



United Nations
Framework Convention on
Climate Change

Home | CDM | JI | CC:iNet | TT:Clear

Your location: Home > GHG Data

NEGOTIATIONS

- [Meetings](#)
- [Documents & Decisions](#)
- [Bodies](#)

FOCUS

- [Adaptation](#)
- [Finance](#)
- [Mitigation](#)
- [Technology](#)

PROCESS

- [Essential Background](#)
- [Kyoto Protocol](#)
- [Cooperation & Support](#)
- [Adaptation](#)
- [National Reports](#)
- [GHG Data](#)
 - [GHG Data - UNFCCC](#)
 - [KP Data - UNFCCC](#)
 - [GHG Data - Non-UNFCCC](#)
 - [Online Help](#)
 - [Contact](#)
- [Methods & Science](#)
- [Parties & Observers](#)
- [Press](#)
- [Secretariat](#)

KEY STEPS

- [The Convention](#)
- [Kyoto Protocol](#)
- [Bali Road Map](#)
- [Cancun Agreements](#)
- [Durban Outcomes](#)
- [Doha Climate Gateway](#)

Issues Quickfinder:

Global Warming Potentials

Global Warming Potential referenced to the updated decay response for the Bern carbon cycle model and future CO₂ atmospheric concentrations held constant at current levels.

Source: Climate Change 1995, The Science of Climate Change: Summary for Policymakers and Technical Summary of the Working Group I Report, page 22.

Species	Chemical formula	Lifetime (years)	Global Warming Potential (Time Horizon)		
			20 years	100 years	500 years
CO ₂	CO ₂	variable §	1	1	1
Methane *	CH ₄	12±3	56	21	6.5
Nitrous oxide	N ₂ O	120	280	310	170
HFC-23	CHF ₃	264	9100	11700	9800
HFC-32	CH ₂ F ₂	5.6	2100	650	200
HFC-41	CH ₃ F	3.7	490	150	45
HFC-43-10mee	C ₅ H ₂ F ₁₀	17.1	3000	1300	400
HFC-125	C ₂ H ₂ F ₅	32.6	4600	2800	920
HFC-134	C ₂ H ₂ F ₄	10.6	2900	1000	310
HFC-134a	CH ₂ FCF ₃	14.6	3400	1300	420
HFC-152a	C ₂ H ₄ F ₂	1.5	460	140	42
HFC-143	C ₂ H ₃ F ₃	3.8	1000	300	94
HFC-143a	C ₂ H ₃ F ₃	48.3	5000	3800	1400
HFC-227ea	C ₃ H ₂ F ₇	36.5	4300	2900	950
HFC-236fa	C ₃ H ₂ F ₆	209	5100	6300	4700
HFC-245ca	C ₃ H ₃ F ₅	6.6	1800	560	170
Sulphur hexafluoride	SF ₆	3200	16300	23900	34900
Perfluoromethane	CF ₄	50000	4400	6500	10000
Perfluoroethane	C ₂ F ₆	10000	6200	9200	14000
Perfluoropropane	C ₃ F ₈	2600	4800	7000	10100
Perfluorobutane	C ₄ F ₁₀	2600	4800	7000	10100
Perfluorocyclobutane	c-C ₄ F ₈	3200	6000	8700	12700
Perfluoropentane	C ₅ F ₁₂	4100	5100	7500	11000
Perfluorohexane	C ₆ F ₁₄	3200	5000	7400	10700

§ Derived from the Bern carbon cycle model.

* The GWP for methane includes indirect effects of tropospheric ozone production and stratospheric water vapour production.

Secretariat	Employment	Most requested	Procurement	This site
History	Vacancies	Long-Term Finance	Expression of Interest	Sitemap
Executive Secretary	Consultancy	Fast-Start Finance	Procurement Plan	Disclaimer
Secretariat Structure	Fellowships	Mitigation	Award Procedure	Fraud Alert
Contact	Internships	Finance	Contact	
Maps & Directions		REDD		

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