

After a decades-long ban on harmful ozone-depleting chemicals, the ozone layer is finally healing. Could this be a model for tackling other environmental problems like climate change?

Finally, some good environment news: The Earth's protective ozone layer has been healing at a rate of around 2 percent since 2000, and could be completely healed by the middle of the century.

That's according to a United Nations report that praised the rate of success, which it attributed to the historic 1987 Montreal Protocol's ban on chlorofluorocarbons and other ozone-depleting substances.

If the current reductions in ozone-depleting emissions are sustained, the Northern Hemisphere could be healed by the 2030s and the Southern Hemisphere healed by the 2050s, the report detailed.

The hole above Antarctica, which was once as large as North America, could be completely recovered by the 2060s, the report found.

The 30th meeting of parties to the Montreal Protocol recently wrapped up in Ecuador with a unanimous decision to strengthen its enforcement.

Had it not been for the global agreement, much of the Earth's ozone layer would have been destroyed by 2065.

That would have had devastating consequences as the ozone layer protects life on the planet from the sun's damaging ultraviolet light, which causes skin cancer and cataracts in humans and other animals.

This bodes well in terms of the global community coming together to solve a planetary crisis, but some ozone problems still lurk on the horizon.

Mysterious spike in emissions

Although, the Montreal Protocol successfully reduced the release of ozone-depleting substances, researchers had been baffled by a slowdown in reductions of one particular gas, CFC-11.

The Environmental Investigation Agency last July uncovered the source: China (also a party to the Montreal Protocol).

Posing as buyers, investigators with the London-based green group found that 18 factories in China were still manufacturing banned CFCs for sale as plastic foam in the booming construction sector, because they were cheaper.

The EIA said several companies across China admitted to exporting CFCs by mislabeling them as hydrofluorocarbon compounds. The Chinese government has since pledged to shut down those factories.

“If these CFC-11 emissions had continued at this level, the recovery of the Antarctic ozone hole would be delayed 7 to 20 years,” Paul Newman, co-chairman of the recent UN ozone layer report and chief Earth scientist at NASA’s Goddard Space Flight Center, told DW. Both HFCs and CFCs are key chemicals used in cooling devices. But now HFCs are coming under fire too. Though once marketed as an environmentally friendly alternative to CFCs since they don’t deplete ozone, HFCs were later discovered to be a greenhouse gas thousands of times more powerful than carbon dioxide.

The recently agreed Kigali amendment to the Montreal Protocol targets HFCs and other ozone-depleting gases, yet is also expected to help curb climate change. The amendment will go into effect at the start of 2019.

Montreal Protocol as model

Despite gains on the ozone front, scientists remain concerned about the integrity of the Montreal Protocol.

“Any increase in ozone-depleting chemicals, as we have seen with CFC-11, risks damaging not just the work of the last 30 years — but also the reputation of the Montreal Protocol, and the potential it holds for the future,” United Nations Environment Program spokesperson Keith Weller told DW.

“The Montreal Protocol is one of the most successful multilateral agreements in history for a reason: The careful mix of authoritative science and collaboration resulted in the positive prognosis for the ozone that we see today,” he added.

Not only did the protocol serve to curb emissions, but it shines as a positive example of what people can accomplish for global environmental good, he said.

Yet, healing the ozone can also have negative side effects.

Healed ozone, warmer Antarctic?

Warmer temperatures are expected in the Antarctic because an intact ozone layer traps slightly more heat.

Although, scientists aren’t sure exactly how much a healed ozone layer would increase temperatures over Antarctica, they do know that warming would impact the area that is already suffering from man-made climate change.

Controlling greenhouse gas emissions would counteract a rise in global temperatures, benefitting the climate, Newman said.

“While climate change and ozone depletion are separate problems, there are some interesting overlaps,” he pointed out.

If nations comply with the Kigali Amendment of the Montreal Protocol, “controlling HFCs will reduce climate warming of about 0.5 degree Celsius [0.9 degrees Fahrenheit] by 2100,”

Healing the ozone layer: A ray of hope for planet Earth?

Newman said.

Source: dw