

MCC Press Release

Even the best implement too little climate action

Worldwide, only 24 countries might be called a frontrunner – and the minimum necessary reduction in annual emissions, 4 percent per year, has so far been achieved almost nowhere.

Berlin, 29.11.2021. Of the 197 countries that agreed to limit global heating in the Paris climate agreement, only 24 have so far managed a "sustained" reduction in their greenhouse gas emissions, including 22 in Europe. The successes are concentrated in the energy sector – and even the pace of the best, in most favourable periods of time, is only just within what is needed globally for the coming decades. These are the core findings of a study led by the Berlin-based climate research institute MCC (Mercator Research Institute on Global Commons and Climate Change), published now in the renowned journal *Climate Policy*.

The empirical, country-by-country and sector-by-sector analysis of all greenhouse gas emissions is based on the global database EDGAR maintained under the umbrella of the EU Commission (a recently published balance sheet for all countries of the world can be found [here](#)). The most recent data is for 2018, and the research team defines a sustained reduction in emissions if a country reached a peak in both CO₂ and total greenhouse gases no later than 2008. "The 24 countries that might be called a frontrunner according to this definition have reduced their annual CO₂ emissions by a total of 3.2 billion tonnes since their respective peaks," reports [William Lamb](#), scientist in the MCC working group Applied Sustainability Science and lead author of the study. That is equivalent to 9 per cent of global emissions in 2018. "The global turnaround is yet to come – and the structure and limitations of these partial successes provide valuable clues as to how it can be achieved."

The study shows the sharpest declines in CO₂ emissions, in each case since the peak year, for Ukraine (by 77 per cent since 1988), Denmark (by 56 per cent since 1996) and the UK (by 46 per cent since 1973). It is lower in Germany (by 37 per cent since 1979) and in the USA (by 12 per cent since 2005). Overall, the 24 frontrunners are divided into three groups: 6 early starters with a peak as early as the 1970s, 6 countries of the former Eastern Bloc which rapidly reduced emissions in the 1990s and have continued on a downward trajectory since, and 12 late starters with a peak only in the 2000s. From the Global South, only Jamaica is represented, mainly due to economic developments and fuel savings in its globally important bauxite mining sector.

The research team also looks at each individual year in these comparatively successful time spans, and calculates how often CO₂ emissions have fallen by at least 4 percent within a year. This would be roughly sufficient as a global pace for the next decades to at least limit global heating to 2 degrees. The fact that this benchmark has rarely been achieved is due to the fact that the climate transitions observed at the

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national level never extended to all sectors: the 24 frontrunners reduced their emissions mainly in the generation of electricity and heat, to a lesser extent also in industry – but hardly anything happened in the areas of transport, buildings and agriculture. Indeed, since the energy sector cannot be decarbonised twice, maintaining further reductions requires new more comprehensive climate policies that cover multiple sectors.

"Despite all the caveats, our findings also give some cause for optimism," says [Jan Minx](#), working group leader at MCC and a co-author of the study. "When viewed over the entire time span, the sustained emissions reductions were achieved alongside sustained economic growth. And they show what was possible even with the rather moderately ambitious climate policies that we've had in the past. For the future, increasing political pressure, but also the faster than expected decreasing costs of solar and battery technologies, for example, at least give us hope that more rapid and sustained reductions may be made in the coming years."

About MCC

MCC explores sustainable management as well as the use of common goods such as global environmental systems and social infrastructures against the background of climate change. Our seven working groups are active in the fields of economic growth and development, resources and international trade, cities and infrastructure, governance and scientific policy advice. The MCC was co-founded by the Mercator Foundation and the Potsdam Institute for Climate Impact Research (PIK).

Reference of the cited article:

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