

# 15 years of impact

## Sustainability Report 2024



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# 15 years of impact

# 1

## 1.1 A message from our CEOs

### Dear shareholders,

Climate change, nature, and global economic health are intertwined. At Climeworks, we are on a mission to turn a global responsibility into an economic amplifier: removing carbon, while delivering economic value to our customers, investors, and governments—demonstrating that a decarbonized world is key to growth and prosperity.

Albeit macroeconomic and geopolitical challenges, which will remain throughout 2025, Climeworks achieved remarkable milestones in 2024 and continues its learning journey. We unveiled Mammoth, the world's largest Direct Air Capture and Storage facility. Our first plant Orca delivered the first certified carbon removal services under the Puro Standard, earned the world's only AAA-rating from BeZero Carbon to date. We launched Climeworks Solutions, advancing Climeworks to a holistic carbon removal provider offering now both engineered and nature-based solutions. 2024 also proved that our R&D and testing efforts paid off:



Large-scale tests confirmed our Generation 3 technology will cut costs and energy consumption by half and triple our sorbent's lifespan.

The geopolitical environment for clean tech remains challenging, but we have the right strategy and focus in place to face these. We thank you as our partners, investors, customers, and suppliers for accompanying us on our journey ahead. Our biggest thank you goes to our employees. Climeworkers are the backbone of our advancement and success, and we will continue to create a workplace where everyone can thrive.

Sincerely,

Jan Wurzbacher

Christoph Gebald

## 1.2 Our company – 15 years of impact

At Climeworks, we are driven by a shared purpose: to protect our planet, the only home we have. After 15 years, we are today a leading high-quality carbon removal provider, combining decades of expertise in Direct Air Capture technology with holistic carbon removal solutions—leveraging nature-based and engineered solutions side by side.

Climeworks advises companies on their carbon removal strategies and provides tailored portfolios of nature-based and engineered approaches, offering end-to-end services

to help achieve net-zero goals. We run the world's first two Direct Air Capture plants in Iceland, demonstrating our core commitment to high-quality carbon removal that is backed by over 15 years of pioneering research, development, and deployment.

By advancing the most reliable solutions in the market, Climeworks accelerates the global transition to net zero, unlocking economic value for businesses, governments, and society.

### Highlights of 2024

#### Mammoth

Inauguration of world's largest operating plant, nine times bigger than its predecessor, Orca.



#### >USD 100m spend

with build-up of new testing facilities, from small to large, including a mobile testing facility

#### 1st certified DAC

World's **first ever certified Direct Air Capture removal** through the puro.earth registry

**puro · earth**

#### AAA-rating

**First ever given AAA-rating** for our Direct Air Capture plant Orca from BeZero



#### Generation 3 efficiency gains

- Double CO<sub>2</sub> capture capacity
- Halve energy consumption per ton of CO<sub>2</sub>
- Triple material lifetime
- Cut costs per ton of CO<sub>2</sub> by 50%

# Gen 3

# 2,000 — 3,000

**job creation** potential per 1 million ton (megaton) plant



>300 removal supplier screened, thereof <5% pass our rigorous quality assurance

### Rigorous quality assurance

Establishment of our

### Science Advisory Board

# >120,000

Operational hours

>10,000 hours testing of our 3rd Generation for future plants

# >20,000

carbon removal purchases through our [online store](#)



# About our company

# 2

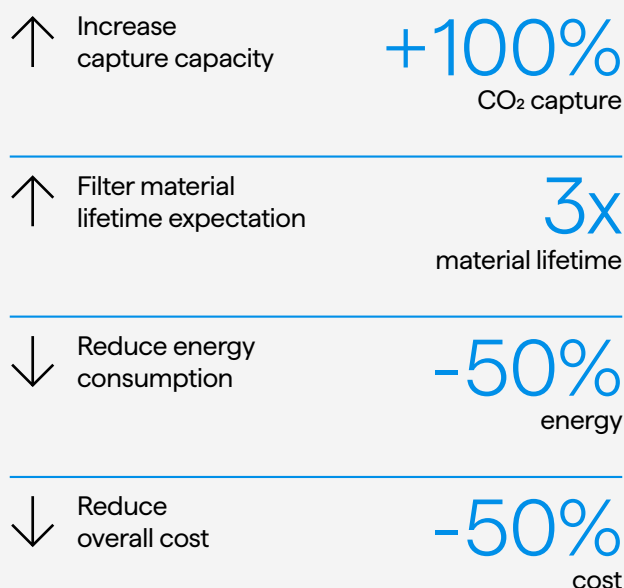
## 2.1 Technology leadership

### Generation 3 confirms efficiency expectations

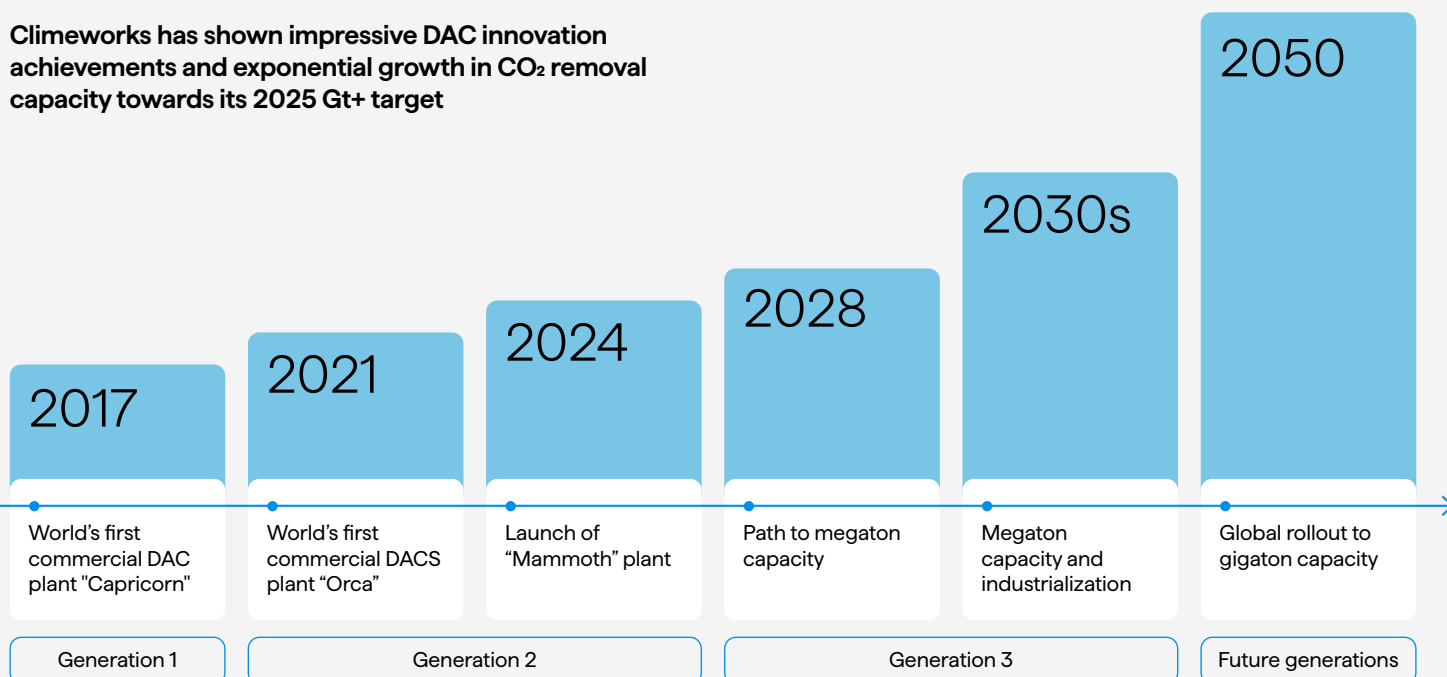
In June 2024, Climeworks revealed its Generation 3 technology, confirming that Direct Air Capture may follow the same scale-up and cost-reduction path as other nascent industries like solar energy. Gen 3 technology and design have been developed and validated over the past five years, and testing was initiated at full scale.

Climeworks has an R&D team of 180 people, including 50 specialists dedicated to developing Gen 3 technology. These specialists accumulated 15,000 hours of testing the new sorbent material and ran more than 10,000 CO<sub>2</sub> capture and release cycles by the end of 2024 to optimize the system's durability and efficiency.

Our strategy of deploying and researching in parallel is instrumental in understanding the real-world conditions in which our technology operates. It has allowed us to create material that works not only in the lab but is also successful in the field.



Climeworks has shown impressive DAC innovation achievements and exponential growth in CO<sub>2</sub> removal capacity towards its 2025 Gt+ target





## 2.2 Climeworks Solutions

Bundling the best of removal solutions in the market



In April 2024, Climeworks expanded its offering by introducing Climeworks Solutions with individually tailored, highest-quality nature- and engineered-based carbon removal portfolios.

While Climeworks was born with a mission to scale one of the most promising carbon removal technologies, it needs all efforts to reduce emissions, and it requires all CO<sub>2</sub> removal approaches at hand. This is why Climeworks offers holistic, high-quality carbon removal portfolios, supplementary to its own Direct Air Capture technology, to turbocharge the efforts against global warming.

Clients are increasingly seeking guidance on evaluating carbon removal solutions such as Reforestation, Biochar, Enhanced Rock Weathering, and Bioenergy with Carbon Capture and Storage (BECCS). For many sustainability teams, these technologies represent emerging or technically complex approaches that require specialized knowledge to assess effectively. Understanding their respective advantages and limitations—such as additionality, measurability, durability, co-benefits, and cost—demands a high level of expertise.

### Deep dive: Only few suppliers pass our rigorous quality assurance and due diligence process

Supplier

**Identification of best-in-class suppliers** within viable techs

**300+**

Potential suppliers screened across selected CDR technologies

**High-level supplier due diligence & commercial discussions**

**30%**

Of potential suppliers undergo high-level due diligence

Supplier/Project

**In-depth quality due diligence at supplier & project level**

**10%**

Of potential suppliers undergo our in-depth due diligence process

**Only highest, best-in-class quality, most scalable suppliers across CDR technologies make it.**

**<5%**

of potential suppliers pass our rigorous quality assurance and vetting process\*

\*Rigorous monitoring of suppliers and deliveries



## Climeworks' framework to identify highest quality carbon dioxide removal

By Andrea Schorn, Michael Denner, Moritz Benisch, and Sacha Corby

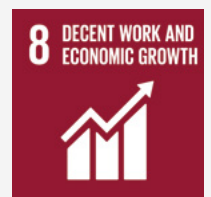


 climeworks

Learn more about how we identify the highest-quality carbon removal approaches for our Climeworks Solutions portfolios.

[➔ Read the report](#)

**Climeworks - Purpose-driven to fight climate change, addressing several UN SDGs.**





## 2.3 A thank you to our partners

Our investors, clients, partners, and suppliers are the real climate pioneers. We express our deepest gratitude to those who support us.

Our investors' and first buyers' trust enabled Climeworks' growth to today. Climeworks has been the Direct Air Capture pioneer and still is the only one with two commercially operating plants running in the field. Therefore, our investors and clients support the whole removal industry to grow, help to establish standards, and push high-quality carbon removal.

A special thank you goes to one of our first round investors. Was he the boldest one, the biggest visionary? He certainly convinced others to follow and trust in Christoph Gebald's and Jan Wurzbacher's idea, paving Climeworks' journey.



**Markus Dutly**  
CEO CADFEM,  
First investor



I first met Christoph Gebald around 2005, when he was still in high school. He won a prize for the best work on the subject of finite element method, which our company had advertised for high school students. At the time, we advised him to study at ETHZ. Years later, when we were still in contact through the ETH Juniors, I invited him to our local user conference in Zurich. He had just founded his startup together with Jan Wurzbacher. At the time, he told me that an investor had dropped out. We arranged to meet shortly afterwards to view their first prototype at ETH and to find out more about their business model.

The prototype was a kind of Coca-Cola can that absorbed 1 gram of CO<sub>2</sub> per day. At least. The basis had been laid. We decided to take the risk together with Jan and Christoph. I was never disappointed as a person and I was able to see how they grew as entrepreneurs. Today they confer with politicians, managers, major investors and royal families and have always remained down to earth. For a few years, the two of them honored my mother with dinner once a year. My mother (now 96 years old) always wanted to know first-hand how Climeworks was doing. The menu was Mama Dutly's legendary meatloaf and in return she received a small bouquet of flowers from the two of them.

Years later I found out that CADFEM International AG was the very first investor. The others followed like falling dominoes. We even gave them a private loan so that they could pay in the share capital. We never had any doubts about their integrity and sincerity. We have experienced a lot together over the years.

What I admire most about them both is that they are still the same people and characters as when they welcomed me to ETH in their confirmation suits. I remember how they served us the cheapest white wine that Denner had at the first AGM, how we simply set up the first prototype for the long-term test in Aadorf without a building permit. How they politely thanked me with a card when my mother sent them some salamis to the shop for Christmas and these were distributed to the staff in the kitchen. But we as CADFEM (Suisse) AG were also able to make our contribution to making the Climeworks containers more stable, durable and performant. We are still able to support the engineering team in their work today. Thank you very much. Wherever the journey takes us, it has enriched my life. We at CADFEM International AG are proud that we have done our part for Climeworks and the world. Suck it baby!



Our suppliers and partners are building the carbon removal value chain together with us. It entails continuous learning, paving new methodologies, standards, or product life-cycle assessment, or special contracts.

Alongside our investors, corporate customers, and suppliers, our Climeworks Pioneers community has been growing since 2019, when we first introduced our online carbon removal webshop. Since then, over 20,000 individuals and companies have joined our mission and started removing CO<sub>2</sub> from the air with Climeworks. Their commitment and support has been invaluable to Climeworks in raising awareness on carbon removal worldwide, across industries and organizations of all sizes. Thank you to all Climeworks Pioneers for your contribution to our mission of scaling tangible, impactful, and qualitative carbon removal solutions.

“

**Carrie Harris, Director of Sustainability at British Airways**, said: “There is no pathway to net zero for aviation without carbon removals. We are delighted to be working with Climeworks, whose Direct Air Capture solution provides permanent, certified removals, which is a unique quality in this young industry. While a small purchase in comparison to our total emissions, we have purchased these carbon removal credits to help stimulate the carbon removals market and help lay the groundwork for the large-scale changes needed to meet our climate goals.”

“

**Marianne Tikkanen, Head of Standard at Puro.earth**, says: “Climeworks stands as the first direct air capture company that has reached certification with the Puro Standard, establishing the benchmark for the entire market, where transparency and clear accounting are paramount to customers. At Puro.earth, we continue in our dedication to establishing stringent methodologies that instill confidence in buyers and drive the growth, standardization, and liquidity of engineered CDR markets.”

“

**Jeff, from Canada**

“I became a Climeworks Pioneer in 2022 for two reasons: remove CO<sub>2</sub> from my business flights and remove CO<sub>2</sub> from my personal travel. (...) I wanted to neutralize the flight emissions I did produce, do something more permanent, that had real science behind it, and that had auditable accountability. Climeworks is where it's at.”

“

**118group, from U.S.**

“While our efforts at reducing our footprint are small in comparison to large corporates, companies must do what they can, no matter their size or revenue. I'm hopeful that our efforts inspire other small firms (...). Climeworks makes it easy for small businesses to make a difference by offering various carbon removal "products" at various investment levels.”



And lastly and most importantly our Climeworksers, who are at the core of what our company has achieved to date and will achieve going forward. Our journey is meaningful but certainly not easy—thank you for your passion, stamina, and commitment in this joint quest.



“

**Stefan Schenk**  
Climeworker

I am extremely proud and passionate for what we do at Climeworks for many reasons, but foremost for our technology leadership and strong commitment towards delivering a functioning and scalable Direct Air Capture technology offering potential to remove gigatons of CO<sub>2</sub>.

2024 was the year where the past five years of developing Gen3 technology in the lab and on small to mid-scale test facilities came to carry its fruit, showcasing our development progress and underlining the quality of all the data gathered prior to this.



“

**Elizabeth Canovic**  
Climeworker

It's going to take a global effort to race to net zero and mitigate the worst effects of climate change, but everyone has something they can contribute. As a systems integration manager at Climeworks, I have the opportunity to connect multiple science & engineering disciplines together to develop our next generation of carbon removal technologies. It's challenging but rewarding work, especially when surrounded by a top-notch R&D team.

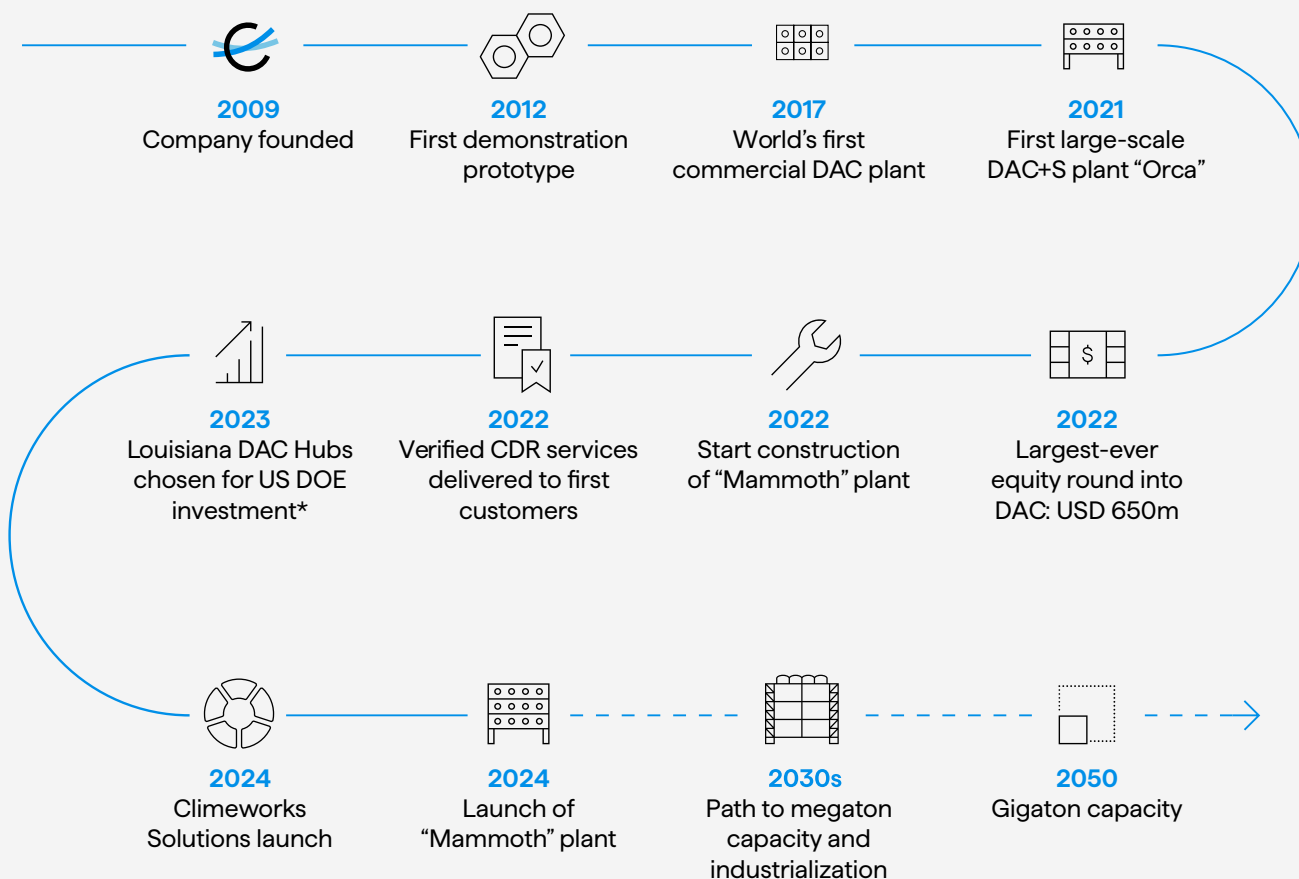




## 2.4 Climeworks' business model

Our values and future outlook

### Our journey to impact at scale



Climeworks is a leading high-quality carbon removal provider, combining decades of expertise in Direct Air Capture technology with holistic carbon removal solutions.

With an end-to-end offering of high-quality carbon removal, we manage solutions from strategy to sourcing, optimization, and delivery. Our tailored portfolios of nature-based and engineered solutions are designed to maximize business value and minimize risks, based on our rigorous due diligence of measurable, additional, and scalable projects.

Part of our offering is our proprietary Direct Air Capture technology. We run the world's two largest Direct Air Capture and Storage plants in Iceland, powered exclusively by renewable energy, which capture CO<sub>2</sub> from the air to store it permanently underground. All carbon removal services from our plants Orca and Mammoth are third-party certified, demonstrating our quality commitment that is backed by over fifteen years of pioneering research, development, and deployment.

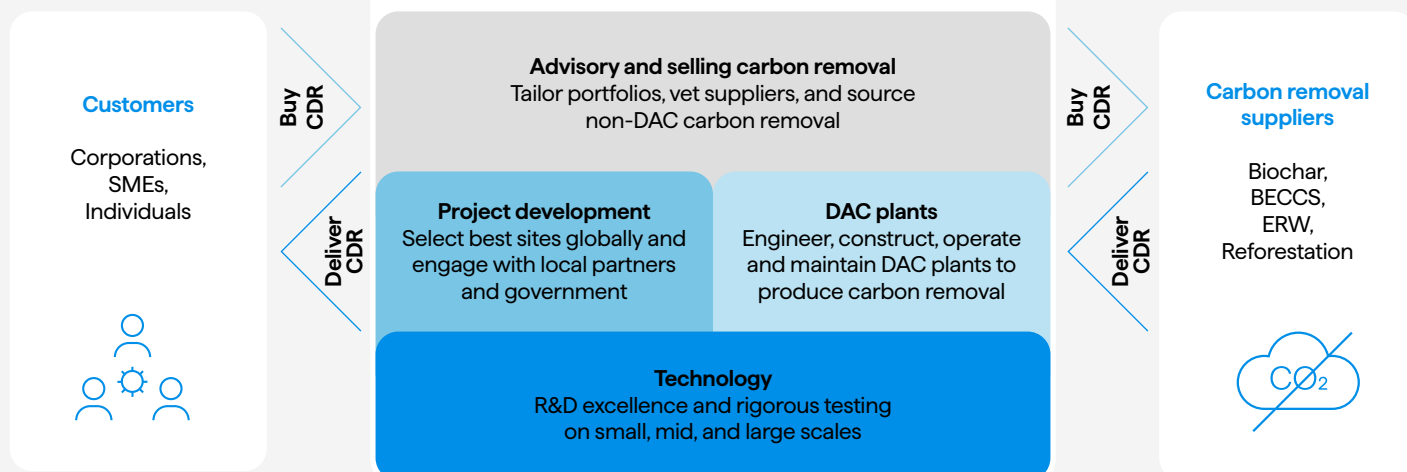
Moving forward, our Generation 3 technology will power our next plant. It will double CO<sub>2</sub> capture capacity per module, halve the energy consumption, increase material lifetime, and cut costs by nearly 50%.

Both nature-based and engineered carbon removal solutions have the potential to create thousands of jobs, unlock new business opportunities, and provide social and environmental co-benefits to communities and nature. By advancing the most reliable and responsible solutions in the market, Climeworks contributes to the global transition to net zero, unlocking economic value for businesses, governments, and society at large.



At Climeworks, we are driven by a shared purpose: to protect our planet, the only home we have. This commitment is at the heart of why we exist and inspires others to join in this work. We're represented across Switzerland, Germany, Iceland, and the U.S. with a team of over 500 people who dare to reclaim control of our climate future and scale carbon removal into a global, trillion-dollar industry.

## Climeworks' business model



## Our foundation





## Overview of Climeworks' global projects

Our team's entrepreneurial spirit has accelerated Climeworks' transformation over the past fifteen years from a university spin-off to a trusted enterprise partner for high-quality carbon removal. We continuously pioneered our Direct Air Capture technology: from providing air-captured CO<sub>2</sub> as a feedstock for a local Swiss greenhouse, the beverage industry, and synthetic fuels, to now offering complete carbon removal portfolios.


And today, as global average temperatures continue to rise—in fact breaching the 1.5°C threshold for the very first

time in 2024—companies are turning to Climeworks to safeguard the planet and their business. By removing CO<sub>2</sub> with a suite of nature-based and engineered approaches, we're on a mission to transform a global responsibility into an economic amplifier.

Climeworks' approach to scaling Direct Air Capture globally continued along our three strategic objectives: low-carbon energy access, CO<sub>2</sub> storage potential, and public funding. Project opportunities that have been identified are being assessed and developed as per the graphic below.



 Ongoing project development

 Completed

## Selected key memberships and associations

To further accelerate and support the market for high-quality carbon removal, Climeworks is part of several associations globally.



Member since 2021

The **Carbon Capture Coalition** is a U.S. nonpartisan collaboration of more than 100 companies, unions, conservation, and environmental policy organizations, building federal policy support to enable economywide, commercial-scale deployment of carbon management technologies.



Co-founded in 2020 and president of the board since 2021

The **Negative Emissions Platform** is a global association to support and promote the contribution of technologically-enabled removals of atmospheric CO<sub>2</sub> to accelerate global efforts to mitigate and reverse climate change.



Board member since 2024

The **Carbon Capture & Storage Association** is the leading European association accelerating the commercial deployment of carbon capture, utilization, and storage (CCUS) through advocacy and collaboration.



Member since 2023

The **Sustainable Markets Initiative** has a mission to build a coordinated global effort to enable the private sector to accelerate the achievement of global climate, biodiversity, and Sustainable Development Goal targets.



Co-founder and board member since 2023

The **Carbon Removal Alliance** brings industry voices and better principles into the U.S. policymaking process, clearing the path for permanent carbon removal to reach scale, drive economic growth, and achieve climate goals.



Co-founded in 2021

The **Swiss Carbon Removal Platform** helps shape the sustainable and socially anchored use of CO<sub>2</sub> removal and storage in Switzerland in a long-term and participatory manner.



Member since 2024

**Cleantech for Europe** represents the trailblazers developing, deploying, and investing in clean technologies across the EU, bridging the gap between Cleantech and policy leaders.



Participant since 2024

The **UN Global Compact** is a voluntary initiative based on CEO commitments to implement universal sustainability practices and to take steps to support UN goals.



Member since 2020

The **Coalition for Negative Emissions** aims to build momentum, shape policy, and develop the market for negative emissions globally.



Member since 2024

The **World Business Council for Sustainable Development** unites more than 230 members from world-leading organizations playing their part in the step-by-step transformations driving us toward a net-zero future.



# Carbon dioxide removal policies and standards

2024 year in review

The consensus is clear: we cannot scale to the gigatons of carbon removal needed to limit global warming without strong policies and standards. What counts as high-quality carbon removal? How should companies think about carbon removal in the context of their net-zero strategies? We saw significant progress on these questions in 2024. In this year-in-review, we provide key milestones relating to carbon removal policies and standards, highlighting the increasing role of governments in shaping the carbon removal market.

## February

The University of Oxford released its revised Principles for Net Zero Aligned Carbon Offsetting, calling for companies to start buying high-durability carbon removal today, with removals reaching 100 percent of credit purchases by the global net zero date (2050 at the latest).

The European Commission released its proposal for a 2040 climate target, including a 90 percent net emissions reduction, which would require up to 75 megatons of permanent carbon removal.

## March

The U.S. federal government announced the Voluntary CDR Purchase Challenge, encouraging corporations to match the USD 35 million Department of Energy commitment to purchase carbon removal (with a total of USD 70 million matching so far from Google and Meta).

## April

The Government of Japan announced its intention to accept international carbon removal credits as part of its GX-ETS, an emissions trading system that will transition from a voluntary to a compliance scheme in 2026.

## May

Climeworks became the first Direct Air Capture provider to receive third-party certification under the Puro Standard. The certification by an internationally recognized standards body is an important step toward standardization of the carbon removal industry, solidifying transparency and trust in the voluntary carbon market.

The U.S. federal government announced 24 semi-finalists, including Climeworks, for the CDR Purchase Pilot Program.

The UK government released its proposal for the integration of carbon removal into the UK Emissions Trading System, with the potential for integration as early as 2028.

The U.S. federal government released Principles for High-Integrity Voluntary Carbon Markets, signaling its support in advancing carbon markets, including by acting as a buyer of carbon credits.

## June

The government of Canada's Carbon Capture, Utilization and Storage Investment Tax Credit became law, with up to 60 percent of CAPEX covered for Direct Air Capture and Storage projects.

## August

BeZero assigned the market's first-ever AAA rating to Climeworks for our Orca plant in Iceland. Of the nearly 500 projects rated by BeZero, fewer than 50 have received A or AA ratings. The prestigious rating reflects the high effectiveness of our project in removing CO<sub>2</sub> and sets a new benchmark for the industry.



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## September

The Science Based Targets Initiative (SBTi) started to examine the role of permanent carbon removal during its revision of the Corporate Net Zero Standard. We expect that SBTi will introduce a requirement for near-term carbon removal targets on top of the existing requirement to neutralize residual emissions in the net-zero target year, which could accelerate demand significantly.

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## October

The government of Canada committed to purchasing USD 7 million (CAD 10 million) of permanent carbon removal through the Low-Carbon Fuel Procurement Program, an initiative to reduce emissions from federal air and marine operations.

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## November

The EU adopted the Carbon Removals and Carbon Farming Framework, setting the foundation for an EU regulatory framework for carbon removal.

The Parties to the Paris Agreement reached an agreement on Article 6 at COP29 in Baku, including approval of a carbon removal standard under Article 6.4.

U.S. Senators Michael Bennet and Lisa Murkowski introduced the bipartisan CDR Investment Act, a tax credit for carbon removal in the U.S. at USD 250 per ton of CO<sub>2</sub>.

CORSIA, aviation's compliance market, approved the first carbon removal methodologies, which means that companies can use carbon removal for their compliance obligations until 2026. We expect that further methodologies will be approved in 2025.

The Swiss government announced that it will open funding applications for carbon removal under the Climate and Innovation Act (KIG). This means that companies will get a subsidy of up to 50 percent (CHF 1.2 billion in total) for their permanent carbon removal purchases between 2025 and 2031.





# Our achievements and focus areas

# 3

## 3.1 2024 ESG achievements

In early 2024, we published our first ever sustainability report for the reporting year 2023. We made progress on our key focus areas defined by the materiality assessment last year. In late 2023, we introduced a new ESG supply chain management, which led to the assessment of 598 newly introduced suppliers in 2024. We followed our community engagement plan in the U.S. during 2024. We continue our dialogue with the communities to ensure our stakeholders are heard and integrated in the build-up of our Direct Air Capture plants' operations.

Our social and environmental health and safety standards have been adapted to the company's growth. Resources have been built up to meet the growing needs in Iceland and the U.S., and we introduced group-wide HSSE champions in every division to underscore and live up to our ZERO harm principles. Our workplace inclusion commitments have been strengthened by a new organization within the ESG governance committee, respectful behavior training, and further bottom-up driven activities.

### The key ESG targets for our company:

- Scaling our technology as well as the whole industry with our high-quality removal portfolio offering
- Net zero by 2030, covering 100% of Scope 1, 2, and 3.
- Ramp-up of removal capacity towards net-zero target is on track, as we already neutralize all of our plants' grey emission footprint through our own operations of the plants.

A key achievement signals the first ever earned AAA-rating from BeZero, highlighting the quality, permanence, and integrity of our solution.

## 3.2 Double materiality assessment

The materiality assessment lays the foundation for a sustainability strategy and reporting. It identifies and prioritizes the most material sustainability issues for our stakeholders and our business to enable long-term success.

This year, we follow a double materiality assessment approach, which reflects the idea that companies should consider and address both **financial materiality** (impact on Climeworks' business success) as well as **environmental/ social materiality** (Climeworks' impact on the environment and society).

For our materiality assessment, we engage with and consider internal and external stakeholders to identify the priority topics to focus on.

### Our key stakeholders in 2024 were:

- Customers
- Investors
- Employees
- Communities in which we operate
- Climate community

### Materiality assessment approach

Topic selection: Customer and investor needs or requirements drive our strategic focus in general and therefore influence our company's target setting through OKRs. The OKRs and our strategic key initiatives are one source of our topics. Additionally, we have in-depth qualitative interviews with our customers as well as investors – most of their needs are driven by increasing regulation, either on ESG topics in general, such as CSRD, or by carbon market developments, which are impacted by changing political and economic environments.

Our employees' opinions are gathered mainly through an employee survey but also through internal communication and engagement channels, and exchange in Leadership Circles and other training formats, or ERG networks. Active and managed engagement with communities in which we operate provides essential information on their perspective, and joint action with the climate community reflects well the concerns and focus topics of that stakeholder group.

Assessment and validation of results

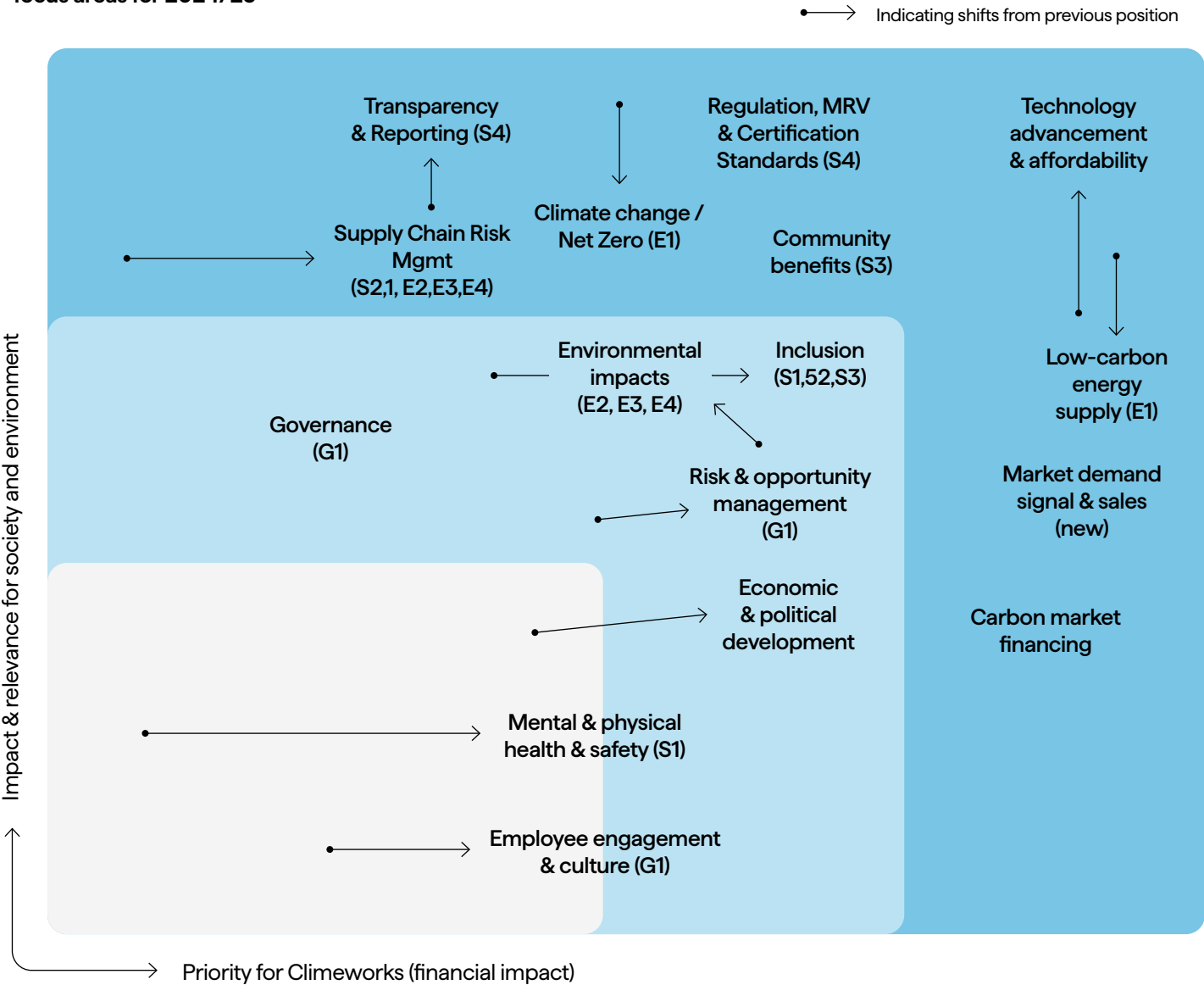
The prioritization and weighting of topics happens both qualitatively and quantitatively through questionnaires or evaluation of our business objectives.

The weighted materiality topics are being reviewed and discussed with key stakeholders, and the level of materiality is refined or confirmed. In 2022, selected interviews with both clients as well as investors took place. These in-depth materiality assessment focused interviews take place every 3-4 years. The Climeworks ESG Governance committee confirms and approves the final Materiality Assessment results.

A few topics shifted from 2023 to 2024. Technological advancement and affordability became key as the industry matures. Macroeconomic and political developments have taken a more critical role. An industry comparable to the renewable industry 30 years ago would rely on a supportive

environment, including subsidies and investments to drive R&D. However, the global economy is shaken by increased uncertainty, which conflicts with government spending on future technologies. Some topics seem to have decreased in relevance, yet they often reflect a new level of maturity of the topic within Climeworks, which leads to lower materiality than in previous years. This would be the case for Regulation, MRV (monitoring, reporting, and verification), and certification. Climeworks has made huge progress, its Direct Air Capture technology being audited, verified, and certified, having received a AAA-rating as an acknowledgement for this progress. All other solutions in Climeworks' carbon removal portfolios adhere to the highest certification and audit standards. With a growing population of Climeworkers, employee concerns and needs become more relevant, therefore, mental and physical health and safety, as well as overall engagement and culture, increased in relevance.

Our stakeholders' perspectives guide our ESG focus areas for 2024/25





# Our impact on the climate

# 4

## 4.1 Our contribution to a net-zero world

Climeworks' actions have always focused on achieving the biggest impact possible to fight climate change. Direct Air Capture as a permanent and highly scalable technology plays a pivotal role. However, it needs more than that—certainly emissions reduction and a change in how we consume and produce products overall. It needs all possible removal solutions: nature-based and engineered removals. All of them are required and play different roles and serve different needs.

That is why we expanded our offering. We have become an end-to-end provider for our clients, advising on the ideal removal strategy for their business model, tailoring portfolios to their needs, budgets, and in line with changing regulatory environments. We stand for high-quality and risk-minimized delivery<sup>1</sup>, which helps our clients to unlock savings and economic benefits. Our Science team, together with the Science Advisory Network, assesses, vets, and monitors existing and developing removal solutions. The currently offered removal solutions meet our high-quality criteria.



“

I am proud and excited that Climeworks aims to advance all removal solutions, including nature-based ones.

Addressing climate change requires to consider and stabilize the whole ecosystem, especially nature, biodiversity, and marine systems.

**Franziska Tück,**  
Head of Sustainability at Climeworks

<sup>1</sup> Through hedged removal solutions quantities secured from different vendors incl. buffer capacity and through vetting of quality standards.

# Climeworks carbon removal solutions



Climeworks' **Direct Air Capture** technology removes CO<sub>2</sub> directly from ambient air using large-scale facilities. Powered by low-carbon energy, air is drawn into collector containers, and CO<sub>2</sub> molecules are captured on the solid sorbent located inside. Once saturated, the CO<sub>2</sub> is released by heating the filter to around 100°C. Climeworks collects the pure CO<sub>2</sub> and provides it to its storage partner to store safely and permanently underground for tens of thousands of years. Our technology is highly scalable, energy-efficient, uses a small land footprint, and has the potential to create thousands of jobs.



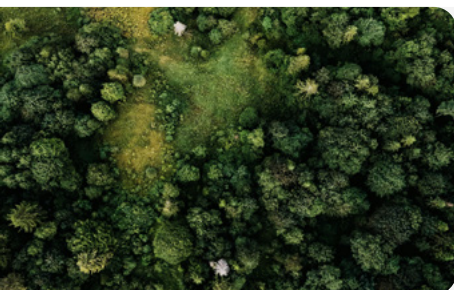
**Bioenergy with Carbon Capture and Storage (BECCS)** combines renewable energy generation with negative emissions by utilizing biomass to take up CO<sub>2</sub> during growth. This biomass is then processed for energy, and the resulting CO<sub>2</sub> emissions are captured and stored deep underground in geological formations. With CO<sub>2</sub> securely stored for millennia, BECCS stands out for its high durability and dual functionality. It provides a renewable energy source while drawing down carbon from the atmosphere.



**Enhanced Rock Weathering (ERW)** accelerates natural chemical processes by spreading finely crushed silicate rocks over land. These rocks react with atmospheric CO<sub>2</sub> to form stable bicarbonates or carbonates that remain sequestered for thousands of years. Beyond its remarkable durability, Enhanced Rock Weathering improves soil health and contributes to ocean alkalinity, mitigating acidification when dissolved minerals enter water bodies. This approach requires minimal long-term intervention, making it a scalable solution for carbon sequestration.



**Biochar** offers a versatile solution for carbon removal. Produced by thermally decomposing biomass under low-oxygen conditions, Biochar locks carbon into a stable form that can be integrated into soils. This process not only sequesters carbon for hundreds of years but also enhances soil fertility, improves water retention, and reduces emissions of methane and nitrous oxide from agricultural soils. By repurposing agricultural residues into Biochar, this technology creates a circular economy for organic waste while fostering long-term environmental benefits.



**Reforestation**, one of the most recognizable carbon removal strategies, uses the natural ability of trees to absorb CO<sub>2</sub> through photosynthesis, storing carbon in their biomass and the surrounding soil. While durability depends on effective forest management and resilience to threats such as pests, fires, and land-use changes, forestation delivers additional ecological and socio-economic benefits. It supports biodiversity, stabilizes local climates, prevents soil erosion, and creates economic opportunities in forestry.

We continuously evaluate emerging carbon removal technologies, including blue carbon, ocean alkalinity enhancement, and soil carbon sequestration, among others. Our assessments consider factors such as availability, price, scalability, durability, co-benefits, and feasibility. By analyzing scientific advancements, pilot projects, and policy de-

velopments, we ensure that promising solutions align with environmental and economic goals. Our commitment to innovation enables us to integrate new approaches that enhance carbon removal effectiveness while supporting ecosystems, industries, and communities in the transition to a sustainable future.



## 4.2 Every bit counts: Climeworks Pioneers

Tangible impact for everyone since 2019

In 2019, Climeworks launched the Climeworks Pioneers program, offering online removal services. Climeworks Pioneers are individuals, organizations, and small and medium-sized enterprises ordering volumes for events, travel emissions, or reducing the carbon footprint of certain products.

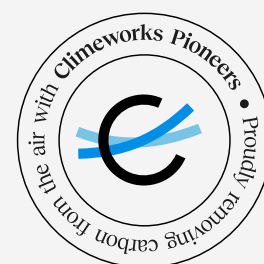
Among them are companies such as [118Group](#), [ten23 health](#), NEST Asset Management SA, Translucent, [Holiepizza](#), showing that carbon removal is already today a matter for companies of all sizes.

Individuals like Stefano, Jeff, Andrea, Maiko, and Matthew all embarked on a carbon removal journey with Climeworks Pioneers for their own reasons, having in common the aspiration to find tangible action to handle their residual and historical CO<sub>2</sub> emissions, providing inspiring examples for the growing carbon removal community and the

general public. Read more about why they committed to Climeworks and visit the [Climeworks Pioneers Community](#).

Climeworks Pioneers were among the first to receive deliveries of carbon removal third-party verified by DNV in 2023 and certified deliveries by puro.earth from our Orca facilities in 2024. The retirement of credits on behalf of Climeworks Pioneers can be found on the [puro.earth public registry](#).

For people and companies wanting to support carbon removal as a charitable cause, we established a partnership with non-profit [Terraset](#), offering a tax deductible donation in the U.S., Canada, the UK, and more<sup>2</sup>. Since 2024, new partnerships have been put in place with organizations contributing to the carbon removal industry, ecosystem, and community, such as [Tomorrow's Air](#) and [Thanks A Ton](#) in the U.S., or [Ocur](#) in Switzerland.



<sup>2</sup> Donations are directed to Terraset's accounts. While donors may indicate a preference for their funds to be used for the Climeworks project, the ultimate allocation of these funds is determined by Terraset's Board of Directors in alignment with Terraset's charitable purpose.

# Climeworks' climate strategy - scaling responsibly

# 5

## 5.1 Corporate emission footprint

We envision being the first carbon removal company to become net zero. As we are drastically scaling over the coming years to reach gigaton capacity by 2050, we must keep our own footprint in check.

We have aligned our net-zero target setting and emissions accounting closely to the GHG Protocol and the Science-Based Targets initiative (SBTi). SBTi does not yet provide carbon removal sector guidance and therefore will not assess or validate our data. Yet, we do not want to wait to get started until relevant sector guidance is available, we simply do it. We are net zero by 2030 across all corporate emissions scopes 1-3.

Climeworks is a fast-growing company. Our team number grew by 32% in 2024 and 45% in 2023, which is why our absolute emissions are increasing, despite considering the emission footprint of every action. With an increasingly internationally distributed team, it is clear that our travel emissions increased in recent years, despite efforts to set up local offices and hire locally. We have sharpened our travel policy and budgets in order to counterbalance the growing need for travel.

In 2024, our total corporate emission footprint accounted for **4,336 tons** of CO<sub>2</sub>.

Within 2024, we have done a rigorous emission factor update, including the switch from one carbon accounting platform to another, which resulted in an emission increase. These fluctuations following emission factor updates are usual, due to better data availability and quality or grid energy improvements. We abdicate from a baseline adaptation for the past year as our footprint has not been substantially big in these years, also when the update compared to the baseline caused an increase of 75% - baseline corrections will be assessed case by case.

### **Ramping up removals besides reduction measures.**

We are a special case since we account for our product emissions and the emissions from our Direct Air Capture plants separately, due to the nature of our business. Our plants operate on a zero-emission basis already today, since their inauguration in 2021 and 2024, to be precise.



Any emissions resulting from plant construction and operations are being accounted for and neutralized by their own operations. These plant grey emissions are accurately monitored and subtracted from the amount of CO<sub>2</sub> removed, and only the remaining net carbon removal on a complete life cycle basis is offered to our clients. Those calculations, grey emissions, and removed CO<sub>2</sub> quantities are being audited, verified, and certified through third-party verification bodies. More detailed information can be found in our [DAC methodology](#) and the audit statement of our Orca plant on the website of our certification partner [puro.earth](#).





In 2024, our total corporate emission footprint accounted for

4,336 tons of CO<sub>2</sub>

Climeworks Group (tCO <sub>2</sub> e)*				Climeworks Plants**
	2024	2023	2022	Grey Emission
	4,336	1,700	1,079	0 neutralized by own operation
 <b>Scope 1</b> Combustion	5	0	0	
 <b>Scope 2</b> Energy	0	0	2	
 <b>Scope 3</b> Value chain	4,331	1,700	1,077	(*) Corporate accounting (**) Product accounting out of scope tracked separately

		2024	2023	2022
<b>Total CO<sub>2</sub>e p.a.</b>		<b>4336</b>	1700	1077
<b>Scope 1</b>	Diesel consumption	5	0	0
<b>Scope 2</b>	Energy within offices location based calculation	0 8	0 4	2 2
<b>Scope 3</b>	Purchased goods and services	2'413	783	775
	Travel	1'502	805	257
	Fuel- / energy-rel. activities not incl. in Scope 1 or 2	'57	12	6
	Transportation	'49	70	24
	Waste	3	3	2
	Upstream leased assets	0	27	14
	Capital assets	307	0	0
<b>Head count</b>	Total	525	397	273

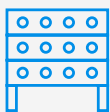
The corrected emission increase from 2023 to 2024 is +39% factoring out the emission factor update and Capital assets as one-off purchase. This signals that the emission increase is comparable to the company headcount growth of 32%. However, the main driver of the emission shifted again from travel being the number one driver in 2023 to Purchased of goods and services in 2024, of which our Research & Development activities take the biggest share in 2024. This shows that our efforts to restrict travel have borne fruit.

It is for the first time that we have Scope 1 emissions, which derive from the use of larger machinery acquired for operational and testing purposes running on diesel. The purchase of these is again reflected in Scope 3 as Capital Assets, representing a one-off purchase.





## Our key measures to reduce our footprint are the following:



### Technological efficiency:

Our R&D activities focus on increasing our technology's overall efficiency (lower resource consumption in terms of energy use and higher removal capacity), with the effect of leading to actual emissions reduction of approximately 50% by 2030 of our plant operational emissions.



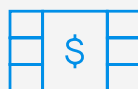
### Renewable energy:

We maintain a 100% renewable energy target for all our Direct Air Capture plants and office buildings.



### Supply chain:

We are reviewing our supply chain and procurement policies and engaging with our tier one, tier two where critical, and possible tier three suppliers to reduce our overall supply chain emissions, aiming for a 50% reduction of supply chain emissions by 2030.



### Internal carbon budget:

Our Direct Air Capture plants are designed to remove emissions and sell net carbon removals. Therefore, we have consistently factored carbon pricing into our plant investment decisions. On a corporate level, we work towards setting internal carbon budgets to drive awareness and help manage emissions—for example bi-annual emission reviews on travel emissions are already in place.



### Travel & commute:

Our travel and commute emissions will remain high in the near term during this scale-up phase, but will be steadily driven down through travel policies and hiring locally.



### Employee engagement:

We believe that the motivation and bright minds of our employees will help to drive further emission reduction measures, triggering ideas ranging from product innovation to daily lifestyle changes.



## 5.2 Supporting the local economy

Direct Air Capture has the potential to be an important part of the solution to the dual climate and equity challenge. The following principles guide us and how we approach the responsible deployment of Direct Air Capture:

### Supporting the local economy



We want to help scale the green economy with an inclusive approach that can create new local economic opportunities, support permanent good jobs, and ensure that communities receive the benefits of hosting projects.

### Involving the community



We strive to be good neighbors and valued contributors to the communities in which we operate and serve. Establishing strong two-way engagement with host communities is an essential part of our strategy to ensure that our projects are deployed responsibly and in line with the above.

### Emissions reductions first



Urgent emissions reductions are an absolute priority. Carbon removal should only be used to neutralize residual and historic emissions, which will be necessary to enable net zero - the more we can reduce now, the less we need to remove. By removing historic emissions, we can address the burden of legacy emissions that frontline communities **continue to bear**.

### Focus DAC on CO<sub>2</sub> removal



Climeworks strongly believes that DAC+S should focus on removing historic and residual emissions to enable global net zero. In line with this, we work with companies with solid climate strategies, most of which with **SBTi** validated targets, and do not sell CDR to offset fossil fuel or extractive activities. Climeworks does not engage in enhance oil recovery.

### Quality



We commit to ensuring our CDR services fulfil stringent quality criteria, including the precise measurement of CO<sub>2</sub> captured and stored, and high durability of storage for thousands of years. Climeworks is the only DAC developer to deliver **third-party verified CDR** via DAC+S and we will continue to provide high-integrity CDR in all of our projects.

### Accounting for all grey emissions



We are committed to using low-carbon energy only and take cradle-to-grave emissions into account for our facilities with a full Lifecycle Assessment. We account for all of the emissions from plant construction, commissioning, operations, and eventual de-commissioning, calculating and selling only net CO<sub>2</sub> removed.





## 6.1 Climeworkers as our first core value

Our company's first core value is 'Climeworkers', our employees. This underlines our appreciation for each and every team member, and our commitment to a work environment where everyone feels included, welcome, valued, and supported. Climeworks' incredible progress in the past years has only been possible thanks to our dedicated team.

### Climeworkers

We are first and foremost a group of people working with passion towards the same goal.



### Excellence for scale

We are long-term oriented.



### Dedication to purpose

We question the "why" thoroughly and we have to understand the "why".



### Inspiring people

We like to inspire by showing solutions.



### Disruptive thinking

We encourage everyone to follow unconventional paths.



## Employee and leadership development

As a fast-growing company it is important to ensure that all Climeworks and especially new Climeworks know or remember what we as a company stand for. Secondly, we believe in lifelong learning and growth and invest in the professional development of our staff. Currently, we run four in-house learning programs aligned around our values, to strengthen our culture, and to develop the needed competencies, skillsets, tools, and behavior of every employee and our future leadership:



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### Onboarding program

Every employee starts with an onboarding program, followed by mandatory training on HSSE, compliance, and legal topics. Further trainings are offered during the first month to get to know all the aspects of our company, introducing all our functions as well as core principles on how we want to work and collaborate with each other.

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### Leadership Circles Essentials

This 3-month in-house leadership program is offered to a diverse group of employees who want to elevate their leadership understanding, competencies and behaviors, as well as grow their impact in line with Climeworks' mission, values, and strategy. The Essentials program covers topics such as the basics of leadership and management, individual leadership styles, nonviolent communication and feedback, decision-making, delegation, motivation, and inspiration.

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### Leadership Circle Advanced

This 8-month in-house leadership program builds upon the essentials of management and leadership and focuses on change leadership, collaboration, and innovation. Both leadership programs are designed around the It – We – I triangle, combining business strategy with high-performing teams and individual leadership competency building. The participants finalize their learning journey by solving business-relevant cases. This allows us to bring in new ideas from people outside of the department, reflecting our other core values such as inviting disruptive thinking and inspiration whilst underscoring our culture to invite different perspectives and value everyone's voice.

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### Raising respect training

A mandatory anti-harassment and anti-discrimination training for all employees to both foster a culture of respect and ensure a shared knowledge and understanding of our zero tolerance policy towards discrimination, harassment, and bullying.



# Employee benefits

We have several benefits in place for our employees:

## Unpaid leave

We offer our permanent employees the opportunity to take unpaid leave between two weeks and six months.



## Referral bonus

As a fast-growing company, Climeworks offers a referral bonus to employees who successfully refer a candidate for a permanent position.



## Parental leave

for both the birth-giving and non-birth-giving parent.



## Culture survey

Through an annual survey, we keep track of employee satisfaction and engagement, and define measures to improve.



## Employee Share Option Plan / Restricted Stock Units

Every permanent employee of Climeworks AG, Climeworks Deutschland GmbH, and Climeworks Corporation has the opportunity to own a part of Climeworks. On top of the fixed, cash-based compensation, we offer variable compensation in the form of options or restricted stock units in Climeworks AG.



## Personal development

Climeworks contributes to the personal development of its employees and offers financial and time support for relevant training, depending on its relevance and added value for their current or future functions. Additionally, Climeworks provides financial support for permanent employees to attend English and German language courses.



## Remote work

Climeworkers can work up to 40% of their contractual working hours remotely. Remote work from abroad (within EU/EFTA) up to 20 working days in a rolling 12 months period can be requested. We provide a one-time financial support of CHF 300 for equipment needed to do remote work.



## Sports and team events

We offer opportunities for our employees to connect and enjoy activities together, such as weekly bootcamp, regular social gatherings after our Climeworks Talks, our corporate all-hands meeting.



# Our Climeworks population

Until the end of 2024,  
our team grew by

32.2%

to 525 employees (head count)  
from across 53 different nationalities.

Here is a breakdown of our workforce:

Region	CH		DE		US		IS		Other		Total
Gender Identity	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	
HC employees	135	297	5	24	8	28	3	19	3	3	525
HC permanent employees	127	291	5	24	7	28	3	19	3	3	510
HC temporary employees	8	6	0	0	1	0	0	0	0	0	15
HC full-time (>80%) employees	112	271	5	23	8	28	3	19	3	3	475
HC part-time (80% and less) employees	23	26	0	1	0	0	0	0	0	0	50

## Remuneration

Climeworks' compensation framework has two parts: Base salary and bonus in the form of an Employee Share Option Plan or Restricted Stock Units. For senior executives, a long-term incentive (LTI) is part of the compensation as a one-time voluntary allocation of options. Notice periods are dependent on the career level and vary from two to six months.

For employees in Switzerland, three types of pension plans exist, allocated depending on the career level. Employees can choose a standard or top plan for their contributions.

## 6.2 Code of conduct and compliance

As Climeworkers, we are committed to conducting business in a responsible manner. Our Climeworks Code of Conduct ensures that our activities align with our internal policies, applicable laws, and contractual requirements. Our Code of Conduct defines our anti-bribery and data protection efforts and includes guidance on the reporting of misconduct and suspicious activity, as well as competition law and the use of artificial intelligence.



## 6.3 Health and safety

The health and safety of our employees and all stakeholders we are involved with is of utmost importance to us. Climeworks operates under the Plan, Do, Check, Act (PDCA) approach of Safety Management, which aligns with the ISO 9001 Quality Management System, ISO 45001 Occupational Health and Safety Management System, and ISO 14001 Environmental Management System standards.

Good Health, Safety, and Environment (HSE) management is of the highest priority, and Climeworks operates with a Zero Harm policy to protect our people, environment, and the company. Zero harm applies to both the physical and mental health of our employees. That is why we have trained selected employees in mental first aid (12 people trained under ENSA by the end of 2024) in addition to our regular first aiders (20 people trained).

But effectively managing health and safety is not just about having a management or safety management system in place. The success of systems hinges on the attitude and behavior of all employees and contractors within the organization, this is referred to as the 'safety culture'. Therefore, we have introduced Safety moments as part of our regular meetings to raise awareness and sharpen our focus to prevent harm from happening. We also introduced HSSE ambassadors of 1-2 people per team, who volunteered to get additional training on preventing and managing harmful situations.

We have 10 Zero Harm Behaviors. By following these behaviors every minute of every day, we will keep ourselves, our Climeworks family, and the communities we operate in healthy, safe, and environmentally protected. They apply to everyone in the Climeworks family and those who work for us.

### Our 10 Zero Harm Behaviors

- |   |   |    |   |
|---|---|----|---|
| 1 | People first always   | 6  | Do not start work without checking and verifying the isolations                               |
| 2 | Always identify and control hazards                                 | 7  | Do not ride a vehicle without wearing a seat belt and do not use mobile devices while driving |
| 3 | Always be fit for work  | 8  | Do not conduct lifting work without a lifting plan and never walk under suspended loads       |
| 4 | Always wear the correct PPE   | 9  | Do not work at height without the correct approval and the correct fall protection equipment  |
| 5 | Do not start work without the correct preparation and authorization | 10 | Do not pollute our environment, dispose of wastes correctly and protect our company           |

## 6.4 Workplace inclusion

With a fast-growing international workforce, it is vital to actively create a welcoming environment and supportive culture for everyone. At Climeworks, we believe that an inclusive and equitable environment is key to success. Inviting and listening to different opinions and perspectives fosters innovation, growth, resilience, and adaptability, and has always been a part of how we work.

We welcome and celebrate the diverse backgrounds that our employees have, be it in age, gender identity, civil status, veteran status, parenthood, race, color, nationality, ethnicity, religion or belief, sexual orientation, and disability. We commit to creating and maintaining a culture where everyone feels included, welcome, valued, and supported.

Two important bottom-up initiatives have been brought to life so far: Women at Climeworks and Prideworks. These forums are open to all employees and provide valuable insights and propose roadmaps to continuously improve how we address needs. All of us play a vital role in creating the right culture for all of us to thrive.

### Initiatives at Climeworks

Our two initiatives, Women at Climeworks and Prideworks, are open to all employees and have brought valuable insights and positive change to Climeworks.

The vision of **Women at Climeworks** is to inspire every Climeworker to strive for gender equality. We act on four pillars: network, career progression, women-friendly environment, and equality employer.

**Prideworks** is all about inclusion. We're a LGBTQIA2S+ group at Climeworks focusing on organizing fun exchanges, tackling company policy topics, and providing a support network for all.





