

# How to Halt Global Warming for \$300 Billion

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climate changed

By

Adam Majendie

and

Pratik Parija

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- UN scientists say reclaiming wasteland could capture carbon
- Global effort would stall emissions growth for up to 20 years

The Cost To End Global Warming

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\$300 billion. That's the money needed to stop the rise in greenhouse gases and buy up to 20 years of time to fix global warming, according to United Nations climate scientists. It's the gross domestic product of Chile, or the world's military spending every 60 days.

The sum is not to fund green technologies or finance a moonshot solution to emissions, but to use simple, age-old practices to lock millions of tons of carbon back into an overlooked and over-exploited resource: the soil.

"We have lost the biological function of soils. We have got to reverse that," said Barron J. Orr, lead scientist for the UN Convention to Combat Desertification. "If we do it, we are turning the land into the big part of the solution for climate change."

Rene Castro Salazar, an assistant director general at the UN Food and Agriculture Organization, said that of the 2 billion hectares (almost 5 billion acres) of land around the world that has been degraded by misuse, overgrazing, deforestation and other largely human factors, 900 million hectares could be restored.

Returning that land to pasture, food crops or trees would convert enough carbon into biomass to stabilize emissions of CO<sub>2</sub>, the biggest greenhouse gas, for 15-20 years, giving the world time to adopt carbon-neutral technologies.

"With political will and investment of about \$300 billion, it is doable," Castro Salazar said. We would be "using the least-cost options we have, while waiting for the technologies in energy and transportation to mature and be fully available in the market. It will stabilize

the atmospheric changes, the fight against climate change, for 15-20 years. We very much need that.”

## Vanishing Forests

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Predicted land-use change 2010-2050

Sources: PBL Netherlands Environmental Assessment Agency, United Nations Convention to Combat Desertification

Note: Data shown are ‘Middle of the Road’ scenario (SSP2), indicating the continuation of current trends.

The heart of the idea is to tackle the growing problem of desertification -- the degradation of dry land to the point where it can support little life. At least a third of the world’s land has been degraded to some extent, directly affecting the lives of 2 billion people, said Eduardo Mansur, director of the land and water division at the FAO.

Marginal lands are being stressed around the globe by the twin phenomena of accelerated climate change and a rate of population growth that could lift the global tally to almost 10 billion people by 2050, he said. Much of that growth is in areas such as Sub-Saharan Africa and South Asia where land is already highly stressed.

“The idea is to put more carbon into the soil,” said Orr. “That’s not going to be a simple thing because of the natural conditions. But keeping the carbon in the soil and getting that natural vegetation, grazing land etc. thriving again -- that’s the key.”



An aerial view of planted trees in a desert in China's Gansu province.

Photographer: Wang He/Getty Images

Last month, at a UN conference on desertification in New Delhi, 196 countries plus the European Union agreed to a declaration that each country would adopt measures needed to restore unproductive land by 2030. The UN team has used satellite imaging and other data to identify the 900 million hectares of degraded land that could be realistically restored. In many cases, the revitalized areas could benefit the local community and host country through increased food supply, tourism and other commercial uses.

Key to returning dry lands to vegetation is the use of fertilizer, said Mansur. "Fertilizers are essential for increasing productivity. Good fertilizer in the right quantity is very good for the soil."

But decades of poor agricultural practices in both rich and poor nations have resulted in misuse, either from using the wrong products, using too much fertilizer, or in some areas using too little so that the soil loses its nutrients.





Farmers add fertilizers at a plantation near the city of Bhubaneswar, India, in 2016.

Photographer: NurPhoto via Getty Images

“The problem unfortunately is big and it is growing,” said Mansur. “The main cause of emissions from agriculture is poor land management. But the solutions are known: Sustainable land management, sustainable water management, sustainable soil management.”

Mansur stresses that the problem isn’t about reclaiming desert, but restoring wasteland that was productive before human intervention.

“Don’t mix desertification with desert,” he said. “A desert is an ecosystem. There are deserts on the planet that have to be preserved.”

## Dry Belts

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Change in aridity 2010-2050

Sources: PBL Netherlands Environmental Assessment Agency, United Nations Convention to Combat Desertification

Note: Data shown are ‘Middle of the Road’ scenario (SSP2), indicating the continuation of current trends.

Nor is it merely a matter of planting trees, since each area has to be considered in terms of the people who live there and how they can live on the land sustainably.



Kenya, for example plans to plant 2 billion trees on 500,000 hectares to restore 10% of its forest cover, but it is also working on ways to adapt to the changes in climate.

We have to improve our livestock and crops to be drought resistant or drought tolerant,” said Kennedy Ondimu, director of environmental planning and research at the country’s Environment Ministry. “We have to look at developing our indigenous vegetables and indigenous livestock gene bank apart from embracing hybrid crop varieties and livestock varieties. We need to prioritize animal breeding.”



Samburu tribes people shelter under a tree at a livestock market in Kenya.

Photographer: Tony Karumba/AFP via Getty Images

In Costa Rica, farmers are using deforested land to produce CO<sub>2</sub> neutral coffee, which commands premium prices among consumers. The nation is also replanting rainforest to encourage eco-tourism, which has become the country’s second-biggest earner.

Still, the tide of desertification won’t be easy to turn. In India, more than 20% of the country is considered wasteland and scant water resources are making the situation worse. In Chile, home to the world’s driest desert, the Atacama, the government is spending \$138 million improving irrigation as the region’s driest decade on record forces fruit farmers to migrate south to escape the advancing desert. Further north in Brazil, the worst fires in years ravaged the world’s largest rainforest.





Amazon forest fire in August.

Photographer: Leonardo Carrato/Bloomberg

Yet, Castro Salazar says dozens of countries are fighting back with programs designed to reverse the loss of farmland and at least 20 nations have major efforts underway to replant lost forests.

“All these countries were able to keep producing the food they needed and growing the forest cover,” he said. “The myth was that in order to increase your productivity and your food sovereignty and security you needed to slash or burn the forest. We documented that it’s not true.”

— *With assistance by Anuradha Raghu, Felix Njini, and Adrian Leung*

(Corrects acreage conversion in fourth paragraph)

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## Iran Claims to Discover 53 Billion Barrels in New Oil Reserves

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By

[Arsalan Shahla](#)

10 novembre 2019 à 13:43 UTC+1

Iran discovered an oil field containing the equivalent of 53 billion barrels, potentially boosting its reserves as the OPEC member struggles to overcome the effects of sanctions on its energy industry.

It wasn't immediately clear how much of the oil discovered in southern Khuzestan province is new, or how much of it can be developed commercially. Domestic media reported the discovery on Sunday, and the oil ministry said it plans to hold a news conference on Monday to announce details of the find.

Iran currently ranks fourth in reserves worldwide -- behind Venezuela, Saudi Arabia and Canada -- with 155.6 billion barrels, according to 2018 data from BP Plc. However, the Islamic Republic's exports of crude have plunged since the U.S. re-imposed sanctions in 2018.

“What is important in this field is the rate of recovery, that is, how much of that we can extract and sell,” Iran’s IRIB News service cited President Hassan Rouhani as saying. “A higher recovery rate means more revenues for us.”

The deposit lies onshore at a depth of 80 meters (262 feet) and covers 2,400 square kilometers (927 square miles), semi-official Tasnim News reported. A media official at state-run [National Iranian Oil Co.](#) in Tehran gave no details when contacted by Bloomberg.

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## A \$100 Billion Fund Manager Is Debunking Stock-Bubble Theories

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By

[Frances Schwartzkopff](#)

11 novembre 2019 à 06:00 UTC+1





Negative Rates Are an Experiment, Says Julius Baer's Kohl

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Negative interest rates are unnaturally propping up the stock market and at some point the whole edifice will collapse. It's an oft-repeated theory, but history suggests it might be wrong.

According to Kasper Lorenzen, the chief investment officer of pension fund PFA in Denmark, we're essentially living through the negative supply shock that came with the oil crises of the 1970s, but in reverse. Thanks to cheaper imports and better technology, the supply shock is now positive and it's going to continue shaping monetary policy far into the future, the theory goes.

"This is just a massive, positive supply shock, similar, though with a reverse sign, to the negative supply shock we saw in the 1970s," he said in an interview.

Back then, "we underestimated how bad returns were and how long it took to get rid of the oil crisis," he said. "Investors didn't really make any returns for 12 years over the 70s." Now, Lorenzen says he thinks "we generally underestimated the effect of this positive supply shock."

## How Much Longer Will It Last?

European stocks have roughly doubled in value since 2008



"So the background I have in my head is that the positive supply shock has more to go," Lorenzen said. "We're not going to see inflation coming through."

If you accept that premise, then equities start to look reasonably priced, he said.

"Equities aren't cheap, outright, but if you look at equities and equity valuations, relative to the interest rates, maybe it's not too bad."

## Negative Rates

There's growing opposition to negative rates. In the U.S., Federal Reserve Bank of Dallas President Robert Kaplan says it's unhealthy that around 23% of global debt is now negative. Sweden's Riksbank is trying to move away from them, while the governor of the Bank of England, Mark Carney, says they're not an option.

No other country has lived with negative rates as long as Denmark, which is in its eighth year of the regime. One of the country's biggest banks predicts rates won't be positive again for another eight years.

PFA, which is based in Copenhagen, booked record gains in the first nine months, with its equities portfolio returning 19%. And though the temptation is to ask how much longer such returns can last, Lorenzen says we may be underestimating the momentum of the



current cycle.

## Betting on Stimulus

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"What I'm trying to get at is we could easily see interest rates being low for much longer," he said. And even if a bear market hits, and economies sour, history suggests there might be yet another wave of monetary stimulus. "If we have a massive selloff, central banks do what they have to do," Lorenzen said.

He also acknowledges that the current rate environment ultimately comes at a cost. And, perhaps ironically, that cost can be measured in much the same way as inflation.

"Inflation erodes wealth. Negative interest rate, negative real interest rate, also erodes wealth, just over time," Lorenzen said. "The phenomenon is not really different. Negative interest rate or very high inflation are similar phenomena."

"You can argue about what inflation really is," he said. "Is it the old school metric, a basket of goods, or is it something else?"

For now, the "base of all assets is the interest level" and "as long as we don't have any inflation at all and central banks support markets in general, as they do, then this is what we're looking into" to sustain returns, he said.

"Interest rates are very low and they are low for a reason," Lorenzen said. "There is no inflation at all."

— *With assistance by Paul Dobson*

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