



Early Action on HFCs Mitigates Future Atmospheric Change

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As countries take action to mitigate global warming, both by ratifying the UNFCCC Paris Agreement and enacting the Kigali Amendment to the Montreal Protocol to manage hydrofluorocarbons (HFCs), it is important to consider the relative importance of the pertinent greenhouse gases (GHGs), the distinct structure of their atmospheric impacts, and how the timing of potential GHG regulations would affect future changes in atmospheric temperature and ozone. Chemistry-climate model simulations demonstrate that HFCs could contribute substantially to anthropogenic climate change by the mid-21st century, particularly in the upper troposphere and lower stratosphere i.e. global average warming up to 0.19K at 80hPa. Three HFC mitigation scenarios demonstrate the benefits of taking early action in avoiding future atmospheric change: more than 90% of the climate change impacts of HFCs can be avoided if emissions stop by 2030.