Supplementary information to: Global Emissions and Abundances of Chemically and Radiatively Important Trace Gases from the AGAGE Network

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S1 Supplementary tables

Table S1. Parameters used to estimate emissions and mole fraction trends for various species. The Overall Lifetime Uncertainty is taken from errors in the inverse lifetime estimates (see main text). Scale error is the assumed error in the measurement calibration scale and is generally a conservative estimate. The error in the repeatability of the measurements is an approximate mean repeatability of standard gas measurements over time. Growth Uncertainty is the uncertainty in the year to year growth of the emissions (see Section 7, main text) and the Sensitivity Frequency is the frequency at which the sensitivity of the mole fraction to emissions is derived. Errors and uncertainties are given as 1-sigma.

Species	**Calibration Scale**	**Calibration Scale Error (%)**	**Overall Lifetime Uncertainty (%)**	**Measurement Repeata-bility (%)**	**Growth Uncer-tainty (%)**	**Sensitivity Frequency**
CFC-11	SIO-05	1	10	0.16	20	quarterly
CFC-12	SIO-05	1	20	0.16	20	quarterly
CFC-13	METAS-2017	3	68	2.17	20	yearly
CFC-113/a	SIO-05	1.5	20	0.42	20	quarterly
CFC-114/a	SIO-05	3	23	0.74	20	yearly
CFC-115	SIO-05	3	34	1.2	20	yearly
CH_3CCl_3	SIO-05	3	14	2.56	20	quarterly
N_2O	SIO-16	0.5	10	0.12	20	quarterly
CH_4	TU-87 / NOAA-2004A	0.5	14.2	0.11	3	quarterly
HCFC-22	SIO-05	1	16.09	0.54	20	quarterly
HCFC-141b	SIO-05	2	14.81	0.71	20	quarterly
HCFC-142b	SIO-05	2	19.74	0.56	20	quarterly
HCFC-124	UB-98	2	19.74	4.85	20	yearly
HCFC-132b	METAS-2017	14.14	50		10	yearly
HCFC-133a	Empa-2013	14.14	10	–	100	yearly
CCl_4	SIO-05	2	21	0.5	20	quarterly
HFC-23	SIO-07	3	20.94	0.85	20	quarterly
HFC-32	SIO-07	3	16.67	4.01	200	quarterly

Species	Calibration Scale	Sigma Scale Error (%)	Overall Lifetime Uncertainty (%)	Repeatability (%)	Growth Uncer-tainty (%)	Sensitivity Frequency
HFC-125	SIO-14	5	17.39	1.37	20	quarterly
HFC-134a	SIO-05	1.5	18.15	0.61	20	quarterly
HFC-143a	SIO-07	3	18.55	1.65	20	quarterly
HFC-152a	SIO-05	3	15.11	2.82	20	quarterly
HFC-227ea	SIO-14	8	21.04	6.0	20	quarterly
HFC-236fa	SIO-14	21	21.04	12.0	175	quarterly
HFC-245fa	SIO-14	8	21.61	9.0	20	quarterly
HFC-365mfc	SIO-14	14	21.04	15.0	100	quarterly
HFC-43-10mee	SIO-14	8	20	15.0	200	yearly
SF_6	SIO-05	2	1	1.0	10	quarterly
SO_2F_2	SIO-07	3	30	3.0	10	yearly
CF_4	SIO-05	3	1	0.68	20	quarterly
C_2F_6	SIO-07	3	1	0.68	20	quarterly
C_3F_8	SIO-07	4	1	2.16	20	yearly
c-C_4F_8	SIO-14	4	1	0.21	200	yearly
NF_3	SIO-12	3	1	5.07	50	yearly
CH_3Cl	SIO-05	3	20	–	20	quarterly
$CHCl_3$	SIO-98	4	20	–	20	quarterly
CH_2Cl_2	SIO-14	3	20	2.67	20	quarterly
H-1211	SIO-05	3	30	0.43	20	yearly
H-1301	SIO-05	3	12	7.03	20	yearly
H-2402	SIO-14	3	19	1.65	20	yearly
CH_3Br	SIO-05	3	15	1.16	20	quarterly
CCl_2=CCl_2	NOAA-2003B	3	60	2.74	20	quarterly