

Opinion: Earth's climate needs our courage

December 4 2019, by Nicolas Gruber



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Every year, the Global Carbon Project analyses the global sources and sinks of CO₂ and their trends. [The latest figures](#), as well as those from the [UNEP emission gap report](#) published last week, are disconcerting: global CO₂ emissions rose by more than two percent in 2018 relative to the previous year, and further growth is expected for 2019. Four years after the breakthrough at the climate negotiations in Paris, there is still no sign of a decline in the emissions.

Our carbon budget is dwindling

In fact, CO₂ emissions from burning [fossil fuels](#) have risen to more than ten billion tonnes of carbon (Gt C) for the first time. If the approximately 1.5 Gt C from tropical deforestation are included, human-induced emissions exceeded 11.5 Gt C in 2018, corresponding to almost 43 billion tonnes of CO₂. This means that the remaining amount of CO₂ that we can still emit according to the Paris Agreement is rapidly dwindling. The carbon budget for achieving the two-degree target is around 1,100 billion tonnes of CO₂, which would be used up in 25 years if emissions remained the same. To achieve a maximum temperature rise of 1.5 degrees, we have less than ten years remaining. Once the carbon budget is used up, every additional ton of CO₂ emitted must be removed from the atmosphere.

Given these numbers, it is natural to question whether the Paris climate targets are still realistic. And to put oil on the fire, the International Energy Agency IEA predicted in its latest Outlook that fossil fuels will continue to play an important role for a long time to come.

One thing is certain: we are not on track. The most important driver for the rising CO₂ emissions is increasing prosperity and the resulting increased demand for energy, which most countries cover using primarily fossil fuels. Since further increases in prosperity are necessary to lift the still large number of economically disadvantaged people out of poverty, we can only solve the climate problem by decoupling economic growth from CO₂ emissions. This decarbonization is taking place, but far too slowly. Most of the world remains in the age of fossil fuels.

Change is underway

But there are signs of hope: 19 countries, including Switzerland and a

few EU member states, have been able to reduce their CO₂ emissions in the last decade without slowing their economies. Furthermore, the IEA has repeatedly underestimated the growth of new renewable energies in the past. Many renewable energy sources have undergone impressive learning curves, making them significantly cheaper today and in some cases competitive. Last year, renewables accounted for more than 60 percent of the newly installed global electricity production. Numerous companies and cities have recognized the risks of climate change and want to take action. Political pressure from the general public is increasing.

It is clear that economic and societal changes have begun and are picking up speed. But unfortunately, the current pace of change is not enough. If we want to avoid missing the Paris target, we need to speed up decarbonization dramatically.

Increasing the pace

In my opinion, three factors are required to achieve this acceleration. First, we humans must recognize climate change as a real threat, take it seriously and then be prepared to walk the talk. Second, research and businesses must provide the technology and processes to meet our needs in a CO₂-neutral manner. Finally, politics and businesses should provide appropriate financial and political framework conditions. All three areas have picked up a lot of momentum recently, but their actions are not yet synced. I am confident that if we manage to align the interests of these actors and coordinate their actions, we will unlock a lot of potential and pick up a lot of speed.

As atmospheric CO₂ continues to increase—this year to more than 410 ppm (parts per million), almost 50 percent above pre-industrial levels—our room for maneuvering is becoming rapidly narrower. As a result, there is a great need for action. We are all called upon to act—in

Switzerland and around the world. The UN Climate Conference in Madrid can send a clear signal here. But in the end, it is up to us to summon the courage to take the necessary measures to radically and definitively reduce our emissions.

More information: R B Jackson et al. Global energy growth is outpacing decarbonization, *Environmental Research Letters* (2018). [DOI: 10.1088/1748-9326/aaf303](https://doi.org/10.1088/1748-9326/aaf303)

Report of the Global Carbon Project:
www.globalcarbonproject.org/carbonbudget/index.htm

Remaining CO₂-Budget:
www.mcc-berlin.net/de/forschung/co2-budget.html

IEA Energy Outlook 2019: www.iea.org/newsroom/news/2019...1-energy-system.html

CarbonBrief: Renewables could match coal power within 5 years:
www.carbonbrief.org/analysis-r...-5-years-iea-reveals

NOAA Global Monitoring Division:
www.esrl.noaa.gov/gmd/ccgg/trends/index.html

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