

# Scientists release plans for an even bigger atom smasher

By **JAMEY KEATEN**  
The Associated Press

GENEVA — Top minds at the world's largest atom smasher have released a blueprint for a much bigger successor that could vastly improve research into the remaining enigmas of physics.

The plans for the Future Circular Collider — a nearly 91-kilometer (56.5-mile) loop along the French-Swiss border and below Lake Geneva — published late Monday put the finishing details on a project roughly a decade in the making at CERN, the European Organization for Nuclear Research.

The FCC would carry out high-precision experiments in the mid-2040s to study “known physics” in greater detail, then enter a second phase — planned for 2070 — that would conduct high-energy collisions of protons and heavy ions that would “open the door to the unknown,” said Giorgio Chiarelli, a research director at Italy's National Institute of Nuclear Physics.

“History of physics tells that when there is more data, the human ingenuity is able to extract more information than originally expected,” Chiarelli, who was not involved in the plans, said in an e-mail.

For roughly a decade, top minds at CERN have been making plans for a successor to the Large Hadron Collider, a network of magnets that accelerate particles through a 27-kilometer (17-mile) underground tunnel and slam them together at velocities approaching the speed of light.

The blueprint lays out the proposed path, environmental impact, scientific ambitions and project cost. Independent experts will take a look before CERN's two dozen member countries — all European except for Israel — decide in 2028 whether to go forward, starting in the mid-2040s at a cost of some 14 billion Swiss francs (about \$16 billion).

CERN officials tout the promise of scientific discoveries that could drive innovation in fields like cryogenics, superconducting magnets and vacuum technologies that



SALVATORE DI NOLFI / Keystone via AP

Mike Lamont, director for accelerators and technology (center left) and Fabiola Gianotti (center right) director general of the European Organization for Nuclear Research, speaks with members of the U.S. House of Representatives in the Large Magnet Facility during a visit to CERN facilities in Meyrin, near Geneva, Switzerland, on March 21.

could benefit humankind.

Outside experts point to the promise of learning more about the existence of the Higgs boson, the central piece in a puzzle known as the standard model that helps explain some fundamental forces in the universe.

Work at the Large Hadron Collider confirmed in 2013 the existence of the Higgs boson, the central piece in a puzzle known as the standard model that helps explain some fundamental forces in the universe.

CERN Director-General Fabiola

Gianotti said the future collider “could become the most extraordinary instrument ever built by humanity to study the constituents and the laws of nature at the most fundamental levels in two ways,” by improving study of the Higgs boson and paving the way to “explore the energy frontier,” and by looking for new physics that explain the structure and evolution of the universe.

One unknown is whether the Trump administration, which has been cutting foreign aid and spending in academia and research, will continue to support CERN a year after the Biden administration pledged U.S. support for the study and collaboration on the FCC's construction and “physics exploitation” if it's approved.

The United States is home to 2,000 users of CERN, making them the single largest national contingent among the 17,000 people working there, including outside experts abroad and staff on site, Gianotti said.

## How a company's land deal went bust in Senegal

By **JACK THOMPSON**  
The Associated Press

DAKAR, Senegal — Rusting pipes in a barren field and unpaid workers are what remain after a U.S. company promised to turn a huge piece of land in Senegal — about twice the size of Paris — into an agricultural project and create thousands of jobs.

In interviews with company officials and residents, The Associated Press explored one of the growing number of foreign investment projects targeting Africa, home to about 60% of the world's remaining uncultivated arable land. Like this one, many fail, often far from public notice.

Internal company documents seen by the AP show how the plans, endorsed by the Senegalese government, for exporting animal feed to wealthy Gulf nations fell apart.

At first glance, the landscape of stark acacia trees on the edge of the Sahara Desert doesn't hold much agricultural promise. But in an age of climate change, foreign investors are looking at this and other African landscapes.

The continent has seen a third of the world's large-scale land acquisitions between 2000 and 2020, mostly for agriculture, according to researchers from the International Institute of Social Studies in the Netherlands.

But 23% of those deals have failed, after sometimes ambitious plans to feed the world.

### WHY TARGET LAND ON THE EDGE OF THE SAHARA DESERT?

In 2021, the Senegalese village of Niéti Yone welcomed investors Frank Timis and Gora Seck from a U.S.-registered company, African Agriculture. Over cups of sweet green tea, the visitors promised to employ hundreds of locals and, one day, thousands.

Timis, originally from Romania, was the majority stakeholder. His companies have mined for gold, minerals and fossil fuels across West Africa.

Seck, a Senegalese mining investor, chaired an Italian company whose biofuel plans for the land parcel had failed. It sold the 50-year lease for 20,000 hectares to Timis for \$7.9 million. Seck came on as president of African Agriculture's Senegalese subsidiary and holds 4.8% of its shares.

Now the company wanted the community's approval.

The land was next to Senegal's largest freshwater lake, for which the company obtained water rights. African Agriculture planned to grow alfalfa and export it to Saudi Arabia and the United



JACK THOMPSON / AP

Herders and farmers from left, Adama Sow, Oumar Ba and Daka Sow walk outside Niéti Yone, northern Senegal, on Dec. 10.

Arab Emirates. Both traditionally buy alfalfa from the U.S., but the amount of land in alfalfa production there has dropped by 38% in the last 20 years, largely due to drought caused by climate change, according to the U.S. Department of Agriculture.

The proposal divided the community of subsistence farmers. Herders who had raised livestock on the land for generations opposed it. Others, like Doudou Ndiaye Mboup, thought it could help ease Senegal's unemployment crisis.

“I bought their dream. I saw thousands of young Africans with jobs and prosperity,” said Mboup, who was later employed as an electrician and now leads a union of employees.

Despite the formation of an opposition group called the Ndiael Collective, African Agriculture moved ahead, hiring about 70 of the community's 10,000 residents.

After planting a 300-hectare (740-acre) pilot plot of alfalfa, the company announced in November 2022 it would go public to raise funds.

African Agriculture valued the company at \$450 million. The Oakland Institute, an environmental think tank in the U.S., questioned that amount and called the deal bad for food security as well as greenhouse gas emissions.

The company went public in December 2023, with shares trading at \$8 on the NASDAQ exchange. It raised \$22.6 million during the offering but had to pay \$19 million to the listed but inactive company it had merged with.

That payment signaled trouble to investors. It showed that the other company, OX Capital Venture Acquisition Corp. II, didn't want to hold its 98% of stock. And it highlighted the way African Agriculture had used the merger to bypass the vetting process needed for listing.

One year later, shares in African Agriculture were worth almost nothing.

Now, security guards patrol the land's barbed-wire perimeter, blocking herders and farmers from using it. The company has been delisted.

### BIG AMBITIONS LEAVE BIG IMPACTS FOR THE LOCAL COMMUNITY

Mboup said he and others haven't been paid for six months. The workers took the company to employment court in Senegal to claim about \$180,000 in unpaid wages. In February, they burned tires outside the company's office. Mboup later said an agreement was reached for back wages to be paid in June.

“I took out loans to build a house and now I can't pay it back,” said Mboup, who had been making \$200 a month, just above average for Senegal. “I've sold my motorbike and sheep to feed my children and send them to school, but many are not so lucky.”

Timis didn't respond to questions. Seck told the AP he was no longer affiliated with African Agriculture. Current CEO Mike Rhodes said he had been advised to not comment.

Herders and farmers are furious and have urged Senegal's government to let them use the land. But that rarely happens. In a study of 63 such foreign deals, the International Institute of Social Studies found only 11% of land was returned to the community. In most cases, the land is offered to other investors.

“We want to work with the government to rectify this situation. If not, we will fight,” warned Bayal Sow, the area's deputy mayor.

The Senegalese minister of agriculture, food sovereignty and herding, Mabouba Diagne, did not respond to questions. The African Agriculture deal occurred under the previous administration.

The failed project has

undermined community trust, said herder Adama Sow, 74: “Before, we lived in peace, but now there's conflict for those of us who supported them.”

### FORMER CEO ANNOUNCES ACQUISITION IN CAMEROON AND CONGO

Meanwhile, African Agriculture's former CEO has moved on to a bigger land deal elsewhere on the continent — with experts raising questions again.

In August, South African Alan Kessler announced his new company, African Food Security, partnering with a Cameroonian, Baba Danpullo. It has announced a project roughly 30 times the size of the one in Senegal, with 635,000 hectares in Congo and Cameroon.

The new company seeks \$875 million in investment. The company's investor prospectus, obtained by the AP, says it plans to register in Abu Dhabi.

In an interview with the AP in January, Kessler blamed the failure of the Senegal project on the way African Agriculture's public offering was structured. He said there were no plans for a public offering this time.

He claimed his new company's project would double corn production in these countries, and described African Food Security as the “most incredibly important development company on the planet.” He said they have started to grow corn on 200 hectares in Cameroon.

Experts who looked over the prospectus raised concerns about its claims, including an unusually high projection for corn yields. Kessler rejected those concerns.

“When he was CEO of African Agriculture, Kessler also made lofty claims about food production, job creation, exports and investment returns that did not pan out,” said Renée Vellvé, co-founder of GRAIN, a Spain-based nonprofit for land rights.

## From Page 1C FIRES

### HOW ARE COMMUNITIES DEALING WITH THE THREAT?

Seeing flames race through Los Angeles earlier this year prompted municipal leaders throughout the West to host community meetings to raise awareness, including in New Mexico's San Juan County.

The Four Corners region — where Arizona, New Mexico, Colorado and Utah meet — is among those on the radar for high fire potential given the unfavorable conditions. Firefighters in San Juan County responded to 25 bushfires in the first 27 days of March and two more were reported on Friday, said county spokesperson Devin Neeley.

In Arizona, the Phoenix Fire Department have warned the mayor and city councilors about increasing risks. They have a plan for surging department

resources to help contain fires before they escalate, particularly in areas where urban development intersects with wildland environments.

In neighboring Scottsdale, Mayor Lisa Borowsky recently floated the idea of creating a volunteer brigade to bolster wildfire prevention, pointing to invasive species and overgrown vegetation within the McDowell Sonoran Preserve that could pose risks. A fire department crew has been clearing and trimming brush along roadways.

Christopher Reed, a fire prevention captain with the Arizona forestry department, said some people think of wildfire as a “macro problem” that involves vast landscapes beyond their suburban borders. He said people should prepare on a micro level, ensuring their own homes are defensible before it's too late.

“We always say Day 1 of firefighting is now,” Reed said.

## From Page 1C CHILDHOOD

We rode bikes great distances. Unsupervised. Without helmets.

Usually, we'd try to convince Mister Peavler behind the gas station counter to sell us some tobacco for (air quotes) “our father.” Usually it was Copenhagen chew, Beech-Nut, or Red Man. (Do not send that email!)

Sunday mornings were even better. You'd run out to the driveway, early before church, wearing your little trousers and penny loafers.

There by the mailbox was a newspaper, rolled in a tube about the size of a NASA Saturn rocket. The paper was so big it required four or five men just to lift. The paper was jam

packed with coupons for Mom, box scores for the old man, and just for you: Three pages of full-color funny papers.

You had “Dick Tracy,” “Peanuts,” “Garfield,” “Family Circle,” “Calvin and Hobbes,” “Wizard of ID,” “Andy Capp,” “B.C.,” “Blondie.” God bless the Far Side.

Many of those things are gone now. But you can still remember it all. The way you felt. The way you looked. The way you would read the paper all morning until it was time for the family to go to church by piling into your dad's old Jeep Cherokee.

(What the heck. Go ahead and send the email.)

— Sean Dietrich is a columnist, and novelist, known for his commentary on life in the American South.



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