

Billionaires promote CO₂-removing schemes to protect climate

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Billions of tonnes of CO₂ must be sucked from the air and oceans to avoid catastrophic climate change.

The boss of NetZero still can't believe his start-up has won a million-dollar prize from Elon Musk to improve ways of sucking climate-heating

carbon dioxide (CO₂) from the air.

"That'll fund a year of R&D (research and development)... or two-thirds of a factory," Axel Reinaud told AFP.

The XPrize Carbon Removal competition, set up by the billionaire Tesla boss, is a response to the scary conclusion reached by the world's top climate scientists.

However quickly the world slashes man-made [greenhouse gas emissions](#), it will still need to extract CO₂ from the air and oceans to avoid climate catastrophe, the UN's Intergovernmental Panel on Climate Change (IPCC) said in April.

Today, CO₂ removal is a necessary weapon in the battle to stop global heating accelerating beyond a point of no return.

Technology to do so exists but remains prohibitively expensive. It also needs to be ramped up significantly to make a dent in the 40 billion tonnes of CO₂ the world emits each year.

So private-sector giants are stepping in to kick-start research, as they did with vaccines and the first aeroplanes.

The \$100-million (93-million-euro) XPrize initiative is a bid to foster low-cost solutions for sucking up huge quantities of CO₂ every year and stocking it for ever.

The top prize will be announced in 2025.

NetZero has already scooped up one of the 15 early-stage awards for an astute economic model.

It burns farm waste, which contains CO₂, and turns it into "biochar", a kind of "[carbon](#) dust" used to enrich the soil.

The heat generated by burning is captured to generate renewable electricity, which is sold to the grid.

In all, NetZero says it can remove a tonne of CO₂ for just a few dozen dollars.

In North America, companies like Alphabet, Meta, McKinsey, Shopify and Stripe have agreed to invest \$925 million in fostering carbon removal schemes between now and 2030.

The First Movers Coalition, an alliance of some 50 firms from sectors where emissions are hard to reduce such as aviation, shipping and cement, has also committed to financing carbon removal technology.

Tried and tested method

Today, research on removing carbon from the atmosphere is conspicuous by its near-absence.

The process is "extremely difficult to manage", French science historian Amy Dahan told AFP. "Musk's idea is to give this field of research a higher profile," she explained.



Seaweed can absorb carbon from surface ocean waters.

This is a tried and tested method.

In the 1920s the Orteig prize, which promised \$25,000 to the first aviator to fly non-stop from New York to Paris, spurred developments that changed the history of aviation.

More recently, Microsoft founder Bill Gates's promise of finance has done much to accelerate vaccine research since 2010.

But the \$100 million for R&D into [carbon capture](#) and storage "is in another league altogether", Dahan said.

The US-based Climate Foundation has also received a significant boost from the XPrize.

It uses seaweed to absorb carbon from surface ocean waters. When the algae decompose, they sink to the ocean depths, taking the trapped carbon with them.

The prize money will help it grow its first hectare of seaweed platform, founder Brian Von Herzen told AFP.

He is conscious, though, that such philanthropic incentives are a drop in the ocean.

"Such prizes, including carbon purchases made by Stripe and Microsoft, are important but insufficient first steps to building out a robust carbon removal ecosystem," he said.

"We have to start scaling up these solutions right now. In fact, we're already late," NetZero's Reinaud added.

"We should have started 20 years ago. We're behind on all climate issues."

A drop in the ocean

The vital goal is to remove billions of tonnes of CO₂ every year—before 2050—to prevent the average temperature of the planet rising more than 1.5 degrees Celsius.

This is critical to avoid large and irreversible changes to the climate.

At present, the world is only removing "microscopic" quantities of CO₂, Reinaud said.

Instead, we need to build "something as huge as the oil industry in just 30 years", which requires investments equivalent to "several percentage points of GDP" rather than the current "peanuts".

Dahan agreed. Billionaires would do better to stop greenwashing and change their carbon-spewing business models, she said.

"Of course, we need them to take part in this effort," she said, but what we really need are binding [government policies](#) and international agreements.

Despite the \$3.5 billion the US government has pledged to invest in carbon removal, "governments aren't grabbing this problem by the horns", she said.

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