate Innovation Program that aims to lay the foundation for a clean energy future in Africa, focusing on local needs and enabling growth and economic development. CATF's approach goes beyond small-scale solutions like microgrids for household consumption, aiming to influence clean-energy development in Africa on a larger scale.

CATF was included in the CTF due to its long history of successful policy work in reducing emissions and impressive track record advocating for policy change. Their focus on clean energy access in a high-growth scenario in Africa needed for economic and social development, is an under-prioritized area that brings important aspects of justice to the regional energy transition agenda and in need of more research and advocacy. CATF is also highly recommended by organizations like Founders Pledge and Giving Green.

PROGRESS

In 2023, CATF made significant strides in its program. They published a novel study on Africa's energy transitions, highlighting the disconnect between current energy transition strategies and Africa's prevailing strategies. This paper reviews the current literature on Africa's energy transition and highlights the need for a more holistic approach to energy transition modeling in Africa, considering both climate change and socioeconomic development. The paper also emphasizes the importance of including African researchers in the process, given that most of the existing research lacks local authorship and fails to consider crucial technologies for a low or zero-carbon transition.

CATF also established several partnerships and agreements such as with major power utilities and industry associations to enhance utility performance and implement industrial decarbonization roadmaps. The progress is well in line with expectations.

Looking ahead, CATF plans to deepen their work in catalyzing grid expansion and improving utility performance as well as working on electric mobility and industrial decarbonization. CATF also plans to continue their global engagement, hosting Africa-focused events and publishing first-of-its-kind research on energy transitions in Africa. Their efforts are expected to contribute significantly to Africa's clean energy development.

PANEL DISCUSSION AT COP27
PHOTO BY CLEAN AIR TASK FORCE

PILLAR 2: DECARBONIZATION

New Energy Nexus

SUPPORTED IN 2022 & 2023 (PENDING)

BACKGROUND

New Energy Nexus (NEX) is a global non-profit organization dedicated to fostering innovation and adoption of clean energy technologies.
We are supporting NEX in Indonesia to establish a policy and regulatory framework that cultivates the growth of clean energy technology startups.

NEX has a good global track record as well as strong results from supporting clean energy startups in Indonesia. As energy needs in Indonesia continue to rise alongside an expanding coal sector, the intervention provided by NEX is both timely and crucial. To facilitate investment in decarbonization, the business environment for clean energy companies needs to improve. NEX contributes to this improvement by creating a space for a dialogue between startups, policy-makers and investors.

PROGRESS

In 2023, through the support of the CTF, NEX made significant strides in bridging the gap between clean energy startups and policy-making entities. They engaged intensively with multiple ministries and government agencies, both at national and sub-national levels, and hosted a roundtable discussion in Jakarta that brought together a huge number of stakeholders from diverse backgrounds. This event provided a unique platform for cleantech startups to directly interact with government officials, a rarity in the current landscape.

The project also saw a successful increase in the visibility of cleantech startups in Indonesia, with meaningful conversations about government support for the cleantech startup ecosystem in the country. This has led to a positive shift in the awareness and understanding of the role of cleantech startups in the Indonesian energy sector. In 2024 NEX plans to continue its policy advocacy activities and expand its work to more provinces.

ROUNDTABLE DISCUSSION IN JAKARTA
PHOTO BY NEW ENERGY NEXUS

PILLAR 2: DECARBONIZATION

Human Rights Watch

SUPPORTED IN 2021, 2022 & 2023 (PENDING)

BACKGROUND

Human Rights Watch (HRW) is an international non-governmental organization that focuses on advocating for human rights, including the right to a healthy environment, and holding governments and other entities accountable for human rights abuses. HRW's work in the context of fossil fuels involves investigating and exposing their negative impacts on human rights and health, advocating for a transition to cleaner energy sources, conducting research in affected regions, and engaging in global advocacy efforts to better regulate the industry, end public financing for it, and phase out the use of fossil fuels. HRW's goal is to protect human rights and promote environmental sustainability in the face of the challenges posed by fossil fuel industries.

HRW is a highly capable research and advocacy organization with a multifaceted approach to reducing dependency on fossil fuels, including a novel focus on exposing the effects of fossil fuels on human health. They had encouraging progress in 2022 and have a significant funding gap for their fossil fuel-related work.

PROGRESS

Our support has enabled the expansion of Human Rights Watch's capacity to work on fossil fuels, including hiring a new senior researcher on this topic. In the reporting period, HRW produced 21 publications related to the human and environmental costs of fossil fuels in countries such as Australia, Bosnia and Herzegovina, Iraq, Tanzania, Uganda, the United Arab Emirates (UAE), and the United States. These publications received significant media attention and official responses from the targeted companies and officials. For example, the report "'Our Trust is Broken': Loss of Land and Livelihoods for Oil Development in Uganda," concerning the development of the East African Crude Oil Pipeline (EACOP), was featured in more than 300 news stories worldwide.

In addition to media outreach, HRW supported its partners through high-level advocacy meetings with decision-makers across Europe and the US to advance dialogues on the issues at focus. HRW conducted successful advocacy meetings with officials in Bosnia and Herzegovina that resulted in the suspension of the issuance of a permit required for a new 700MW coal-fired power plant, and followed by the adoption of a series of laws on renewable energy that will facilitate a quicker transition away from coal. In the US, HRW supported community leaders in Louisiana by amplifying their landmark lawsuit against the government for building new industrial facilities in predominantly Black communities in St. James Parish, known as a part of the "Cancer Alley" due to a heavy presence of industrial plants, primarily fossil fuel and petrochemical operations. The lawsuit seeks to ban any new fossil fuel, petrochemical, or plastics operations in the community—a first-of-its-kind demand in the US and a model for other communities to follow.

Looking ahead, HRW intends to continue their ongoing advocacy work and expand its research into oil-producing closed countries like the UAE and Iraq.

DEMONSTRATION
PHOTO BY ANTONIA JUHASZ

PILLAR 2: DECARBONIZATION

Beyond Zero Emissions

SUPPORTED IN 2022 & 2023 (PENDING)

BACKGROUND

Beyond Zero Emissions (BZE) is an independent think-tank working on net-zero pathways for Australia, highlighting pathways that show how the green transition benefits the economy. The Climate Transformation Fund provides core support to BZE to strengthen its organizational capacity, research and advocacy work.

Australia is a highly fossil fuel dependent country, and BZE is one of the few organizations demonstrating a track record in bringing about real change. Our support helps them expand their work and increase the chance that well-crafted policy proposals win support. BZE is also one of Giving Green's top recommendations for climate advocacy organizations to support. They have been successful in the past, including implementing strategies to reduce emissions and getting investments in renewable energy.

PROGRESS

BZE has made significant progress in its strategic plan for 2021-24, focusing on four key pillars: ambitious research, influential engagement, compelling communications, and a healthy organization. In terms of research, BZE has published two notable reports in the past year.

The Deploy report, released in October 2022, highlighted the potential for an 81% reduction in emissions by 2030 through the rapid deployment of six cleantech products. This report gained support from 50 companies with a combined annual revenue of $51 billion, reinforcing the call for clean energy technology adoption. Additionally, the National Supergrid report, released in February, demonstrated the benefits of fast-tracked investment in Australia's grid, including significant energy savings for households and infrastructure for a $333 billion green export opportunity. This research informed BZE's contributions to the 2023 Federal Budget and parliamentary inquiries.

BZE has worked to elevate the quality of the emissions reduction debate in Australia. Notably, the organization sponsored the Hunter Innovation Festival. This initiative connected regional and federal political leaders with clean tech manufacturers, contributing to the shift toward a cleaner economy. BZE's engagement efforts also extended to the global stage, as they were approached by the Commonwealth Government to showcase Australian cleantech manufacturers at COP27 in Egypt, bolstering the reputation of Australian cleantech on the international stage.

In addition to research and engagement, the organization has effectively communicated its findings, securing strong media coverage and making a substantial impact in their target audience. These efforts position BZE as a thought leader and advocate for a greener future in Australia. CTF's contribution as core funding has enabled BZE to hire staff and engaged technical consultants to provide targeted skills to deliver both high quality research and undertake advocacy and broader community engagement, as well as to undertake a cross-organisational collaboration with other think tanks.

Looking ahead, BZE plans to continue its engagement efforts through the Cleantech Hub focus in 2023-24, supporting their work will maintain a critical momentum in pressuring the Australian government to implement more ambitious climate policies.

BZE STAFF AND DIRECTORS
PHOTO BY BEYOND ZERO EMISSIONS

PILLAR 2: DECARBONIZATION

atmosfair - Biomass electricity on Mafia Island

SUPPORTED IN 2021

In 2021, CTF supported atmosfair and Kisiwa Farming Limited project on establishing a pilot biomass power plant on Mafia Island, Tanzania to replace the island's dependence on diesel generators and directly displacing fossil fuel emissions. The facility has been successfully installed, but due to difficulties in securing a power purchase agreement, less electricity was sent to the grid than expected. This has also generated less emission reductions in the pilot project than planned. So far about 43,5 tonnes CO_2 has been avoided and is expected to reach at least 250 tonnes (about one third of total reduction could be directly linked to CTF support).

We are looking into using the remaining CTF donation to develop the coconut processing capacity on the island and installing a pyrolyser to produce biochar for carbon soil sequestration and fertilisation, to further reduce CO_2 emissions and promote sustainable development on Mafia Island.

COCONUTS READY TO BE PROCESSED INTO COCONUT OIL
PHOTO BY ANNIKA RICHTER, ATMOSFAIR

PILLAR 2: DECARBONIZATION

New projects in 2023

INDUSTRIOUS LABS

Industrious Labs is a new organization dedicated to decarbonizing heavy industry, with a specific focus on the aluminum, cement, steel, and waste sectors. Shifting from carbon-intensive Portland cement to existing, low-carbon technologies can significantly reduce emissions in this sector. Their aluminum campaign aims to decarbonize the U.S. primary aluminum industry, leading to a substantial reduction in its CO_2 footprint. Industrious Labs prioritizes four interconnected approaches to reducing emissions through an environmental justice lens: advocacy campaigns, data and analysis, movement building, and strategic communications. Heavy industries in the Global North significantly contribute to global carbon emissions, despite the fact that lower carbon emitting technologies already exist as an alternative for many industrial production processes. There is a pressing need to accelerate the adoption of these low carbon technologies and decarbonization of heavy industries. Unfortunately, progress in this area has been slow, plagued by the notion that industry is “hard to abate.” By endorsing Industrious Labs, an organization dedicated to advocating for systemic changes in policy and financing within these sectors, we can play a pivotal role in expediting the reduction of carbon emissions. Industrious labs is also one of the top recommendations from Giving Green.

CARBON MARKET WATCH (CMW)

CMW is a prominent organization striving to influence EU carbon removal policies. In the ongoing legislative revision, there's a risk that the EU might permit low-durability measures like afforestation and soil carbon as substitutes for fossil emission reductions. CMW proposes a novel approach to monitor the EU's carbon removal targets, preventing the risk of discouraging mitigation efforts due to the absence of distinct reduction and removal targets. This approach aims to achieve near-zero emissions for the benefit of both the climate and society. Given the EU's prominent role as a global leader in emission reduction commitments, it is crucial to ensure that these ambitious promises translate into concrete decarbonization actions. Policymakers play a central role in this process, and holding them accountable for delivering on their commitments is a potentially influential pathway towards achieving emission reduction goals. Therefore, supporting CMW, an organization actively working to influence EU decision-making on carbon removal and advocating for effective monitoring of carbon removal targets, is a strategic and impactful choice in advancing the EU's efforts toward global net zero goals.

Read more about the scientific evidence supporting this pillar in **Appendix 4**

Pillar 3: Carbon dioxide removal

Carbon dioxide removal (CDR) is one of the most crucial solutions to reach and maintain net-zero emissions and limit global warming. To counterbalance fossil emissions from the long carbon cycle, the carbon removed needs to be stored durably. While solutions for durably removing carbon are still nascent, pre-purchasing carbon removal from startups can help kickstart the sector, making it an affordable and climate-relevant solution in the future. Our approach has been validated by Giving Green, which recommends the CDR part of the CTF.

P21-24 DIRECT AIR CAPTURE
P25-30 BIOMASS
P31-33 ENHANCED ROCK WEATHERING
P34 OCEAN CO_2 CAPTURE

16 PROJECTS SUPPORTED 2021-2023

8 NEW PROJECTS IN 2023

IMPACT IN NUMBERS

7

projects where we've been **early buyers,** such as Heirloom, demonstrating the power of initial investment to enable significant business scaling.

2M

tonnes of CO_2 will be removed annually by Heirloom and Climeworks as part of the U.S. Department of Energy's Regional Direct Air Capture Hubs program, for which they were selected and will receive up to **$1.2 billion** in funding.

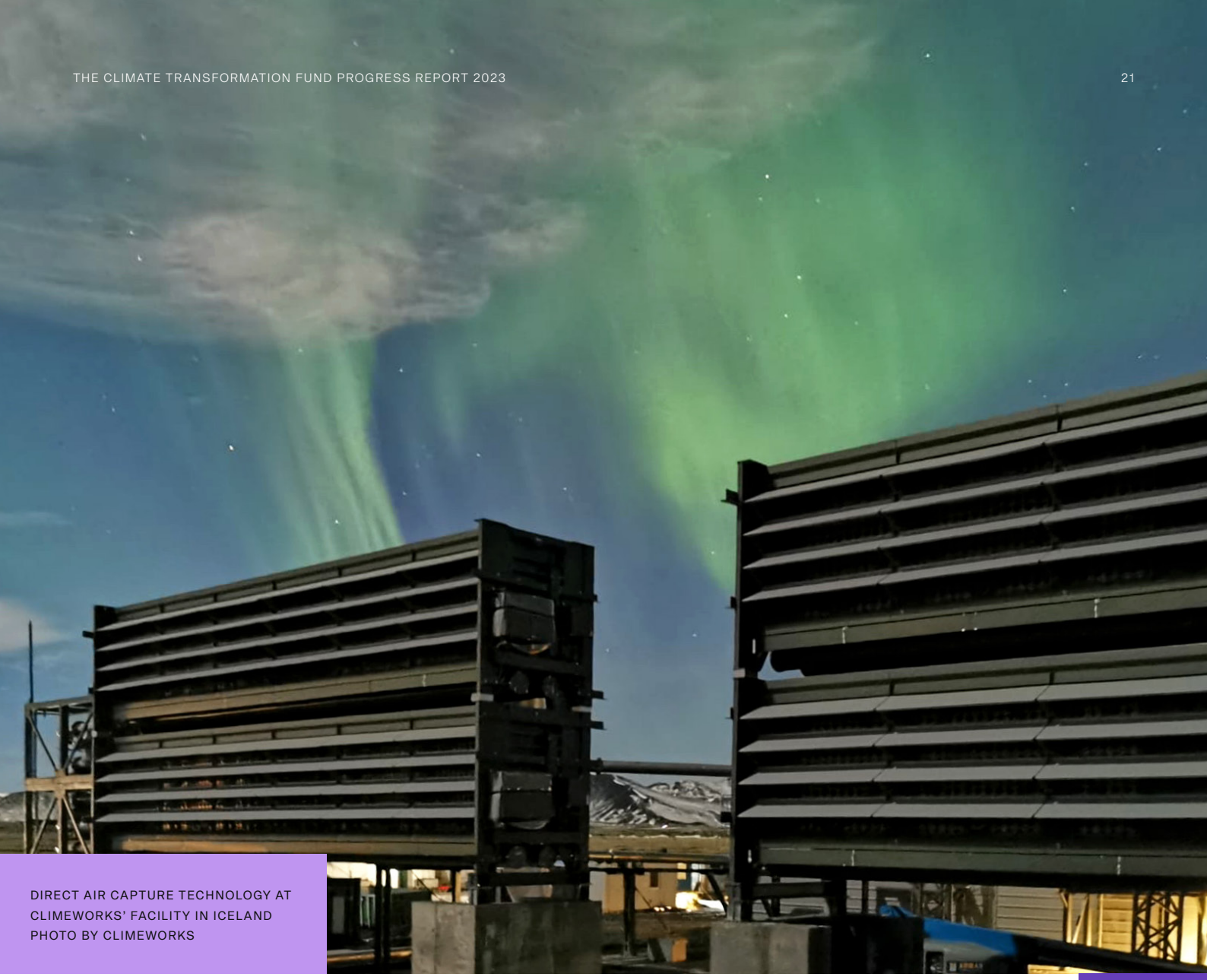
7,000

tonnes of biochar can be produced annually at MASH Makes' first commercial facility in Udupi, India, which has successfully commenced operations. This equates to approximately **20,000 tonnes** of CO_2 removed per year.

MASH Makes

23,988

CDR tonnes purchased so far



DIRECT AIR CAPTURE TECHNOLOGY AT CLIMEWORKS' FACILITY IN ICELAND
PHOTO BY CLIMEWORKS

PILLAR 3: CARBON DIOXIDE REMOVAL

Direct air capture

Direct air capture (DACs) refers to taking CO_2 from the air to then store it permanently underground. The method is scalable and not dependent on rare materials, but very energy intensive. The DACs startups selected for the CTF are working on new tweaks for how the energy consumption can go down and the process become cheaper.
We are the first buyer of carbon dioxide removal for most of them, enabling the companies to take their technology from a prototype to a first-of-a-kind facility, starting to remove carbon in the hundreds of tonnes in the next few years.

PILLAR 3: CARBON DIOXIDE REMOVAL

Heirloom

SUPPORTED IN 2021 AND 2022

BACKGROUND

Heirloom, one of the leading DACs companies in America, builds low-cost Direct Air Capture technology that rapidly accelerates the natural processes that enable limestone to absorb CO_2 from the air from a time-span of years to days. The process starts by maximizing the mineral surface area exposed to the ambient air. Then, after absorbing CO_2 like a sponge, the minerals are heated, releasing the CO_2 from the mineral to be captured and stored permanently. They were selected for the fund due to their scalable, potential low-cost technology.

PROGRESS

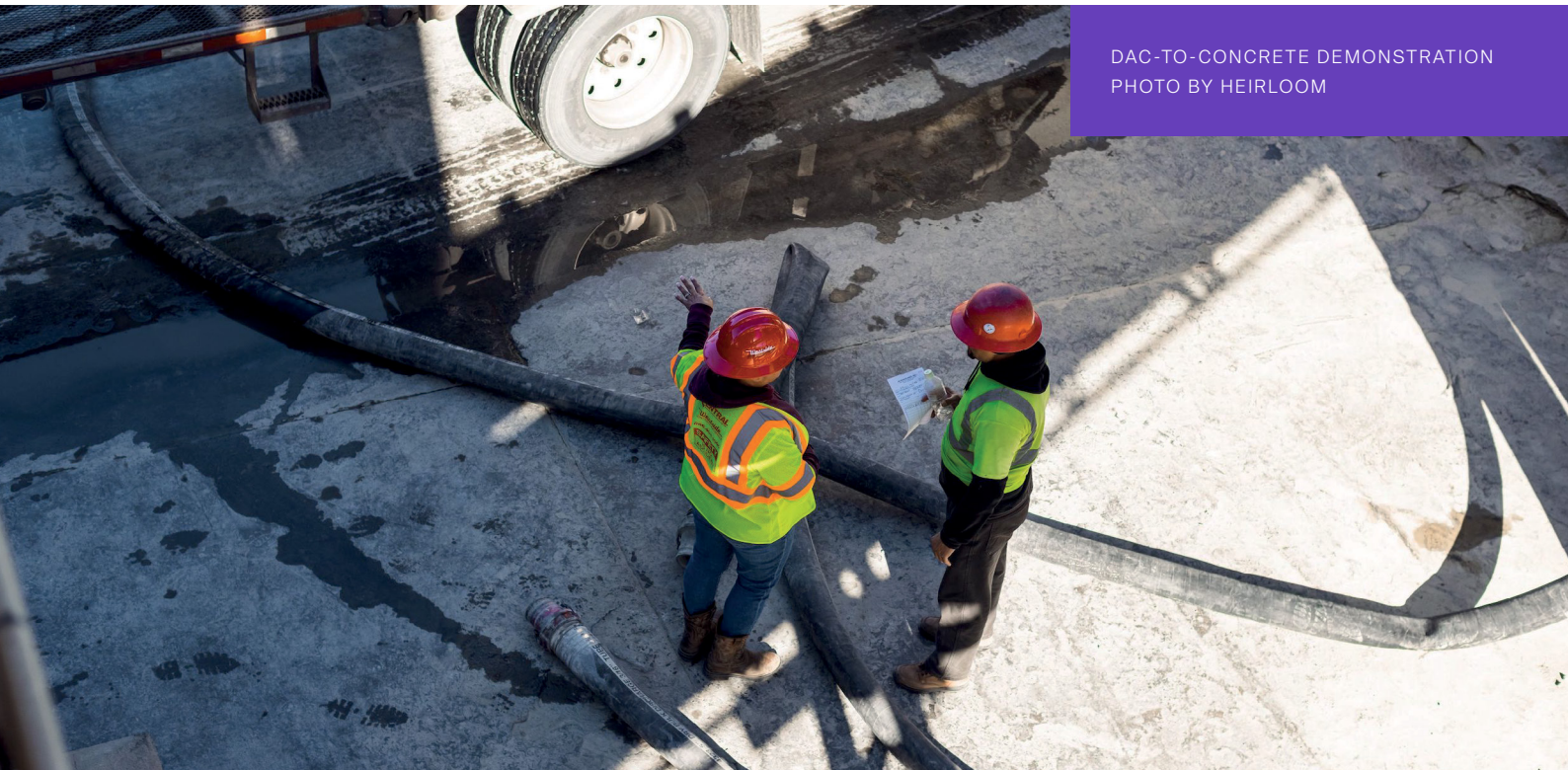
Over the reporting period, Heirloom has made significant strides.

Together with Climeworks, Heirloom was two out of three DACs companies selected for the U.S. Department of Energy Regional Direct Air Capture (DAC) Hubs program. The three projects will together be rewarded with up to $1.2 billion and have the capacity to remove 2 million tonnes per year. This is a huge vouch of confidence showing that Heirloom has a high quality solution and sustainable approach to deploying it.

In partnership with CarbonCure, Heirloom also became the first in the world to store DACs-removed CO_2 in concrete, marking a significant milestone in the field of carbon capture and storage. Lastly, Heirloom has made significant progress in moving its technology down the cost curve.

Support from the early buyers like the CTF has played an important role in enabling Heirloom to achieve these outcomes. This support has not only provided the necessary capital to scale up the organization's CO_2 removal capabilities but has also boosted its credibility in the field.

The carbon removal we purchased from Heirloom in 2021 and 2022 will be permanently stored in concrete or underground, and delivered from some of Heirloom's first direct air capture facilities by 2026 at the latest.



DAC-TO-CONCRETE DEMONSTRATION
PHOTO BY HEIRLOOM

PILLAR 3: CARBON DIOXIDE REMOVAL

Climeworks

SUPPORTED IN 2021

Climeworks, one of the leading DACs companies, was supported through the CTF in 2021 due to their high quality technology. They have continued to make progress, deploying the world's first commercial direct air capture plant, Orca, in Iceland at the end of 2021 and are developing several new facilities. Together with Heirloom they were two out of three DAC companies selected for the U.S. Department of Energy Regional Direct Air Capture (DAC) Hubs program, a testament to their technology and professionalism.

The carbon removal we purchased in 2021 will be delivered later this decade.

DIRECT AIR CAPTURE TECHNOLOGY AT CLIMEWORKS' FACILITY ORCA IN ICELAND
PHOTO BY CLIMEWORKS

New projects in 2023

OCTAVIA CARBON

Kenya-based Octavia Carbon – the Global South's first Direct Air Capture company – designs, builds and deploys DACs technology. Their DACs approach uniquely leverages Kenya's geothermal energy, geology, talent and lower cost of production to radically accelerate DACs down the cost curve. Their vision is to make Kenya the leading hub to filter CO_2 from air and store it permanently underground in Kenya's basaltic geology.

Octavia shows that direct air capture is not only an industry for the global north. Carbon removal can become an important export for countries like Kenya, lowering the costs of removal and fostering development.

We are the first buyer of carbon removal from Octavia and our purchase enables them to build several new DACs machines and deploy them in Kenya.

DIRECT AIR CAPTURE TECHNOLOGY
PHOTO BY OCTAVIA CABON

PILLAR 3: CARBON DIOXIDE REMOVAL

New projects in 2023

MISSION ZERO

Mission Zero has developed a breakthrough technology that combines CO_2 capture and mineralization in one process. The 'Medusa' Process is simple and energy efficient compared to other CDR methods and has the potential to become among the cheapest DACs solutions. Mission Zero's direct air mineralisation process captures atmospheric CO_2 and turns it into rock in a matter of days. This is the second carbon removal process developed by Mission Zero, which has already piloted an electrochemical direct air capture technology.

This new process shows great potential to radically lower costs and energy consumption of direct air capture. We are the first buyer of carbon removal through the new process. Through our purchase, Mission Zero can continue developing the technolgy and perform the first real world removal with it.

PARALLEL CARBON

Parallel Carbon is developing among the world's most affordable processes for DACs while also producing clean hydrogen for industrial decarbonization. They passively capture CO_2 from air with a mineral sorbent. To extract the CO_2 for permanent storage, they regenerate their mineral sorbent with an ambient temperature water treatment process facilitated by electrochemistry. By utilizing an electrolyzer, they are creating a capital-efficient process to unlock multiple climate change mitigation pathways.

We see Parallel Carbon's approach as very promising. They have designed the process to operate with intermittent renewable electricity, making it easier to scale up, deploy in more geographies, and to minimize costs.
They also produce hydrogen in the process, another valuable product in the green transition.
We are the first buyers of carbon removal from Parallel Carbon and our purchase makes it possible for them to build a first-of-a-kind facility.

TERRAFIXING

Canadian TerraFixing captures CO_2 from the air via a novel DACs process that employs adsorption technology. It is designed to operate in cold, remote locations where extracting CO_2 from the air is easier and cheaper, and where the scalability of renewable wind power is immense.

The greatest challenge with DACs is likely electricity consumption. The electricity must be cheap, clean and the DACs company should not crowd out other uses of the clean electricity. Furthermore, building large amounts of clean electricity quickly is difficult due to permitting and grid connection delays. Terrafixing's technology sidesteps much of this thanks to the possibility of deploying in remote locations where renewable energy can produce more and there is little competition for the electricity. We are the first buyers of carbon removal from TerraFixing.

SEEDLINGS
PHOTO BY HUSK

PILLAR 3: CARBON DIOXIDE REMOVAL

Biomass

Plants take up CO_2 as they grow, and re-release it when decomposed or burnt. There are numerous ways of stabilizing the CO_2 in biomass, a plant's organic matter, so it can be stored longer. For example, biochar, when biomass is heated up in an oxygen-free environment to stabilize the carbon. Another such method is Bio Energy Carbon Capture and Storage (BECCS), which captures and stores CO_2 emissions from existing processes such as biomass heat and power generation, paper and pulp processing, or biomass fermentation processes such as ethanol and biogas production. Another promising solution is a process of taking biomass, such as tree branches, and storing it in a dry or oxygen-free environment to stop its decomposition.

PILLAR 3: CARBON DIOXIDE REMOVAL

MASH Makes

SUPPORTED IN 2021, 2022 & 2023 (PENDING)

BACKGROUND

MASH Makes convert organic waste into biochar in India, effectively sequestering carbon and reducing the amount of CO_2 in the atmosphere.

This project has a large number of important co-benefits: reduced air pollution; remediated soils; increased crop yields; carbon removal; and lesser dependence on traditional fertilizers and irrigation. In addition, the project targets drought-prone regions and aims to address a core issue of crop residue burning in India by providing a carbon-negative and easily scalable solution. All carbon removal certificates created in this project were issued through a fully-digitized marketplace and platform, Carbonfuture, whose science-based approach ensures the carbon sink certificates generated remain traceable, transparent, and thus trustworthy.

PROGRESS

Over the past year, MASH Makes has successfully begun operations at their first commercial facility in Udupi, India, which has the potential to produce 7000 tonnes of biochar annually. This equates to approximately 20 000 tonnes of CO_2 removed per year. Despite facing challenges such as frequent power cuts and delays in equipment delivery, MASH Makes has effectively addressed these issues and is on track to reach full-scale production before the end of the year. They are currently awaiting an audit for European Biochar Certification to document carbon removal from this facility. They have also secured funding for their next facility and initiated funding for two more.

The biochar being produced from this facility is currently being used to conduct pot experiments and field trials in semi-arid regions having nutrient deficient soil. Trials have demonstrated the positive effect of the use of biochar on these soils and have shown increased crop yields and reduced water requirements as well. This can have a significant impact on the lives of the local farmers, as they are usually dependent on rainfall and don't have the access to resources to improve their farming practices. Over the next few years, MASH Makes will continue to work with NGOs and farm organizations to increase the awareness of the use of biochar and to demonstrate the positive effects of using biochar in agriculture.

Support from the CTF has played a significant role in enabling MASH Makes to scale and validate its carbon removal capabilities. This support has not only facilitated the establishment of a large-scale pyrolysis facility but also added credibility to MASH Makes' carbon removal program.

MASH MAKES
PHOTO BY SRIKANTH VISHWANATH

PILLAR 3: CARBON DIOXIDE REMOVAL

HUSK

SUPPORTED IN 2021, 2022 & 2023 (PENDING)

BACKGROUND

HUSK focuses on creating affordable carbon-based fertilizers for smallholder farmers in South East (SE) Asia. HUSK uses a feedstock (rice husk) that would otherwise have rapidly decomposed when used as chicken bedding or burnt. It transforms it into biochar to create a fertilizer sold to organic farmers, increasing yields and reducing costs significantly. Their model contributes to increasing farmers' incomes, restoring soils and removing carbon.

PROGRESS

Over the past reporting period, HUSK has made significant progress in its mission. 362 tonnes previously purchased under the CTF have been delivered. All tonnes purchased so far will have been delivered by 2026. The organization successfully installed a new pyrolysis unit, which has increased their production capacity fivefold and reduced the cost of producing biochar by 70%. This has made their carbon-based fertilizers more affordable for smallholder farmers.

HUSK also launched a granulated carbon-based fertilizer, enabling them to target rice farmers, a new sector for the organization. The organization also initiated crop trials with partners in Vietnam, Laos and Thailand to study the impact of their carbon-based fertilizers on key crops in tropical regions. This research could have important implications for the transition to more regenerative agricultural practices in SE Asia.

In addition and to further boost their social impact, HUSK launched a network of micro-entrepreneur women called 'women superfarmers'. This initiative is aimed at boosting rural employment and extending the distribution of products to remote rural areas.

Purchases through the CTF made a significant contribution to enable HUSK to finance the installation of a new pyrolysis and granulation equipment to achieve affordability.

BIOCHAR
PHOTO BY HUSK

PILLAR 3: CARBON DIOXIDE REMOVAL

atmosfair - Carbon farming in Nepal

SUPPORTED IN 2022

BACKGROUND

atmosfair is a non-profit organization that aims to contribute to CO_2 mitigation by promoting, developing and financing renewable energies in over 20 countries worldwide.
In 2022, atmosfair, in collaboration with the Ithaka Institute, embarked on a novel research project in Nepal. The project aimed to explore the potential of changing farming practices to produce more biomass on land used for food production. This increased biomass can be converted into biochar.

PROGRESS

The project faced initial challenges in land acquisition, requiring more effort than initially anticipated.

Despite these obstacles, the Ithaka Institute successfully negotiated the purchase of land plots from multiple smallholders, resulting in a large, contiguous area for conducting the decade-long trials. The scientific trial design that included soil quality analyses and development of test cultivation methods for each plot has been completed.

In addition, the project has made significant progress in capacity building. Local workers have been trained in the practice of biochar making, and seasonal workers have been trained in ecological planting practices. These efforts not only contribute to the project's objectives but also create new income opportunities and stimulate local economic development.

While it is still early in the project timeline, and data on net carbon sequestration and yields are not yet available, the project has laid a solid foundation for future progress.
The learnings from this project have the potential to significantly improve performance of biochar and other carbon removal methods using biomass on plots simultaneously used for food production.

BIOMASS PROJECT
PHOTO BY ATMOSFAIR

PILLAR 3: CARBON DIOXIDE REMOVAL

InterEarth

SUPPORTED IN 2022 & 2023 (PENDING)

BACKGROUND

InterEarth grows a multi-species selection of highly adapted coppicing woody plants in Australia. Following periodic trimming, the harvested biomass is buried and encapsulated in dedicated chambers for long-term storage to permanently store the carbon captured within the biomass.

The method has the potential to cost-effectively and permanently remove large amounts of CO_2 but has so far not been explored. By being an early customer, we help InterEarth test out its approach, exploring its viability. However, we recognize if further scaling up beyond current project areas in Australia is to happen, competition with other land uses needs to be carefully considered.

PROGRESS

Over the past year, InterEarth has successfully completed a trial of their storage solution, confirming that carbon can be effectively stored for long periods under the right conditions. This is a critical validation of their approach and a significant step forward in their work.

In addition, InterEarth has completed the design and commenced the construction of a prototype biomass harvester. This equipment is central to the efficient collection and handling of biomass for long-term storage. The successful development of this prototype represents a key milestone in their project.

InterEarth has also made progress on the ground with a 350 ha demonstration plot of their multi-species biomass plantation well underway. This practical application of their approach has provided valuable learning opportunities and insights that will aid in the further development and scaling of their project.

InterEarth is on track to complete their first CO_2 removal during the first quarter of 2024, in line with their commitment to the CTF. They are also in the process of registration under the Puro.earth woody biomass burial methodology, which will provide third-party validation of their work. The CTF was one of the very first buyers whose contribution has been particularly important in making InterEarth's demonstration planting possible.

LAND IN AUSTRALIA
PHOTO BY INTEREARTH

PILLAR 3: CARBON DIOXIDE REMOVAL

New projects in 2023

TAKACHAR

Takachar produces biochar with a new mobile, low cost, MIT-developed technology that can latch on tractors and pick-up trucks. The advanced equipment is brought to farmers' fields where the waste biomass they have available is turned into biochar, mixed together with nutrients to be applied on the farmers own fields. In many cases, biomass that otherwise would have been burnt in open air is used, avoiding air pollution. Sales of carbon removal credits subsidize the process, enabling them to scale and serve lower-income farmers as well as new regions where biochar would not be economically feasible in the first place. Waste heat from the equipment can be utilized for value addition such as crop drying, or running small boilers.

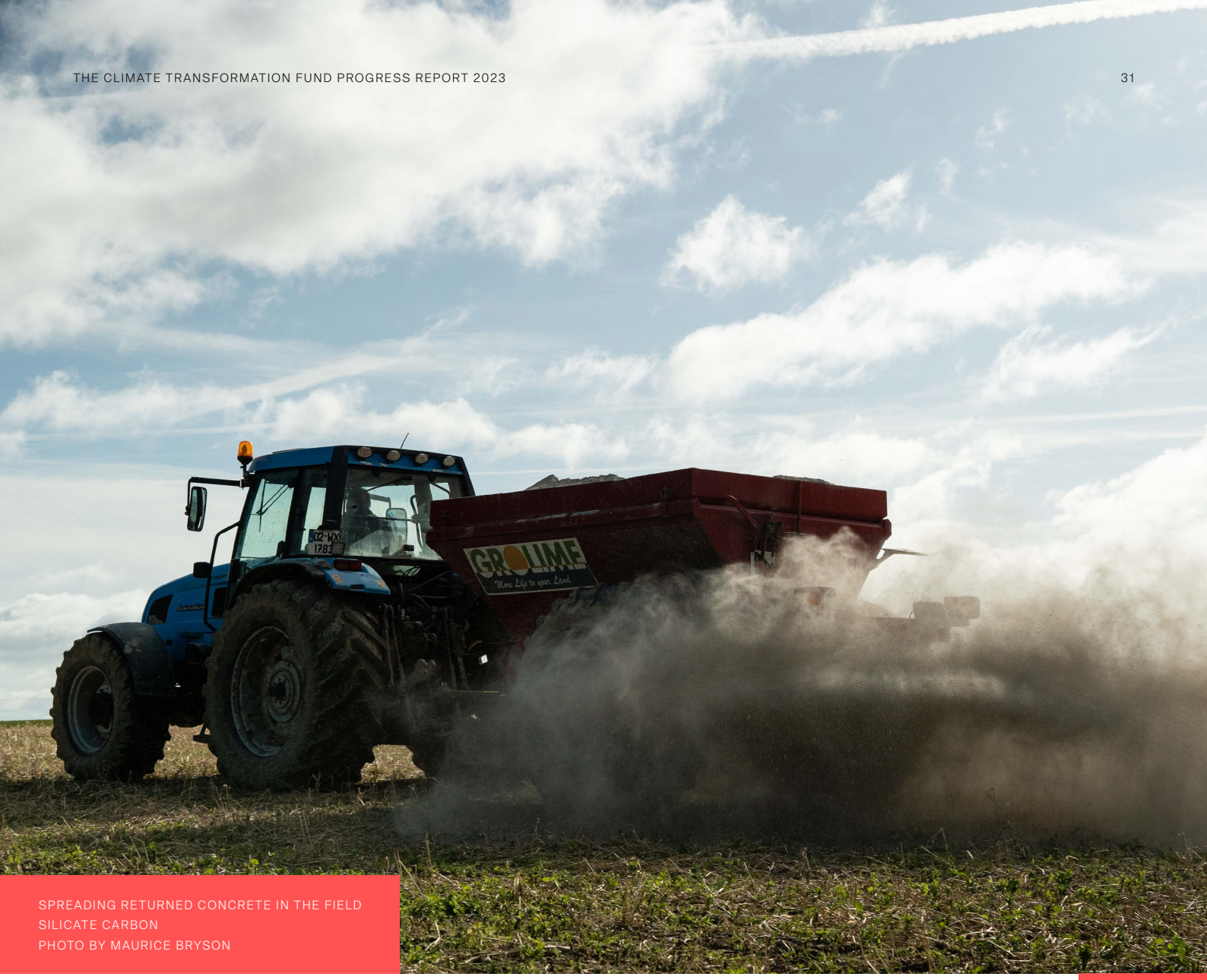
Takachar brings a new innovative technology with significant co-benefits to the biochar space, bringing down costs and enabling scale. Takachar won the XPRIZE Carbon removal milestone award and the Earthshot prize, which forms a strong validation of their approach but we are the first buyers of carbon removal.

CARBON CAPTURE SCOTLAND

Fermentation sources are a relatively unexplored carbon removal source. Carbon Capture Scotland is a UK-based capture asset specialist focusing on capturing waste biogenic CO_2 from whisky distilleries in Scotland and storing it via geological storage or other permanent means. Their proprietary and bespoke technology reduces the cost and energy footprint of capturing and processing high-purity CO_2 from fermentation sources and allows for highly accurate measuring and reporting along the supply chain.

To capture the CO_2 that is already produced in fermentation is a low-hanging fruit, requiring much less energy than capturing it from the atmosphere. Carbon Capture Scotland has a scalable set up and a sustainable process for doing so. We are the first buyers of carbon removal from Carbon Capture Scotland.

THE CARBON CAPTURE SCOTLAND TEAM STANDS IN FRONT OF ITS FIRST CO2 CAPTURE UNIT
PHOTO BY CARBON CAPTURE SCOTLAND



SPREADING RETURNED CONCRETE IN THE FIELD
SILICATE CARBON
PHOTO BY MAURICE BRYSON

PILLAR 3: CARBON DIOXIDE REMOVAL

Enhanced rock weathering

Rocks reacting with CO_2 and removing it from the atmosphere is the earth's natural, but slow way of lowering CO_2 levels. It can be sped up by grinding the rocks to a fine powder and spreading it on farmland as a form of mineral fertilizer. It could potentially become a cheap carbon removal method with low energy needs and strong co-benefits. The science of how to best implement and measure this, however, is still evolving. The startups we support are focused on increasing our understanding of how this works, rather than on mass deployment.

PILLAR 3: CARBON DIOXIDE REMOVAL

Silicate Carbon

SUPPORTED IN 2022 & 2023 (PENDING)

BACKGROUND

Silicate is exploring how returned concrete and other waste mineral products can be used to capture CO_2 cheaply and quickly. It is spread on fields, replacing the need for liming while capturing CO_2 at the same time. This method could potentially capture hundreds of millions of tonnes of CO_2.

This is a low-tech way of cheaply storing CO_2 using a waste stream that is currently underutilized. By being the first customer, we help Silicate test and prove the viability of the method. Silicate's approach to measurement in the field also offers a robust assessment of actual carbon removal rates and will be a verifiable measure of carbon removal volumes.

PROGRESS

Over the past year, Silicate has made significant strides in its mission. They applied approximately 1,300 tonnes of milled returned concrete to about 130 hectares of land in Wexford, SE Ireland, gaining valuable insights into the geochemistry underpinning their carbon removal solution. This large-scale trial has laid the groundwork for further deployment of their method, and has been recognized internationally, with Silicate winning the THRIVE | Shell Climate-Smart Agriculture Challenge at SXSW and being featured in various international media outlets.

The field of enhanced weathering is still in its infancy, and comprehensive field data demonstrating reliable and economically viable carbon dioxide removal at scale is yet to be widely published. Silicate has identified two critical areas for further investigation: the weathering of minerals by non-carbonic acids, and the impact of soil amendments on the existing organic carbon pool of soils.

In response to these challenges, Silicate has been growing its science team and expanding its operations, planning to undertake enhanced weathering trials in Illinois, US. They have also been developing a broader approach to carbon removal measurement in enhanced weathering that more directly quantifies carbon drawdown, using a machine learning approach for reliable CDR estimation across a broad range of soil types.

Looking ahead, Silicate plans to continue its research and recommence commercial-scale deployments in late 2024/early 2025, with the goal of delivering verified CDR tonnes before the end of 2026. They are also preparing to publish two peer-reviewed papers on terrestrial enhanced weathering before the end of the year, contributing to the growing body of knowledge in this field.

We were the first buyer of tonnes from Silicate, and the CTF support has been of monumental importance for the organization to do the work described above.

THE TEAM IN FRONT OF A TRACTOR
PHOTO BY MAURICE BRYSON

PILLAR 3: CARBON DIOXIDE REMOVAL

New projects in 2023

INPLANET

InPlanet is working in Brazil, being the first enhanced rock weathering start-up purely focussed on the tropics, spreading silicate rock powder under optimal soil and climate conditions for fast and effective weathering and capture removal. The solution stores carbon in soil leachates, waterways, and ocean sediments. As a co-benefit the solution has the potential to restore degraded tropical soils, produce more nutritious food, and reduce the dependence on conventional chemical inputs in agriculture. Inplanet is performing rigorous measurements ranging from the lab to the field to determine the effective net carbon removal from the rock spreading operations in different agricultural settings.

InPlanet is a science-first company devoted to exploring rock weathering under tropical conditions. How to best do enhanced rock weathering is a developing science and our motivation for supporting Inplanet is in part to help advance the knowledge through this purchase. Their activity in the tropics, where the soil and climate conditions are optimal for enhanced rock weathering, along with the particularly strong impact of Inplanets co-benefits, influenced our decision to include them.

EXAMINING SILICATE ROCK POWER
PHOTO BY INPLANET

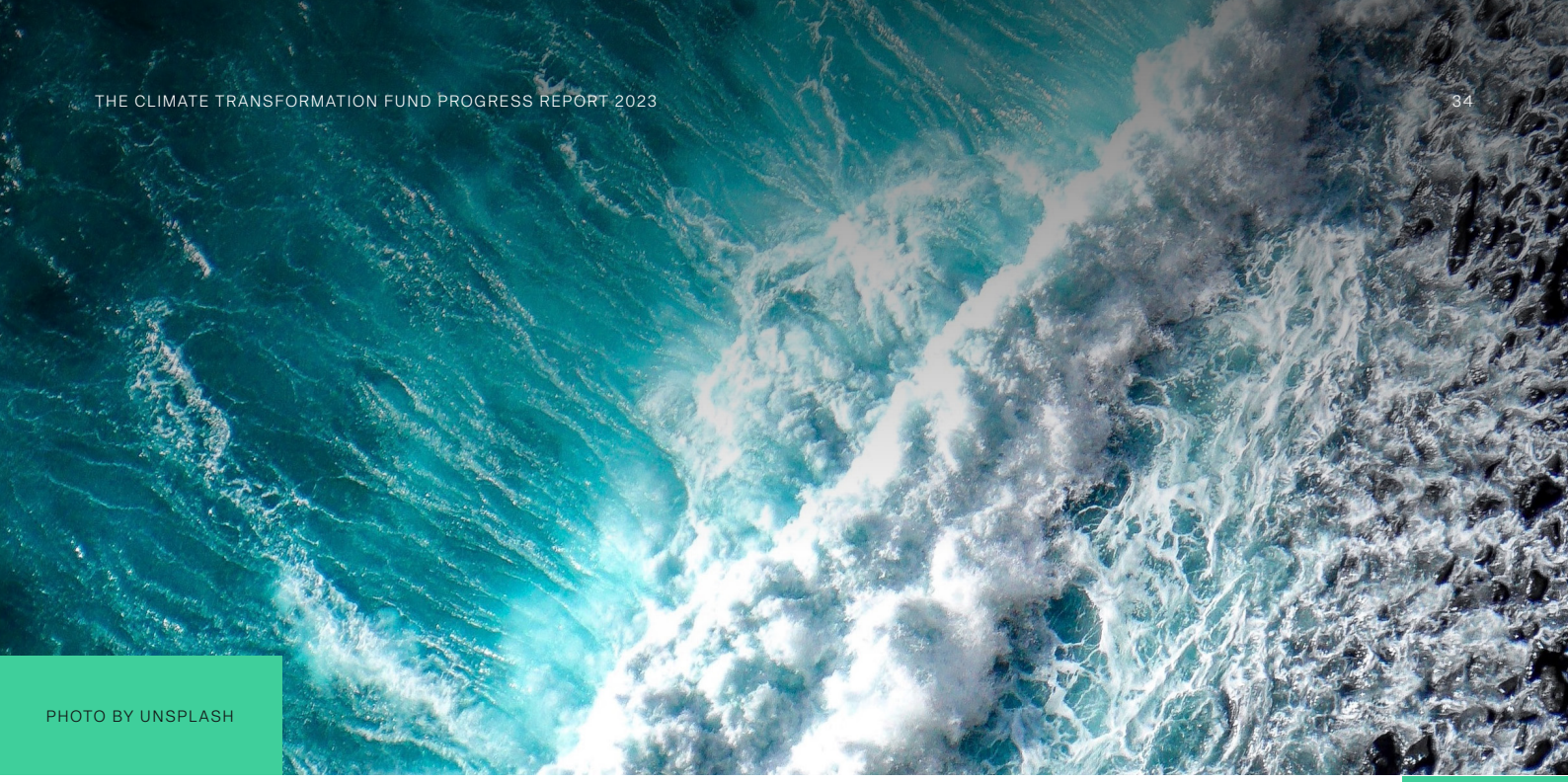


PHOTO BY UNSPLASH

PILLAR 3: CARBON DIOXIDE REMOVAL

Ocean CO_2 capture

The ocean provides several ways to remove carbon, using methods both biobased, such as mineralisation, and technological, such as electrochemistry. This new area is exciting and holds great potential, but the science behind it is still developing, and there's much to learn. In 2023, the CTF will back its first ocean CO_2 capture initiative, enabling an early-stage company to launch their pilot project.

New projects in 2023

$SEAO_2$

Based in the Netherlands, $SeaO_2$ provides cost-efficient atmospheric carbon removal by leveraging the ocean, which has 150 times more carbon (as dissolved) compared to the atmosphere. $SeaO_2$'s electro-chemical oceanic carbon capture technology treats water to capture CO_2, the CO_2 is taken out of water as end product which then can be stored away or utilized.

This decarbonized water is then returned to the ocean's surface layer where it reacts with the atmospheric CO_2 to absorb an equivalent quantity of the original CO_2 'again'.

Electrochemical ocean CO_2 capture shows a lot of promise, but is at a very early stage. $SeaO_2$ has a small but impressive team with a strong publication track record, and are working on a way of scaling up the technology and bringing the costs down. We are the first significant buyers of carbon removal from $SeaO_2$ enabling them to build and run their first-of-a-kind facility. $SeaO_2$ operates an R&D and capture prototype at the Afsluitdijk and plans to launch their pilot plant, with a yearly capture capacity of 250 tonnes, in the first quarter of 2024.

PILLAR 3: CARBON DIOXIDE REMOVAL

Other

CARBON REMOVAL CLIMACCELERATOR

SUPPORTED IN 2021

In 2021, two research institutions, TU Delft and ETH Zurich partnered with Climate KIC and other partners to create an accelerator for new European carbon removal startups to develop new solutions. Our support contributed to getting the initiative off the ground, helping get more shots on target. In addition, our funding for the program was matched by Climate KIC, helping to get more money for new carbon removal solutions.

Our early support for the Carbon Removal Climaccelerator has led to more CDR companies being supported through a structured and CDR-focused accelerator program. Also, the program itself has matured and evolved into a non-profit called Remove, with private funders allowing it to continue its work supporting startups and the European CDR-ecosystem. Supported startups continue to have success, and in 2023 two alumni of the program were selected for the CTF, SeaO2 and Inplanet.

Two teams, NovoCarbo and Dutch Carboneers have sold and delivered 2,209 and over 1,550 tonnes respectively, bringing them in the top-11 worldwide for deliveries of high quality carbon removal. Over 80 teams have participated in Remove in 4 cohorts. Collectively they have raised over €50m in external funding, a proxy for their success in bringing carbon removal solutions to the market.

FOREST IN SWITZERLAND
PHOTO BY UNSPLASH

Read more about the scientific evidence supporting this pillar in **Appendix 4**

APPENDIX 1

Financial data

The CTF is a selection of projects by Milkywire. Companies can support these selected projects by donating to Milkywire's charitable partners, WRLD Foundation Sweden and WRLD Foundation US. These foundations facilitate the pre-purchase of carbon removal and make donations to the projects chosen for the fund.

In 2022, support was given to 13 projects, totaling $1.89 million. Of this, $936,195 was disbursed by WRLD Sweden and WRLD US, while the remaining funds represented direct support from Klarna to carbon removal suppliers selected for the CTF. A detailed breakdown of the support per project is provided below.

In 2021, 11 projects were supported, with a total funding amount of $1.06 million. $545,000 of which was through WRLD Sweden. For a breakdown of the support per project, refer to the 2021/2022 CTF Progress Report.

In 2023, approximately 25 projects are anticipated to receive support (some re-granting decisions are still pending), totalling over $5 million. Total amounts disbursed per project in 2023 will be available in next year's progress report.

Purchases of carbon removal tonnes have been conducted both through the WRLD Foundation and directly from Klarna to the projects included in the CTF. Tonnes purchased by WRLD are immediately retired and cannot be resold.

The WRLD Foundation Sweden is a Swedish foundation, registered under the organizational number 802526-9328. The WRLD Foundation US is a Delaware-registered non-profit organization, holding a 501(c)(3) status with EIN 87-2610501.

SUPPORT GIVEN IN 2022

	TOTAL CTF PAYOUTS	PAID OUT BY (USD)	
All numbers in USD	USD	WRLD	Klarna
Carbon removal suppliers	**1,036,219**	**81,219**	**955,000**
Silicate	258,362	8,362	250,000
Heirloom	117,577	17,577	100,000
Mash Makes	18,596	18,596	
HUSK	268,542	18,542	250,000
InterEarth	373,141	18,141	355,000
Grant recipients	**854,976**	**854,976**	
JustDiggit	117,451	117,451	
Warsi	111,989	111,989	
Plant with Purpose	117,451	117,451	
Carbon farming, atmosfair/Ithaka	140,000	140,000	
Clean air task force	105,450	105,450	
Beyond Zero Emissions	52,737	52,737	
Human rights watch	102,450	102,450	
New energy nexus	107,450	107,450	
	1,891,195	**936,195**	**955,000**

APPENDIX 2

The team and advisory board

THE TEAM AND ORGANIZATIONAL STRUCTURE

In the selection, we have worked with an advisory group to help us choose the most impactful and sustainable climate projects for the fund. Final decisions on chosen projects are made by Milkywire but the ambition is to follow the advisory group's guidance as far as possible. The group members have different competencies that cover the areas in the fund but every member does not review every project. The advisory group is independent of Milkywire and the members do not necessarily endorse all of the projects that are chosen for the CTF.

CURRENT MEMBERS OF THE ADVISORY GROUP ARE:

Derik Broekhoff, senior scientist, Stockholm Environment Institute

Karen Holl, Professor of Environmental Studies University of California

Carsten Warnecke and Aki Kachi, senior experts at NewClimate Institute

Alexander Farsan, former SBTI lead at WWF

Marian Krüger, carbon removal scientist, ETH Zurich

Cyril Brunner, Manging director remove, ETH Zurich

Lucia Simonelli, senior researcher Giving Green, assisted by Emily Thai and Dan Stein, Giving Green

Milkywire has a team of >20 staff, the main persons responsible for developing the CTF are:

Fund manager - Robert Höglund
Robert specializes in carbon removal, and how the corporate sector best can contribute to climate action. He co-founded the CDR market overview CDR.fyi, works with the NGO Carbon Gap, and writes reports and articles on carbon removal and corporate climate contributions. He is also a member of the EU Expert Group on Carbon Removals, the Science-based Target initiative's (SBTi) Technical Advisory Group and the board of the research program Mistra sustainable consumption.
Robert previously headed Oxfam Sweden's policy and communications team and founded the Climate Goal Initiative in Sweden.

Senior Environmental Lead - Natalya Yakusheva Jarlebring
Natalya holds a Ph.D. in Environmental Science, from Södertörn University, with her thesis focusing on nature conservation governance. She has since worked as a postdoctoral researcher on International Forest Policy at the Department of Forest Science at the University of Helsinki, where she focused on the EU debates around forest-related issues and their implications for the EU climate commitments. Natalya also has extensive experience working as a consultant in natural resource management and the development of sustainability policies.

APPENDIX 3

Project selection

Our project selection process is designed to ensure fairness, transparency, and the identification of initiatives with the most significant impact. Here's a breakdown of the process:

OPEN CALL FOR PROPOSALS

In December 2022, we introduced a structured process for project proposals, designed to ensure fairness and transparency (see Milkywire Open Call 2023).

ASSESSMENT AND SHORT LISTING

The submitted concise proposal are first reviewed by the Fund managers and promising proposals are invited for interviews and asked for supplementary information. The acquired information is then fully assessed and scored against the evaluation framework. A simplified version of our assessment framework is accessible to the public on Milkywire's website. Internally, we utilize an extensive scoring matrix, which breaks down criteria into numerous questions to ensure a comprehensive project evaluation. This two-tiered approach enables us to thoroughly evaluate and select projects that promise the greatest impact.

EVALUATION AND INPUT FROM THE ADVISORY GROUP

The full information from short listed projects are submitted for evaluation of the Advisory group. Not each project is assessed by each member of the Advisory group, but we strive to receive at least two evaluations for each project. The projects are then discussed at meeting of the Advisory group.

FINAL SELECTION

The final selection combines the scores with our aim to create a diverse portfolio in terms of geographical coverage and methodologies employed. Milkywire oversees the curation of the fund, while donations are directed to either WRLD Foundation Sweden or WRLD Foundation US.

APPENDIX 4

Scientific evidence in support of various methods

WHAT SCIENTIFIC SUPPORT IS THERE FOR CARBON REMOVAL BEING AN EFFECTIVE CLIMATE SOLUTION?

The scientific community and the IPCC is very clear that carbon removal is a crucial solution to reaching net zero and the 1.5C target. In the latest IPCC report (1) three roles of CDR are explained, reducing CO_2 levels now, reaching net zero, and reducing temperatures. To fulfill these roles removal methods must be developed from the very nascent state they are in now to enhance the technologies, bring down costs and start building the necessary infrastructure.

Direct air capture that several of our selected projects use, is one of the most scalable CDR solutions, and there are no question marks around if it works to remove and store CO_2 or not. However DACs high energy requirements and high capital costs are issues that need to be worked on to bring down carbon removal costs and resource requirements.(2) The same goes for direct CO_2 removal from oceans that SEAO2 uses, adding that some uncertainties around the capture pathway remain (3).

Biochar, that Husk, Mash Makes and Takachar produces, is an established carbon removal solution, with large possible co-benefits (3, 4). It is not as permanent as DAC but with a storage time for a majority of the carbon of well over 100 years for quality biochar made with high temperatures (5, 6, 7, 9). New science points to the storage time possibly being significantly longer (8) However, there are some uncertainties around how different feedstocks, soil types, and soil temperatures affect the permanence (9).

Biomass burial, the solution InterEarth works with, is a low tech solution for CO_2 storage recently starting to gain popularity. Research shows that when performed in an appropriate way, the durability of the carbon stored can be hundreds or thousands of years (10,11). The efficacy of the method also depends on the best use of biomass and secondary effects of land use which are very important to consider.

Enhanced Weathering, that Silicate and InPlanet uses is a promising method for carbon removal that could reach a massive scale as demonstrated in several scientific studies (12, 13). However, as explained in the description of the work of these two companies, there is a lot left to be explored scientifically around exactly when and how fast the method captures carbon and how that can be measured. The carbon removal research organization Carbon Plan recently published a tool for exploring methods used to quantify enhanced weathering outcomes (14) illustrating what needs to be further understood.

References

(1) Beerling et al. (2020) Potential for large-scale CO_2 removal via enhanced rock weathering with croplands https://www.nature.com/articles/s41586-020-2448-9
(2) Gooding (2023) Geologic perspective for carbon sequestration by woody biomass burial https://www.stet-review.org/articles/stet/full_html/2023/01/stet20220201/stet20220201.html
(3) Goll et al. (2021) Potential CO_2 removal from enhanced weathering by ecosystem responses to powdered rock https://www.nature.com/articles/s41561-021-00798-x%22
(4) Joseph et al. (2021) How biochar works, and when it doesn't: A review of mechanisms controlling soil and plant responses to biochar: https://doi.org/10.1111/gcbb.12885
(5) Jayarathna et al. (2022) Review on direct ocean capture (DOC) technologies: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4282969
(6) Kung et al. (2023) A roadmap for achieving scalable, safe, and low-cost direct air carbon capture and storage (2023) https://doi.org/10.1039/D3EE01008B
(7) Lehmann et al. (2012) Stability of biochar in soil." In: Biochar for environmental management, pp. 215-238, Routledge.
(8) IPCC: Appendix 4 Method for Estimating the Change in Mineral Soil Organic Carbon Stocks from Biochar Amendments: Basis for Future Methodological Development (2019)
(9) Shukla et al. (2022) IPCC WGIII Technical Summary https://www.ipcc.ch/report/ar6/wg3/
(10) Schmidt et al. (2021) Biochar in agriculture – A systematic review of 26 global meta-analyses: https://doi.org/10.1111/gcbb.12889
(11) Schmidt et al. (2022) Permanence of soil applied biochar. https://www.biochar-journal.org/en/ct/109-Permanence-of-soil-applied-biochar
(12) Zeng & Hausmann (2022) Wood Vault: remove atmospheric CO_2 with trees, store wood for carbon sequestration for now and as biomass, bioenergy and carbon reserve for the future https://doi.org/10.1186/s13021-022-00202-0
(13) Woolf et al. (2021) Greenhouse Gas Inventory Model for Biochar Additions to Soil: https://pubs.acs.org/doi/10.1021/acs.est.1c02425

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WHAT SCIENTIFIC SUPPORT IS THERE FOR COMMUNITY FOREST MANAGEMENT AND TENURE SECURITY IN STOPPING DEFORESTATION?

Community forest management and secure land tenure are increasingly being recognized as effective strategies in combating deforestation globally and in Indonesia. Globally, research suggests that protected areas and secure land tenure can lead to positive forest outcomes, with less deforestation occurring across various forms of tenure (1). Additionally, community-managed forests tend to have lower annual deforestation rates compared to protected forests (2). In countries like Brazil and Peru, lower rates of tree cover loss were recorded in lands managed by indigenous and local communities from 2013 to 2018 compared to other areas (3). Assigning property rights to these communities notably reduces deforestation levels within indigenous territories (4). Other strategies, including enforcing forest protection laws and payments for ecosystem services, have also shown potential in mitigating deforestation (5). Studies in Thailand, Madagascar, and Nepal illustrate the effectiveness of community forest management in both conserving forests and reducing poverty (6,7,8).

In Indonesia, the introduction of social forestry licenses, or "Hutan Desa", has been linked with decreased deforestation rates in some studies (9). However, the evidence is not always conclusive with some studies not seeing reduced deforestation (10). Crucially, the provision of land rights alone is not enough; communities require substantial support to leverage these rights for improved social, economic, and environmental welfare, without which there could be losses, particularly for marginalized groups within these communities, (11). With appropriate strategies, social forestry licenses have been successful in reducing deforestation (12).

In conclusion, community forest management and tenure security shows great promise in being effective against deforestation but needs to be done in the right way, and followed up to determine the results.

References

(1) Agarwal et al. (2022) "Effectiveness of community forests for forest conservation in Nan province, Thailand". DOI: 10.1080/1747423X.2022.2078438
(2) Baragwanath & Bayi (2020) "Collective property rights reduce deforestation in the Brazilian Amazon". https://doi.org/10.1073/pnas.1917874117
(3) Busch & Ferretti-Gallon (2017) "What Drives Deforestation and What Stops It? A Meta-Analysis". https://doi.org/10.1093/reep/rew013
(4) Kraus et al. (2021) "No aggregate deforestation reductions from rollout of community land titles in Indonesia yet." https://doi.org/10.1073/pnas.2100741118
(5) Meijaard et al. (2020) "Toward improved impact evaluation of community forest management in Indonesia". https://doi.org/10.1111/csp2.189
(6) Oldekop et al. (2019) "Reductions in deforestation and poverty from decentralized forest management in Nepal". https://doi.org/10.1038/s41893-019-0277-3
(7) Porter-Bolland et al. (2012) "Community managed forests and forest protected areas: An assessment of their conservation effectiveness across the tropics". https://doi.org/10.1016/j.foreco.2011.05.034
(8) Rasolofoson et al. (2015) "Effectiveness of Community Forest Management at reducing deforestation in Madagascar". https://doi.org/10.1016/j.biocon.2015.01.027
(9) Robinson et al. (2014) "Does secure land tenure save forests? A meta-analysis of the r elationship between land tenure and tropical deforestation". https://doi.org/10.1016/j.gloenvcha.2013.05.012
(10) Santika et al. (2017) "Community forest management in Indonesia: Avoided deforestation in the context of anthropogenic and climate complexities". https://doi.org/10.1016/j.gloenvcha.2017.08.002
(11) Santika et al. (2019) "Heterogeneous impacts of community forestry on forest conservation and poverty alleviation: Evidence from Indonesia". https://doi.org/10.1002/pan3.25
(12) Webb et al. (2020) "Geospatial Data Brings Indigenous and Community Lands to the Forefront of Forest Management". https://www.globalforestwatch.org/blog/people/geospatial-data-indigenous-community-land-forest-management/

WHAT SCIENTIFIC SUPPORT IS THERE FOR FARMER MANAGED NATURAL REGENERATION AND RESTORATION INITIATIVES?

Farmer-Managed Natural Regeneration (FMNR) is an innovative approach to land restoration and reforestation, especially beneficial in dryland regions facing severe land degradation challenges (1, 2). Land degradation, driven by factors such as high population pressure, reliance on woody resources, and livestock overgrazing, has been negatively impacting communities worldwide (5). It not only affects local livelihoods but also exacerbates vulnerability to climate change (4). Integrated approaches to land restoration, such as FMNR, offer a promising solution by improving livelihoods, enhancing biodiversity, and increasing climate mitigation through carbon sequestration (3).

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FMNR is characterized by its low-cost and sustainable nature, making it an effective method for rapidly rejuvenating degraded croplands and grazing lands. It fosters increased resilience to extreme weather events and restores biodiversity (3, 5). The success of FMNR depends on the presence of desired tree species nearby and the protection of regeneration from grazing (6). While FMNR can achieve significant restoration, in cases where natural regeneration alone is insufficient to meet targets, it can be complemented with tree planting (2).

Examples from large-scale FMNR initiatives in Africa demonstrate its cost-effectiveness as farmers become familiar with the practice and spontaneously adopt it (6, 3, 2). This approach can directly alleviate poverty, reduce rural migration, combat hunger, and improve livestock conditions. It also benefits crops by modifying the microclimate and enhancing soil fertility through livestock manuring (1,4). Moreover, FMNR contributes to biodiversity enhancement and restores natural processes, reducing tensions over land-based resources (2, 1). However, challenges remain in building an evidence base and standardizing measurements to address gaps in evidence (2).

References

(1) Francis R. et al. (2015) The social, environmental, and economic benefits of Farmer-Managed Natural Regeneration (FMNR). World Vision: http://fmnrhub.com.au/wp-content/uploads/2015/04/Francis-Weston-Birch-2015-FMNR-Study.pdf
(2) Lohbeck M. et al. (2020) Drivers of farmer-managed natural regeneration in the Sahel. Lessons for restoration. Nature, Scientific Reports, 10, 15038.
(3) Reij C. & Garrity D. (2016) Scaling up farmer-managed natural regeneration in Africa to restore degraded landscapes. Biotropica, 48(6).
(4) Rinaudo, T. (2007). The development of Farmer Managed Natural Regeneration. Leisa Magazine, 23(2).
(5) Moore R. et al. (2020). Species Selection and Management Under Farmer-Managed Natural Regeneration in Dodoma, Tanzania. Frontiers in Forests and Global Change, 3.
(6) Weston P. et al. (2015) Farmer-Managed Natural Regeneration Enhances Rural Livelihoods in Dryland West Africa. Environmental Management, 55, 1402–1417.

WHAT SCIENTIFIC SUPPORT IS THERE FOR ADVOCACY BEING AN EFFECTIVE CLIMATE SOLUTION?

Political advocacy is arguably the most powerful form of action that citizens and non-profit organizations concerned about climate change can take (5). Influential actors within the climate philanthropy, such as Giving Green and Founders Pledge, that ground their recommendations in the rigorous assessments both recognize the importance of funding policy advocacy initiatives (1; 2). Such initiatives can be highly impactful, bringing about systemic technological, market, and human behavior changes necessary to address climate change, as well as speed up decarbonization and avoid carbon lock-in in emerging economies (1; 2; 4). The need for policy advocacy and mobilizing financing for policy change is also voiced by international organizations, national governments, and other actors (3). However, the key bottleneck for a comprehensive understanding of the impact and potential impact of climate advocacy lies in the uncertainties related to the attribution and evaluation of the impact of specific advocacy efforts on the targeted policy (6; 7).

Summing up, policy advocacy is potentially a highly impactful area of engagement for climate philanthropy that can bring about the structural change needed for emissions reduction. However, more efforts are needed to develop robust evaluation methodologies to better understand the impact on policy change.

References

Ackva J. et al. (2021) A Guide to the Changing Landscape of High-Impact Climate Philanthropy. Founders pledge: https://dkqj4hmn5mktp.cloudfront.net/A_guide_to_the_changing_landscape_of_high_impact_climate_philanthropy_32bc675d16.pdf
Ackva J. et al. (2023) How to evaluate relative impact in high-uncertainty contexts? An update on research methodology & grantmaking of FP Climate. Effective Altruism. URL: https://forum.effectivealtruism.org/posts/kuopGotdCWeNCDpWi/how-to-evaluate-relative-impact-in-high-uncertainty-contexts
Campbell et al. (2023) The potential role of descriptive and dynamic norms in promoting climate change advocacy. Oxford Open Climate Change, Volume 3, Issue 1: https://doi.org/10.1093/oxfclm/kgad001
Reisman et al. (2007) A guide to measuring advocacy and policy. The Annie E. Casey Foundation, Baltimore, Maryland: https://folio.iupui.edu/bitstream/handle/10244/874/DA3622H5000.pdf?sequence=1
Stein D. & Huynh K. (2021) Investigation into the Impact of Insider and Outsider Policy Advocacy on Climate Change. Giving Green: https://www.givinggreen.earth/post/investigation-into-the-impact-of-insider-and-outsider-policy-advocacy-on-climate-change
Sullivan R. & Petrovic L. (2016) Principles for Responsible Banking: Progress Report. United Nations Environment Programme Finance Initiative (UNEP FI) https://www.unepfi.org/wordpress/wp-content/uploads/2016/11/PDCreport2016.pdf

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* The listed partners have made one or more contributions, of different amounts, to the fund between 2021-2023. The progress reported on relates specifically to contributions made in 2021-2022.

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About Milkywire
Milkywire, founded in 2018, is a planet health-tech platform that enables companies to fund trusted environmental organizations. Through digital tools and an engaging feedback model, Milkywire helps fund a wide spectrum of initiatives, from in-the-field nature restoration and species preservation to cutting-edge carbon removal research, enabling corporations to make a positive planetary impact.