

1.5C is the climate goal, but how do we get there?

October 4 2021, by Amélie Bottollier-Depois



Swedish climate activist Greta Thunberg speaks to demonstrators taking part in a Fridays for Future global climate strike in Berlin on September 24.

The science is painfully clear: to cap global warming at 1.5 degrees Celsius—given that we're already at 1.1C—means slashing carbon

pollution in half by 2030, and to zero by mid-century.

But how to do that? What does this critical Paris Agreement target mean for our economies and our daily lives?

What, in other words, do we have to change?

"Everything," said Henri Waisman, an expert on low-emissions development at French think tank IDDRI, and a lead author of the 2018 UN climate report that first spelled out pathways to a 1.5C world.

"And it has to be a root-&-stock change," he told AFP. "We have to transform the way we produce and consume energy, the way we make key industrial products, the way we move from one place to another, heat and feed ourselves."

Where to start?

Faced with this overwhelming task, the temptation may be to attack the problem one sector at a time.

But we haven't left enough time for that, according to experts.

"If we want to get to levels consistent with the 1.5C pathway, we have to do everything at the same time, and right away," said Anne Olhoff, a researcher at the Technical University of Denmark and an author of the annual UN "emissions gap" report tracking our progress—or lack thereof—in reaching that goal.

Energy, agriculture, construction, transport, industry and forestry—these are the six sectors to target if humanity is to reduce [greenhouse gas emissions](#) by 2030 from nearly 60 to 25 billion tonnes of CO₂ or its equivalent in other gases, experts agree.



Energy, agriculture, construction, transport, industry and forestry—these are the six sectors to target if humanity is to halve greenhouse gas emissions by 2030.

Energy is key

Energy production, which accounts for more than 70 percent of emissions, is widely seen as the best place to make rapid gains, especially electricity, which accounts for half of those emissions.

"If you have to choose one sector it's energy, not only because the [emission](#) reduction potential is the largest but also because there are quite a few easy wins," Olhoff told AFP.

"We have the technologies needed to make this happen, it's mainly a matter of political will."

The fossil fuel with the biggest target on its back is the dirtiest and most carbon intensive: coal.

"Coal-fired power plants, which account for about 40 percent of the total electricity today, need to be eliminated in two decades," said Matthew Gidden, team lead for mitigation pathways at research NGO Climate Analytics.

Rich countries need to take the lead, and should have all their carbon-belching [coal plants](#) shuttered by 2030, he said.

In the European Union, that would mean three closures every two weeks over the next ten years. In the US, it would mean one power plant closing every 14 days.

But China burns half the coal consumed worldwide, so unless Beijing follows suit the 1.5C goal quickly slips out of reach.

"If you were to shut off China's 1,082 coal-fired [power plants](#) at the rate needed to be in line with the Paris Agreement, one plant would need to close every week," with the last one closing around 2040, said Gidden.

That's the deadline the International Energy Agency (IEA) has set for the global electricity sector—40 percent of which is currently powered by coal—to become carbon neutral, a goal that would also require boosting solar and wind capacity four-fold by 2030.



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Transport, agriculture, industry...

But making electricity carbon neutral is not enough—every sector must purge its emissions.

In transport, the IEA has called for the last internal combustion engine to be sold no later than 2035.

In agriculture, the focus is on production methods that cast of nitrous oxide (N₂O), the third most important greenhouse gas after CO₂ and

methane.

Halting emissions will also require producing and consuming a lot less beef, by far the most carbon intensive of all meats.

There's the need to renovate residential and commercial buildings, which generate as much emissions as transport, and to develop new manufacturing methods for carbon-heavy industries such as cement and steel.

Finally, we cannot afford the continuing destruction of the planet's tropical forests, which absorb and store vast quantities of CO₂.

Choices, and a clear 'vision'

"It's a question of choices, there is no pathway where we don't make a choice," said Joeri Rogelj, director of research at Imperial College London's Grantham Institute.

Choices made by individuals, but also on the role of nuclear power, bioenergies, or technologies not yet invented for sucking CO₂ out of the air.

More than anything, we need "leadership with a vision," Rogelj said. "Governments are essential."

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