

(58-220418-C) Global Emissions of HCFC-141b Have Been Rising Since 2017

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Global emissions of HCFC-141b, derived from measurements of atmospheric mole fractions, have been rising between 2017-2021 despite a fall in reported production and consumption. It is unclear whether the increase can be fully attributed to the known HCFC-141b bank. Limited evidence suggests that release rates of some HCFC-141b foam-containing appliances may increase after disposal in some regions of the world, but it is unclear whether this mechanism could account for the observed increase in global emissions and is not universally applicable. Additionally, extra vigilance is needed considering that the timing of the increase is coincident with a recent fall in emissions of CFC-11, the ozone depleting substance largely replaced by HCFC-141b, following a drop in unreported CFC-11 production. If there was a switch from unreported production of CFC-11 to HCFC-141b, this could, at least in part, be driving the increase in HCFC-141b emissions. Regional emissions estimates until 2020 for countries in north-western Europe, east Asia, the USA and Australia cannot explain the observed increase, which collectively account for around a third of global emissions in 2020.

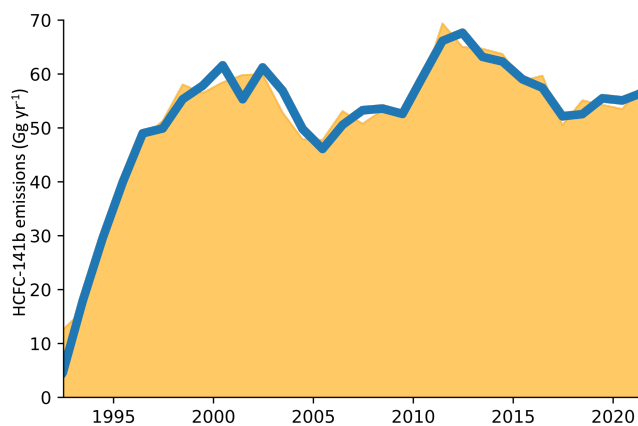


Figure 1. Emissions of the ozone depleting substance HCFC-141b, derived using measurements from the NOAA (blue line) and AGAGE (orange shading) global networks. Emissions have been steadily increasing since 2017.