

NextGen

Impact Report 2023

NOVEMBER 2023

Unlocking the market for durable carbon removals

PARTNERED
WITH



3 LETTER FROM THE BOARD

4 ABOUT NEXTGEN

8 NEXTGEN’S IMPACT

10 BUYERS’ SPOTLIGHT

12 PROJECT PORTFOLIO

NEXTGEN’S MISSION

Help build the market ecosystem for long-term carbon removal by providing a mechanism for companies to buy credible durable Carbon Dioxide Removals (CDRs) from scalable projects at an accessible price.

“By 2030, carbon dioxide removals need to be responsibly scaled to remove 3.5 Bt of carbon dioxide per year. 500 Mt of this must be stored for at least 100 years”.

UNITED NATIONS HIGH LEVEL CLIMATE CHAMPIONS, 2023

“The devastating impacts of the climate crisis continue to worsen faster than we have begun to implement the solutions. We have the solutions, but we’ve got to move faster”.

SWAIN CLIMATE POLICY SERIES, AL GORE, 2021

“What we do or don’t do right now, me and my generation can’t undo in the future”.

TEDXSTOCKHOLM, GRETA THUNBERG, 2018

Letter from the board



Philip Moss,
Chairperson,
NextGen CDR AG



Patrick Bürgi,
Director,
South Pole



Ryosuke Kontani,
General Manager
Carbon Management,
Mitsubishi Corporation



Vincent Eckert,
Director, Head Internal
Environmental Management,
Swiss Re

2023 has been a transformative year for novel carbon removal solutions in general, as well as the achievements of the NextGen CDR Facility (NextGen), filled with numerous milestones and exciting developments.

In this inaugural NextGen Impact Report, we are delighted to share our insights into the state of the market, the positive impact NextGen has had for buyers and projects alike, as well as the impact we will continue to realize in 2024.

Over the past year, the market for carbon removals has witnessed remarkable growth and maturation, with transactions growing over four times since the announcement of the initial NextGen purchases in May. The pressing need for mitigating climate change has led to increased awareness and commitment from governments, businesses, and individuals worldwide, yet we still see challenges in moving the industry from a niche activity to a vibrant and fully functioning market.

POSITIVE TRENDS

We have observed the following positive trends:

Growing demand: As the recognition for the need for carbon removal alongside deep decarbonization grows, companies are increasingly seeking innovative and measurable ways to demonstrate their impact, opening up new opportunities for innovation and investment in the sector.

Technological advancements: Advancements in carbon removal technologies and the emergence of innovative new approaches are making carbon removal more efficient, cost-effective, and scalable, resulting in greater choice of projects and an improved ability to construct a cost-effective portfolio.

Regulatory support: Governments around the world have begun introducing policies and incentives to promote carbon removals, fostering a conducive environment for companies to explore carbon removals.

MARKET CHALLENGES

Despite these promising developments, building sustainable demand for carbon removals remains a challenge due to:

Market confusion: Many companies are still unaware of the difference between reductions and removals, or the urgent need to help rapidly scale carbon removal technologies.

Demand signals: Achieving cost parity with emissions allowances or Voluntary Carbon Market (VCM) carbon offsets will not be achieved without policy intervention.

Lack of infrastructure: Building the necessary infrastructure to support large-scale carbon removal projects is time-consuming, very costly, and often heavily regulated.

NEXTGEN GOALS

As we venture into 2024, NextGen is poised to play a pivotal role in shaping the future of the carbon removal market. Our commitments to being a catalyst and providing accessible, durable and credible CDRs from projects advancing sustainability and innovation remain unwavering, and we have ambitious goals for the coming year:

More commitments: We will continue to increase the commitments of NextGen buyers to tech CDR projects to help support more technologies across a range of geographies.

Improved processes: We will continue to increase resources and streamline our

processes to create efficiencies for both our buyers and the market more broadly.

Advocacy and education: We will actively engage in educational initiatives and advocacy to increase awareness of carbon removal and its essential role in combating climate change.

Lastly, we want to express our deepest gratitude for your support in making NextGen a leader in the carbon removal industry.

Together, we can create a more sustainable future for generations to come, and we look forward to continued collaboration and partnership with all of our ecosystem stakeholders.

On behalf of the NextGen Board of Directors,

Philip Moss, Chairperson, NextGen CDR AG

I The NextGen journey

In early 2021, South Pole, the largest global carbon project developer, and Mitsubishi Corporation, an industrial conglomerate, came together to explore some of the major challenges that needed intervention to address the climate challenge.

Looking at the level of emissions that had already been put into the atmosphere, senior leaders from the two companies wondered how they could accelerate the nascent market for technologies that could supplement the efforts of nature-based solutions to remove CO₂.

From that seed of an idea, the concept of NextGen was born, with the goal of bringing together the world's leading companies to send a demand signal to the market that there was willingness to finance carbon removal projects. Fast forward to the 2022 World Economic Forum (WEF) Annual Meeting in Davos, NextGen was officially launched with a stated ambition to become one of the world's largest purchasers of durable CDRs as an advanced buyer facility and a goal of purchasing one million certified CDRs by 2025.

I What is NextGen - the “Facility”?

NextGen is a Swiss joint venture company, supported by South Pole and Mitsubishi Corporation, established for the express purpose of buying and managing a portfolio of long-term, durable CDRs on behalf of a collective of corporate buyers. NextGen is backed by multinational buyers, including the five founding buyers: Boston Consulting Group, LGT Group, Mitsui O.S.K. Lines, Swiss Re, and UBS.

NextGen has been designed with the needs of large corporate buyers in mind, who have committed to achieving ambitious climate targets on their pathways to achieving net-zero emissions. The objective is to **1) make CDRs accessible for buyers** by derisking projects through a portfolio

approach and providing a target price of US \$200/t, **2) promote quality assurance** through rigorous diligence and certification of all projects under a harmonized International Carbon Reduction and Offsetting Accreditation (ICROA) standard to create fungibility for buyers, and **3) reach scale in carbon removed in the short- to mid-term** by providing greater comfort around project commissioning and operation through support for more advanced, commercial projects.

Our unique combination of market and commercial experience, project management expertise, access to a deep project pipeline and a global network of buyers, and a multi-stakeholder governance

process tailored to corporate needs helps companies and technologies to unlock the financing needed to scale long-term carbon removal solutions.

NextGen's commitment to quality assurance is reflected in the detailed carbon and technical due diligence process, with multiple teams using elevated quality standards to assess the viability and environmental impacts of each project, in addition to our requirement for certification under ICROA-endorsed standards. These diligence processes ensure that project operations and methodologies offer the necessary transparency and credibility that a tonne of carbon will be appropriately measured and durably sequestered.

What makes NextGen unique?

NextGen is the first global facility of its kind, with buyers representing companies from Asia, Europe and North America. Our mission is to help build the market ecosystem for durable carbon removal

by providing a mechanism for companies to buy **credible** CDRs from **scalable** projects at an **accessible** price that demonstrate additionality.



Accessibility

With current prices for technological CDRs typically costing in the mid- to high-hundreds of dollars, NextGen's target price of US \$200/t makes CDR purchases less burdensome for corporate buyers (given closer alignment with internal

carbon pricing), while also providing budget certainty. The diversification of the portfolio, with limits for country, technology, and company concentration, ensures any risks can be managed more effectively and buffered by other projects.



Credibility

All projects considered by NextGen are run through a rigorous due diligence process, with separate teams from both South Pole and Mitsubishi Corporation assessing the viability from a technical, commercial and carbon standpoint. Projects are also subject to a diligence review by buyers,

ensuring that there is collective support for each transaction. ICROA-endorsed certification ensures projects are assessed and validated independently, with public consultation on methodologies and third-party verification providing comfort on the viability of CDRs for retirement.



Scalability

The intention to commit all buyer funds by 2025 to projects that are operating at scale, with plans to remove millions of tonnes of carbon by 2030, ensures NextGen is generating an immediate and sizable impact in accelerating carbon removals to meet the 2030 targets.



Swiss Re



I CDR sales and NextGen

Despite the headlines and growing political support for the development of carbon removal technologies, the market for durable CDRs continues to be nascent. Voluntary corporate demand is currently falling well short of 3.5 Bt of annual carbon removals that is required, and the guidance from the UNFCCC to remove and store 500 Mt for at least 100 years by 2030 (Race to Zero, 2023) looks to be in jeopardy. The lack of activity seriously threatens global efforts to scale long-term carbon removals and ensure sufficient levels of negative emissions by 2050 to achieve our net-zero target, which is necessary to stabilize the climate. Substantial growth in technological carbon removal projects and offtakes in the next few years must be realized in all scenarios outlined by the IPCC in addition to emissions reduction (IPCC, 2023; The State of CDR, 2023). Estimates of demand of ~40–200 Mt per year in 2030 (BCG, 2023) may be too little, too late to realize the required scale of removals.

While interest in investments into carbon removal technology companies has grown significantly, exceeding US \$1 billion in 2022 (Reuters, 2023), the growth in demand for technological CDRs has been less significant, with sales continuing to be for smaller volumes and very concentrated. Less than 5 Mt has been purchased on a spot or forward basis, most of which has come from one buyer (Microsoft) who have committed to over 64% of all purchases.¹ When combining the top four buyers in the market (including NextGen), that number jumps to 85% of all market purchases (CDR.fyi, 2023), speaking to NextGen's mission to ensure we provide an easy route for more companies to enter the market and build demand.

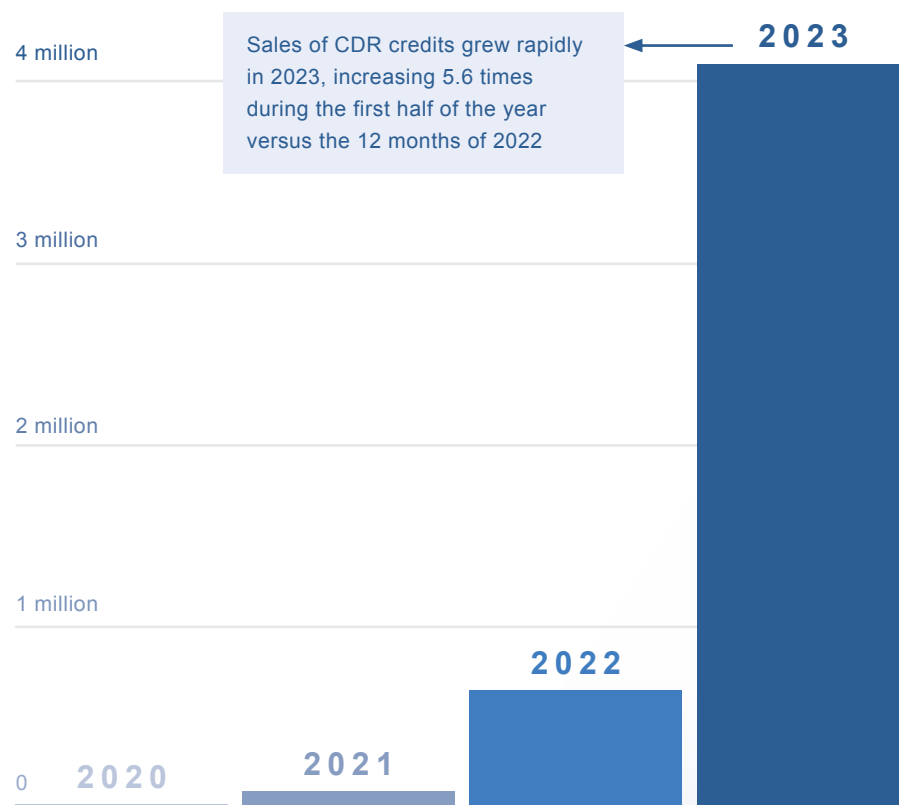
The most rapid way to build demand and accelerate the market will be the inclusion of durable carbon removal in different regulatory mechanisms, creating both downside risk for corporates, while offering upside potential for projects that can provide quality, certainty and lower costs.

Governments have begun introducing policies and incentives to create an enabling environment for companies to explore carbon removals. The implementation of the Infrastructure Investment and Jobs Act and the Inflation Reduction Act in the US in 2023 have been particularly significant, providing not only a demand signal but an effective carbon price through the 45Q tax

credit. In Japan, the Tokyo Stock Exchange began trading government-certified carbon emissions credits to encourage ambitious cuts across industries.

In 2024, the EU's first Carbon Removal Certification Framework is set to recognize the importance of high-quality, durable carbon removal and announce legally-binding targets for EU member states. The UK Emissions Trading Scheme will also include the use of durable tech CDR for the first time. Despite these positive developments, **increased commitment is still needed to transform the 2030–2040 market to meet climate goals.**

CARBON REMOVAL PURCHASES 2020-2023



Source: CDR.fyi

TOP FOUR DURABLE CDR PURCHASERS HAVE 82% MARKET SHARE



Source: CDR.fyi

Subsequently, NextGen has been supportive of efforts to integrate durable CDR into regional compliance frameworks and advocacy initiatives to establish favorable market conditions. Ongoing efforts to build market demand include: a dialogue series with a range of stakeholders to identify net-zero roadblocks and recognition of the role of carbon removals, speaker engagements at major climate events including New York Climate Week, COP28 and Davos to increase visibility for carbon removal; engagement with industry associations to emphasize the need for financial incentives for promoting demand; endorsement of community efforts to establish dual parallel targets to ensure emission reduction efforts are not impacted (namely for decarbonization and carbon removals); active collaboration with global organizations including the BMW Foundation, Carbon Gap, Carbon Business Council, First Movers Coalition, Rethinking Removals; and institutional support in establishing new regional carbon removal organizations in Europe—such as Deutscher Verband für Negative Emissionen (DVNE).

The development of credible approaches to Monitoring, Reporting and Verification (MRV) have been vital to NextGen's effort in stimulating demand. The desire of buyers to ensure not only that a retired CDR is credible and meets each buyer's quality assessment expectations requires a proactive approach to MRV, while the

consistency in assessment of these approaches provides buyers with the required fungibility to cover their positions in the event a project fails to deliver.

To address this issue, NextGen has prioritized efforts that support a high level of rigor related to emerging methodologies. Given that methodologies for several technologies are still in the process of development, while some existing methodologies still offer significant room for interpretation and do not provide the level of consistency to provide comfort to buyers, NextGen has been actively engaging with ICROA to ensure that a credible route to certification across all technologies can be established.

Meanwhile, the emergence of new standards bodies has created opportunities for reflecting on methodological approaches, but has also created some confusion for buyers which NextGen is proactively trying to navigate.

While we wait for guidelines from governments on what constitutes high-quality, durable CDR for use in compliance markets, NextGen will continue to play a central role in encouraging the highest quality standards from carbon removal technology projects through initiatives such as Carbon Business Council's Enhanced Weathering Working Group and Carbon Capture and Storage+ (CCS+) Initiative, as well as ensuring that projects assessed by NextGen are certified under robust ICROA-endorsed frameworks.

1. As of November 15, 2023 (CDR.fyi)



“As a Cornerstone Member of the Carbon Business Council, a nonprofit trade association with more than 100 carbon management companies, NextGen CDR Facility plays an important role in supporting the carbon removal ecosystem and advocating for the responsible growth of carbon removals. We’ve been fortunate to welcome Philip Moss into several panels and events over the last several months to help share NextGen’s innovative approach and look forward to continuing to support NextGen’s critical work as we look ahead to 2024”.

BEN RUBIN, EXECUTIVE DIRECTOR, CARBON BUSINESS COUNCIL



“NextGen is committed to scaling up a high-quality carbon removal industry, an essential component in the journey towards decarbonization. We are confident in achieving this mission, leveraging Mitsubishi Corporation’s expertise in business assessment and development in various industries including carbon removal, combined with South Pole’s extensive experience in the carbon credit industry. This unique synergy positions NextGen to make a significant impact in the field of carbon removal”.

MASAO KOYAMA, HEAD OF CDR, MITSUBISHI CORPORATION



“In a market as opaque as the carbon removal market, early-stage suppliers struggle with customer discovery. Working with NextGen and its buyers has allowed our startups to get invaluable market signals and real-world feedback to their carbon removal solutions”.

MARIAN KRÜGER, CO-FOUNDER AND MANAGING DIRECTOR, REMOVE

1 Stimulating the market

NextGen has made a significant contribution to supporting technologies through purchases and stimulating the overall carbon removal market:

- Commitment to purchase CDRs from three projects for a total of **193,125 t/CO₂ removed²**
- Among the **top four global buyers²**
- Following the announcement of NextGen's purchases in April 2023, the CDR market saw a flurry of additional deals that **increased the overall global commitments for CDRs by 4 times²**

2 Setting standards

NextGen's desire to procure high-quality, certified CDRs from inception means that advocacy for a greater level of rigor and quality control in the assessment and issuance of CDRs has become critical to operations:

- **Project certification:** NextGen requirements for certification under globally recognized ICROA standards has resulted in a dramatic uptick in projects seeking certification.
- **Robust methodologies:** NextGen has strongly supported the development of CDR-specific methodologies by the CCS+ Initiative and has actively engaged with standards bodies to strengthen existing methodologies such as the Enhanced Weathering Working Group with the Carbon Business Council.
- **Best practice:** As a result of developing a deep pipeline, NextGen has engaged with over 100 projects on best practice approaches for assessing the volume of carbon that can be credibly removed, as well as providing guidance on navigating the carbon registration and certification processes.

3 Scaling projects

NextGen has been a catalyst for portfolio projects, helping them to expand and signaling to the market to unlock more offtakes:



"The carbon removal landscape can be confusing and complicated for potential buyers. Going through NextGen's robust due diligence and negotiation process enabled the project to engage in additional CDR sales conversations".

BEN NELSON, DIRECTOR OF CARBON PROGRAMS, SUMMIT CARBON SOLUTIONS



"NextGen investment was a significant leverage point, increasing the volume of CO₂ sold, enabling additional CDR sales conversations, and supporting future debt financing requirements".

LEE BLANK, CEO, SUMMIT CARBON SOLUTIONS

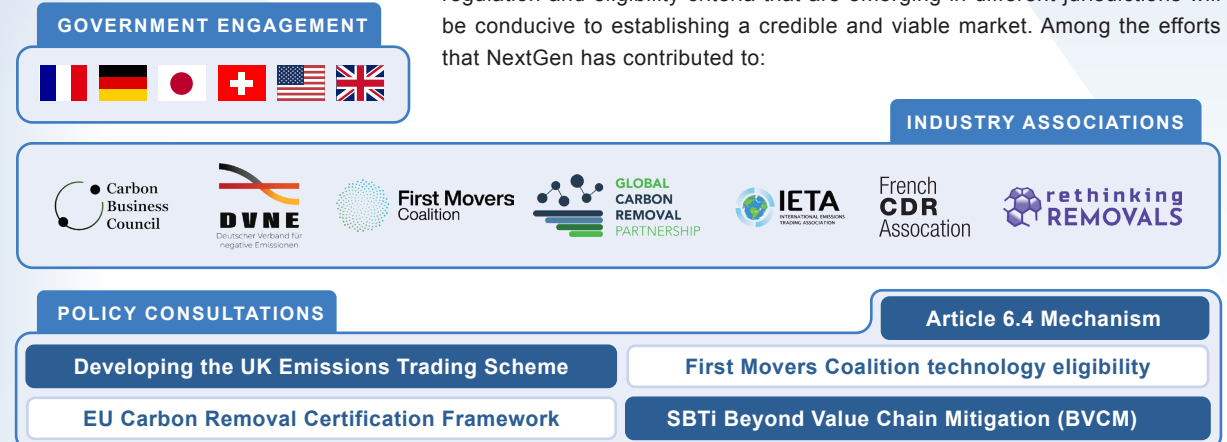


"NextGen's long-term offtake contract has significantly bolstered the bankability of our project".

HENRIETTA MOON, CEO AND CO-FOUNDER, CARBO CULTURE

4 Shaping policy

NextGen has actively advocated with policy makers and helped develop inputs from industry associations on behalf of buyers. Such engagement ensures that regulation and eligibility criteria that are emerging in different jurisdictions will be conducive to establishing a credible and viable market. Among the efforts that NextGen has contributed to:



5 Leadership in the CDR ecosystem

NextGen has taken on a leadership role in ensuring the development of a robust carbon removal market ecosystem through engagement with the broader community:

BUILDING PARTNERSHIPS

ECOSYSTEM ENGAGEMENT



THOUGHT LEADERSHIP



"The NextGen Facility stands as a force driving the engineered carbon dioxide removal market forward".

TONY COTTONE, VICE PRESIDENT, 1POINTFIVE



"Investment in emerging climate technologies is needed today to unlock their potential and achieve net-zero emissions by 2050. We are proud to be an anchor buyer in the Next Gen Facility and to support pioneering carbon removal technologies that will permanently remove emissions from the atmosphere at scale".

CHRISTOPH SCHWEIZER, CEO,
BOSTON CONSULTING GROUP

BCG joined as one of five founding buyers, bringing together climate leaders from across industries and regions. By participating in the NextGen facility, BCG is sending a strong demand signal that companies are ready to support the scale-up of innovative, high-quality removals today.

As part of BCG's commitment to achieve net-zero climate impact by 2030, they have established science-based targets which aim to halve BCG's emissions intensity by 2025. To address their remaining emissions, BCG is investing in a portfolio of high-quality CDRs from the VCM. In addition to their purchases through NextGen, BCG has directly purchased CDRs from two US and European Direct Air Capture and Storage projects, to advance their carbon credit strategy of transitioning to a net-zero portfolio composed entirely of CDR credits by 2030. BCG has also supported the market through carbon removal focused research geared towards buyers, including the recent publication of their report: The Time for Carbon Removal Has Come.



"We are still a long way from achieving our climate goals. Business, society and politics are moving in the right direction far too slowly. To become net-zero as quickly as possible, we need innovative technical solutions for CO₂ removal. We are convinced that NextGen is exactly the right model to find, promote and scale these carbon removal solutions, because it pools the commitment and ensures that the money flows into the right projects".

H.S.H. PRINCE MAX VON UND
ZU LIECHTENSTEIN, CHAIRMAN
LGT GROUP

In 2022 LGT developed its sustainability strategy which expands on the commitment to achieving net-zero by 2030 to the extent that only unavoidable emissions will need to be neutralized through long-lived carbon removal and other high-quality offsetting instruments. Agreements with technology-based removal projects such as NextGen are an important aspect of this strategy and enable LGT to lead as a responsible buyer in the carbon removal market, and actively work to build the market for CDRs. In this way LGT are actively working to establish and further the CDR market. In addition to their purchases through NextGen, LGT has also directly purchased CDRs from a European Direct Air Capture and Storage project.



"NextGen CDR facility has been a great learning platform for us as an entry point of the engineered carbon removal space. The discussions with the experienced, like-minded partners are indispensable and we are learning a lot from them. We hope to keep sending a strong signal to the CDR market and create collective impacts that any single company cannot make alone".

TATSURO WATANABE, CHIEF
ENVIRONMENT SUSTAINABILITY
OFFICER, MITSUI O.S.K. LINES

Mitsui O.S.K. Lines (MOL) is one of a few companies among hard-to-abate sectors that takes actions for Beyond Value Chain with a sense of the urgency that there is a limited remaining carbon budget to achieve the Paris target. Since May 2022, it has participated in First Movers Coalition by committing to purchase 50,000 t of CDRs by 2030. In 2023, MOL further raised its ambition and established quantitative KPIs and milestones to measure progress on actions aimed at achieving net-zero emissions by 2050. It means that MOL Group committed to not only reduce more than 90% of their emissions based on the science-based abatement curve and neutralize all residual emissions with CDRs by 2050, but also contribute to the removal of a cumulative 2.2 Mt of CO₂ by 2030. NextGen is pivotal to achieving the 2030 milestone goal for MOL.



"One of the ambitions of the WEF Alliance of CEO Climate Leaders is to support its members in accessing the nascent market for high-quality technological carbon removal. NextGen provides one of the important routes to collectively source verified removals from a broad range of suppliers, technologies and geographies".

CHRISTIAN MUMENTHALER, SWISS
RE GROUP CEO AND CO-CHAIR
OF THE WEF ALLIANCE OF CEO
CLIMATE LEADERS

Carbon removal is an important part of Swiss Re's ambition to reach net-zero greenhouse gas emissions in its operations by 2030. Since May 2022, Swiss Re has joined the First Movers Coalition, committing to purchase 50,000 t of CDRs or US \$25M of carbon removal by 2030. Swiss Re has also set a voluntary target to purchase 100% carbon removal as early as 2030. Meanwhile, Swiss Re is increasing its real internal carbon price up from \$100 /tCO₂ in 2021 to \$200 /tCO₂ in 2030. Swiss Re also set interim targets to reach 100% of CDRs in its portfolio by 2030. To incentivize this shift, Swiss Re will increase their internal carbon levy to US \$200/t by 2030. In addition to their purchases through NextGen, Swiss Re has directly purchased CDRs from a number of biochar projects, as well as a European DACS project.



"NextGen is absolutely necessary for making carbon removal a scalable reality. Offering certainty as an anchor buyer is one of the ways UBS is supporting the development of innovative climate technologies. We are committed to working in partnership on the solutions we need to achieve net-zero emissions by 2050".

MICHAEL BALDINGER, UBS CHIEF
SUSTAINABILITY OFFICER

For UBS, NextGen is about sending a clear message to the market of what is possible. In 2022 UBS brought forward its net-zero goal for scope 1 and 2 emissions from 2050 to 2025 and opted to purchase more than 80,000 t of CDRs. The NextGen partnership is key to ensuring enough high-quality certified CDRs are available from 2025 to net residual emissions. In addition to their purchases through NextGen, UBS has directly purchased CDRs from a European Product Mineralization project as well as a European Direct Air Capture and Storage project.



Large scale biogenic CCS project via dedicated CO₂ pipeline

Project	Summit Carbon Solutions
Technology	Biomass Carbon Removal and Storage (BiCRS)
Storage	Geological in saline formations, via Class VI injection well
Location(s)	Five midwestern states, USA
Removal volume (Co ₂ e)	4 Mt per year
Co-benefits	New jobs: 11,645 construction and operations jobs in rural America Sustainable production: Measurement of total direct and indirect CO ₂ capture and sequestration Tech transfer: Upskilling local ethanol refinery owners in sustainable practices and use of carbon capture technology, enabling them to provide net-zero fuel by 2030

Largest scale Direct Air Capture and Storage project

Project	STRATOS
Technology	Direct Air Capture and Storage, using Carbon Engineering's patented technology
Storage	The CO ₂ underlying carbon dioxide removal credits will be geologically stored via Class VI injection well(s)
Location(s)	Texas, USA
Removal volume (Co ₂ e)	0.5 Mt per year when fully operational
Co-benefits	New jobs: STRATOS is expected to employ more than 1,000 people during the construction phase and up to 75 once operational Renewable energy: Energy needs will be met with solar power and renewable grid sources Tech transfer: Teaching and re-skilling programmes for the oil and gas employed community

PROJECT DETAIL

Once completed, Summit Carbon Solutions' (SCS) project will be the largest biomass carbon removal and storage (BiCRS) project in the world. SCS partners with more than 30 biomass fermentation plants across the American Midwest, capturing carbon dioxide from these plants, and channeling it to North Dakota where it is permanently and safely stored underground. The project will have the capacity to capture and permanently store up to 18 Mt of biogenic CO₂ per year, of which more than 4 Mt CO₂e per year will be certified as CDRs.

NEXTGEN IMPACT

Going through NextGen's robust due diligence and negotiation process enabled SCS to leverage market trust to sell additional carbon removals. As a result of the announcement, SCS was able to get commitment for an **additional 600 kt of biogenic emissions for removal**. Additionally, the project was able to secure debt financing as a result of pre-sales of CDRs to NextGen, given the Facility's status as an **investor-grade, creditworthy counterparty**. Following the public release of the agreement with NextGen, SCS was able to secure the funding to add two additional biorefineries to their infrastructure plans.



"NextGen investment was a significant leverage point in several aspects of our project, including increasing the volume of CO₂ we will be impacting, enabling additional CDR sales conversations, and future debt financing requirements. As a company, we are able to deliver quality, permanence, and scale, and we appreciate NextGen's recognition of that. I can honestly say that the project would not be in the leading position it is in without the support of the NextGen buyers".

LEE BLANK, CEO, SUMMIT CARBON SOLUTIONS

PROJECT DETAIL

STRATOS will be a first-of-its-kind Direct Air Capture and Storage (DACs) facility. Once complete, the facility is expected to be the largest in the world sequestering up to 500,000 t CO₂ per year, over 50 times larger than any existing DACS plant and ~14 times larger than any plant under construction. 1PointFive will utilize Carbon Engineering's patented modular DACS technology, enabling scale at speed that has not yet been achievable. To ensure the positive environmental and social impact of the project, electricity requirements will be powered by zero-emission energy sources, and re-skilling programmes will be implemented for the oil and gas community surrounding the plant.

NEXTGEN IMPACT

NextGen was one of 1PointFive's early purchasers of CDRs from their STRATOS facility, supporting this vital technology and the acceleration of achieving climate-relevant scale. 1PointFive's robust CDR solution enables measurement and durability; additional buyers include Airbus, Amazon, TD Securities, ANA, Shopify and ThermoFisher. Commercialization at megatonne scale has been part of 1PointFive's expansion plans from the outset and following NextGen's CDR announcement, 1PointFive began pre-FEED on their second facility in South Texas, which is expected to capture and sequester up to 1,000,000 t CO₂ per year.



"NextGen stands as a force driving the engineered carbon dioxide removal market forward. The offtake agreement was instrumental in supporting the largest planned DACS facility to date, STRATOS, which is expected to commence operations in mid-2025".

TONY COTTONE, VICE PRESIDENT, 1POINTFIVE



First Scalable Biochar Project

Project	Alpha Facility C1
Technology	High Temperature Biochar using patented Carbolysis™ technology
Storage	Conversion of biomass into highly persistent carbon as biochar
Location(s)	Greater Helsinki, Finland
Removal volume (CO ₂ e)	0.02 Mt per year
Co-benefits	New jobs: 35 green jobs Clean energy: 60 MWh of clean heat per year Improved environment: Enhanced pollutant absorption in soil

PROJECT DETAIL

Carbo Culture's first commercial facility, Alpha, is a comprehensive new technology deployment that is a major stepping stone to industrial-scale carbon removal. The plant will feature Carbo Culture's efficient Carbolysis™ process to remove over 20,000 t/CO₂ per year through the production of biochar, a product created through the conversion of sustainable biomass into a persistent carbon product. The high-temperature process used by Carbo Culture was custom-developed to maximize carbon removal capacity and to achieve high permanence in the biochar. A byproduct of converting biomass to biochar is syngas, which is turned into 60 MWh per year of carbon-neutral heat for the local district heating network via this project.

NEXTGEN IMPACT

NextGen's endorsement provided a positive demand signal, **helping to close out the required offtake commitments which enabled Carbon Culture to secure the financing** to begin construction of the Alpha commercial plant. Following NextGen's due diligence and purchase commitment, Carbo Culture have progressed with plans to commission the Alpha plant and **have subsequently announced plans to build an additional 10 plants in Europe and the US.**



"NextGen's long-term offtake contract has significantly bolstered the bankability of our biochar carbon removal project, playing a critical role in securing the funding required to drive our initiative forward. Long-term offtake contracts, like the one with NextGen, are fundamental in assuring lenders of the revenue stability necessary for securing debt financing, making them a foundation in our project financing strategy".

HENRIETTA MOON, CO-FOUNDER AND CEO, CARBO CULTURE

The opening of the Reactor 3 prototype facility.
Photo: Carbo Culture.



With thanks to contributors

1PointFive

Boston Consulting Group

BMW Foundation

Carbo Culture

Carbon Business Council

Carbon Gap

Carbon Removal France

**Deutscher Verband für
negative Emissionen**

First Movers Coalition

**Global Carbon Removal
Partnership**

IETA

LGT Group

Mitsubishi Corporation

Mitsui O.S.K. Lines

Negative Emissions Platform

Puro.earth

Remove

Rethinking Removals

South Pole

Summit Carbon Solutions

Swiss Re

UBS

Verra CCS+ Initiative

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