

## Hydro Fluorocarbons and its Effect on the Environment

John Peterson\*

Department of Physics, Injibara University, Ethiopia

### INTRODUCTION

HFCs are refrigerants that are often used in forced air systems in vehicles, houses, and offices, as well as other cooling systems. HFCs are incredibly powerful ozone depleting chemicals, with a global warming potential (GWP) many times greater than carbon dioxide. This means that sending a kilogramme of an HFC contributes as much to environmental change as sending a tonne or more of carbon dioxide.

HFCs are the fastest growing class of ozone depleting compounds, accounting for only a small portion of ozone depleting substance discharges at the moment. In India and other non-industrial countries, interest in cooling and cooling applications is expected to skyrocket. Nonetheless, chemical companies and manufacturers are working to replace HFCs with more environmentally friendly alternative refrigerants. The Kigali Amendment to the Montreal Protocol, which was ratified by countries all over the world last fall, established targets and funding for countries to phase down and replace HFCs.

India played a crucial role in the Kigali Agreement, and it is now pressing for HFC reductions as part of the Montreal Protocol's global reform. HFC consumption in India will be frozen in 2024, with reductions beginning in 2028. Cooling companies in India are replacing R-22, a more established refrigerant that both affects the ozone layer and has a high potential for dangerous atmospheric deviation, with R-410A, R-32, or R-290, the latter of which having the most significant global temperature increase potential (GWP).

Six of India's largest temperature control system manufacturers recently announced plans to switch to the lower-GWP refrigerant HFC, R-32, rather than R-410A. The Indian market, like the European and Chinese commercial sectors, is pushing for R-290, a hydrocarbon refrigerant with the lowest GWP and greater energy efficiency. Organizations and experts in India are successfully dealing with the expansion of R-290 use, as the refrigerant might pose health risks when used in larger charge quantities. Replacing

R-22 with R-410A, a refrigerant with a large and dangerous atmospheric deviation potential that developed countries chose 10 years ago while making progress, would solve one problem while creating another. To make the switch from R-410A to more environmentally friendly and energy efficient refrigerants, R-32 and R-290, for example, assist India in meeting the Montreal Protocol's goal of reducing the hazardous atmospheric deviation effect of refrigerants used in cooling.

Nations all across the world are also making progress in phasing out HFCs. Because the benefits of the planned decline in HFC use resulting from the Kigali Amendment are enormous, up to a major percentage of a degree decrease in the expansion of global temperatures, a global push is essential to combating environmental change. This is a critical commitment toward achieving the Paris Agreement's goal of limiting future warming to 1.5-2.0 degrees Celsius. The Kigali Amendment is a remarkable global environmental achievement; it demonstrates that governments can work together to control environmental change and that people all throughout the world can enjoy appropriate, environmentally friendly cooling. Furthermore, despite the apparent blunder of the US court's decision, overall progress toward the Kigali Amendment's goals continues uninterrupted. Supplanting HFCs with environment well disposed refrigerants is a vital piece of battling environmental change. While the DC Circuit Court choice might slow quick U.S. execution, it is lucky that organizations, natural gatherings, and states in India and all over the planet proceeding with a worldwide stage down.

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**Correspondence to:** Peterson J Department of Physics, Injibara University, Ethiopia, E-Mail: johnpeterson@gmail.com

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