



Huge Step Taken to Combat Climate Change

Nations Agree to Ban HFC Refrigerant, a Major Greenhouse Gas

Friday, October 14—[The Environmental and Energy Study Institute](#) (EESI) salutes the decision of the 197 members of the Montreal Protocol to phase-out hydrofluorocarbons (HFCs), which have a major warming impact on the climate. This momentous decision was reached today in Kigali, Rwanda, during the 28th meeting of the parties to the Montreal Protocol on Substances that Deplete the Ozone Layer. HFC use is expected to peak by 2028 at the latest and then gradually decrease until HFCs are 85 percent phased out in all countries by 2047 (developed countries, such as the United States, must act sooner, with their use of HFCs peaking in 2019).

"**Things are finally moving**," said EESI Executive Director Carol Werner. "After the ratification of the Paris climate agreement last week, as well as the [agreement on aviation emissions](#), the international community has taken **another key step** by banning the use of hydrofluorocarbons as refrigerants. This single decision will likely **prevent half a degree of warming**—that's a lot when one considers that the world's goal is to keep warming significantly below 2 degrees Celsius."

Ironically, hydrofluorocarbons were initially viewed as the solution to another environmental problem: the depletion of the stratospheric ozone layer that protects life on Earth from harmful UVB ultraviolet light. Back in 1974, scientists discovered that chlorofluorocarbons (CFCs), which were being used as refrigerants at the time, were severely damaging the ozone layer. The world's nations agreed to phase out CFCs and replace them with HFCs. Unfortunately, HFCs have a powerful greenhouse effect.

"Though most HFCs have an atmospheric lifetime of 15 years or less, they pack a wallop during that time," explained Carol Werner. "**HFCs are up to a thousand times more potent than carbon dioxide when it comes to warming the atmosphere**. Eliminating HFC emissions will immediately slow the rate of global warming, buying us **precious time** as we address the main culprit, carbon dioxide. Indeed, **acting on HFCs does not exempt us from acting on CO2** or other important greenhouse gases like methane. We emit considerably more carbon, and it lingers in the atmosphere for more than 500 years."

There are many alternatives to hydrofluorocarbons for refrigeration, including different forms of HFCs that do not have a greenhouse effect, [hydrofluoroolefins](#), isobutane, propane, propylene, and ammonia. Some companies, such as Coca-Cola, are already discontinuing their use of HFCs. Switching to a different refrigerant is also an opportunity to redesign equipment and appliances to be much more energy efficient and provide additional environmental and economic benefits.

The Montreal Protocol is arguably the most successful environmental treaty ever. Without it, the ozone layer would likely have disappeared by the middle of this century. Instead, the ozone layer is being replenished, and the ozone hole over the Antarctic is expected to disappear by 2060–2075. A [2015 report by the U. S. Environmental Protection Agency](#) estimated that saving the ozone layer prevented over 280 million cases of skin cancer (and 1.6 million skin cancer deaths), as well as 45 million cataracts in the United States alone.

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