

# Louise Charles



Institutions ranging from the United Nations to UNICEF have pronounced climate change the single most pressing issue of our time. The convergence of demographic trends, migration and urbanisation make tackling climate change a high-stakes game, especially for the most vulnerable, for whom the threat of lost land and livelihood is all too real.

It is not surprising, therefore, that the European Union has set ambitious targets to reduce greenhouse gas emissions by 40% (from 1990 levels) by 2030. Swiss start-up Climeworks aims to play a major role in achieving those goals. The company, which Bill Gates recently named one of 10 breakthrough technologies, captures carbon dioxide (CO<sub>2</sub>) from the air before repurposing it. In Switzerland, for instance, one plant sells the CO<sub>2</sub> to the soft-drinks industry.

The company was founded in 2009 by engineers Christoph Gebald and Jan Wurzbacher, who had the idea for Climeworks when studying at ETH Zurich. They developed early prototypes for the technology in the labs at the university, before getting to the point where they could reach the finals of the Virgin Earth Challenge in 2011.

Climeworks was also on the radar of the EIT and became involved with EIT Climate-KIC in 2012, with the award of a CHF 42 000 grant to develop a proof of concept and help accelerate the transition towards a zero-carbon economy.



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This helped validate the duo's work. The concept of the CO<sub>2</sub> collector was developed in 2014, with production infrastructure capable of producing 150 CO<sub>2</sub> collectors per year developed just a few years later. This precipitated Climeworks' participation in a number of CO<sub>2</sub> conversion projects across Europe, before subsequently presenting their work at the COP22 UN Climate Change Conference in 2016.



This was followed by the launch of the world's first commercial Direct Air Capture plant in Hinwil, Switzerland, which was capable of capturing 900 tons of CO<sub>2</sub> per year, with this then repurposed and supplied to a nearby greenhouse for use in fertilising the plants.

'Today, we have a clear message for climate science and the rest of the world: Direct Air Capture and Storage not only works but is safe, permanent and achievable on an industrial scale,' Louise Charles, Communications Manager at Climeworks, says. 'From 2019, we will offer individuals, countries, businesses and institutions from all over the world the unique opportunity to reverse their past, present or future emissions permanently and safely with Direct Air Capture.'

It's tempting to think of the success of any start-up as being something that happens very quickly, but, as the saying goes, it usually takes many years to become an overnight success. The Climeworks success story has been 10 years in the making and persistence has been a vital quality for the team to possess. 'Don't give up! A couple of years ago, few people believed in the Climeworks technology and many said Direct Air Capture is not a viable technology and way too expensive to ever take off,' Wurzbacher adds.



**Website:**  
[climeworks.com](http://climeworks.com)



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**Country:**  
Switzerland



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Their success shows that this persistence is paying off, however. The company recently raised over USD 30 million in equity funding to help their expansion, bringing the total investment in the start-up to over USD 50 million. The investment will be used to scale up the DAC technology and reduce costs sufficiently to support mass production, and the company is confident they can be a true European success story.

From the availability of support through programmes such as the European Commission's Horizon 2020 or Eurostars, both of which helped fund several Climeworks projects, to the availability of top-quality talent, the team are strong believers in the potential for Europe to be a fertile environment for start-up success. They are helping make Europe a pioneer in the fight against climate change.

