

## Climeworks starts plant in Iceland and thereby creates the world's first carbon removal solution through direct air capture

- The pilot plant is part of the CarbFix2 project which stores the air-captured carbon dioxide safely and permanently in basalt
- Climeworks demonstrates a highly-scalable carbon removal technology which is likely to be a key theme at COP 23

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**Swiss cleantech company Climeworks has partnered with Reykjavik Energy to combine direct air capture (DAC) technology for the world's first time with safe and permanent geological storage. As part of the CarbFix2 project Climeworks will demonstrate a safe, economically-viable and highly scalable carbon removal technology. This type of solution has been recognized as a crucial component in efforts to achieve global warming targets.**

The EU-backed collaborative research project centers around one of the world's largest geothermal power plants in Hellisheiði, Iceland, where CO<sub>2</sub> is currently injected and mineralized at an industrial scale. A Climeworks DAC module has been installed on-site to capture CO<sub>2</sub> from ambient air for permanent storage underground, thus creating a carbon removal solution. Scientific studies have warned that the two-degree climate target is not achievable without carbon removal solutions. Carbon negative solutions are also likely to be a key theme at the UN Climate Conference COP 23 starting in Bonn next month.

A testing phase has started during which the CO<sub>2</sub> is captured from ambient air, bound to water, and sent to more than 700 meters underground. There the CO<sub>2</sub> reacts with the basaltic bedrock and forms solid minerals, creating a permanent storage solution. Climeworks' technology draws in ambient air and captures the CO<sub>2</sub> with a patented filter. The filter is then heated with low-grade heat from the geothermal plant to release the pure CO<sub>2</sub> which then can be stored underground.

During the trial Climeworks will test how its technology works with the specific weather conditions at the location in the South West of Iceland. The CarbFix2 project is a major step forward for DAC technology. Earlier this year the company made history with the world's first commercially-viable DAC plant near Zurich which filters 900 tons of CO<sub>2</sub> from the atmosphere and supplies it to a local greenhouse.

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## Christoph Gebald, Founder and CEO at Climeworks:

“The potential of scaling-up our technology in combination with CO<sub>2</sub> storage, is enormous. Not only here in Iceland but also in numerous other regions which have similar rock formations. Our plan is to offer carbon removal to individuals, corporates and organizations as a means to reverse their non-avoidable carbon emissions.”

## Edda Sif Aradóttir, CarbFix project leader at Reykjavik Energy:

“We have developed CarbFix at a unique location here in Iceland and proved that we can permanently turn this greenhouse gas into rock. By imitating natural processes this happens in less than two years. By integrating the Climeworks and CarbFix technologies we create a solution that is deployable where we have basalt but independent of the location of emissions. This is important to scale up the CarbFix approach on a global level.”

## The CarbFix2 project

CarbFix2 has received funding from the European Union’s Horizon 2020 research and innovation programme and is led by Iceland’s multi-utility company Reykjavik Energy. It is based on the original CarbFix project, initiated in 2007. Further partners to CarbFix2 are The University of Iceland, CNRS (Toulouse, France) and Amphos 21 (Barcelona, Spain).



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## About Climeworks

Climeworks is capturing CO<sub>2</sub> from air with the world's first commercial carbon removal technology. The direct air capture plants remove CO<sub>2</sub> from the atmosphere to supply to customers and to unlock a negative emissions future.

The pure CO<sub>2</sub> gas is sold to customers in key markets, including: commercial agriculture, food and beverage industries, the energy sector and the automotive industry. Customers utilise this atmospheric CO<sub>2</sub> in carbonated drinks or for producing carbon-neutral hydrocarbon fuels and materials. By using Climeworks' CO<sub>2</sub>, our customers can reduce their overall emissions as well as lowering their dependence on fossil energy.

Climeworks' plants are modular, scalable and can be located independently of emission sources, allowing security of supply wherever there is atmospheric air. Importantly, our plants can be utilised for negative emissions, which will be vital in the quest to limit a global temperature rise of 2 °C. Compared to other carbon removal technologies, direct air capture does not depend on arable land, has a small physical footprint, and is fully scalable.

Founded by engineers, Christoph Gebald and Jan Wurzbacher, Climeworks has assembled the largest team of experts in the field and developed high-quality testing and production facilities. Climeworks will keep working to realise its mission to capture one per cent of global emissions by 2025.

More information: [www.climeworks.com](http://www.climeworks.com)

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