



# Ozone Depleting Substances & Climate Change

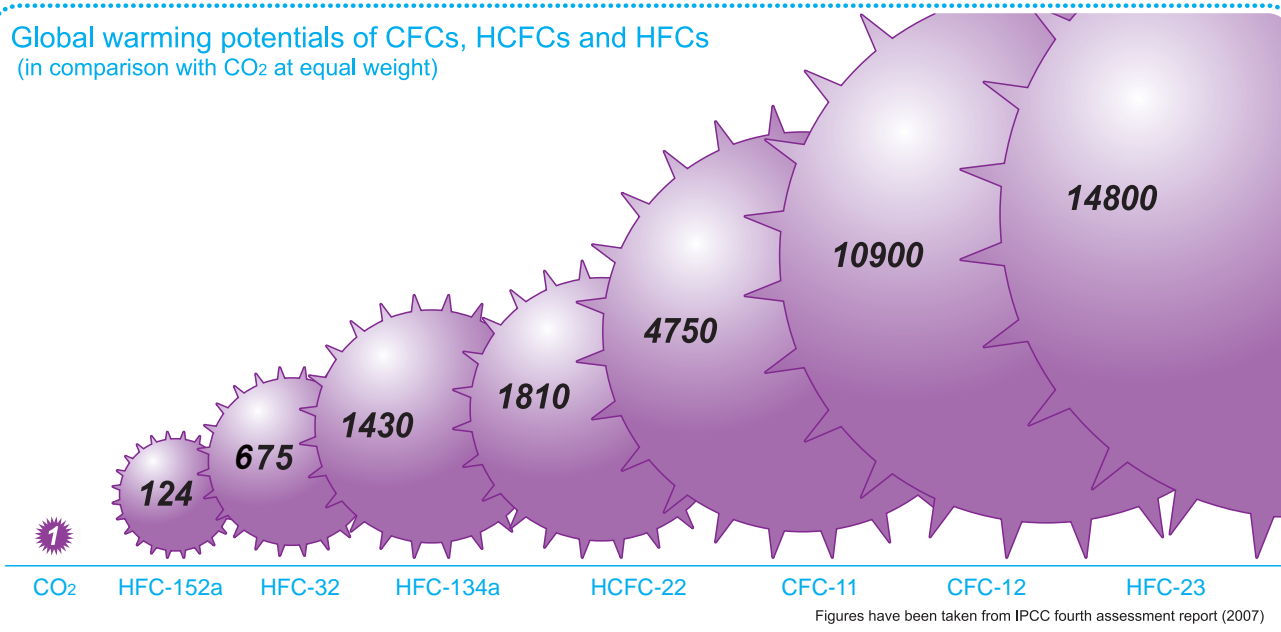
Ozone depleting substances (ODS) such as CFCs and HCFCs are also greenhouse gases. Therefore, the phase-out of ODS under the Montreal Protocol has contributed and will continue to contribute to the mitigation of climate change.

In addition, HFCs that are ozone friendly and therefore used as alternatives to CFCs and HCFCs are also greenhouse gases.

CFCs, HCFCs, and HFCs are still used in our daily life. Therefore, it is important to control the emissions into the atmosphere for the prevention of climate change.



Global warming potentials of CFCs, HCFCs and HFCs (in comparison with CO<sub>2</sub> at equal weight)



	Type	Ozone Depleting Potential	Global Warming Potential	Use
Ozone depleting substances	CFC	CFC-11 (1.0) CFC-12 (1.0) CFC-113 (0.8)	CFC-11 (4,750) CFC-12 (10,900) CFC-113 (6,130)	Refrigerants Foam blowing agents Device cleansings Aerosols
	Halon	Halon-1211 (3.0) Halon-1301 (10.0) Halon-2402 (6)	Halon-1211 (1,890) Halon-1301 (7,140) Halon-2402 (1,640)	Fire extinguishings
	Carbon Tetrachloride	1.1	1,400	Solvent used in laboratories and as materials
	1,1,1 - Trichloroethane	0.1	-	Cleaning Agents
	HCFC	HCFC-22 (0.055) HCFC-141b (0.11)	HCFC-22 (1,810) HCFC-141b (725)	Refrigerants Foaming agents Cleaning agents
	HBFC	0.74	-	(Fire extinguishings)*
	Bromochloromethane	0.12	-	(Solvents Agrichemicals Medicine Mothball)*
	Methyl Bromide	0.6	-	Soil fumigation agents (Sterilizations) Pesticide
Fluorinated gases controlled by Kyoto Protocol	HFC	0	HFC-23 (14,800) HFC-32 (675) HFC-134a (1,430) HFC-152a (124) R-410A (2,090)	Refrigerants Foaming agents Cleaning agents Aerosols
	PFC	0	7,390 -- 12,200	Solvents Device cleansing agents Semiconductor production Liquid crystal production
	SF <sub>6</sub>	0	22,800	Electric insulator (insulating/internal) Semiconductor production Liquid crystal production Magnesium production

HBFC and Bromochloromethanes are not used in Japan.

Source (GWP) : IPCC fourth assessment report (2007)

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