

Uncertainty calculation for the New Zealand Greenhouse Gas Inventory 1990 - 2004 excluding LULUCF removals (following IPCC Tier 1)

IPCC Source category	Gas	Base year emissions	Year t emissions	activity data uncertainty	emission factor uncertainty	combined uncertainty	combined uncertainty as a % of the total emissions in year t	type A sensitivity	type b sensitivity	Uncertainty in the trend in national totals introduced by emission factor uncertainty	Uncertainty in trend in national total introduced by activity data uncertainty	Uncertainty introduced into the trend in total emissions	Emission /removal factor quality indicator	Activity data quality indicator
Energy sector	CO ₂	22721.55	30590.19	5	0	5	2.04	0.0474	0.4959	0.0000	3.5062	3.51	M	R
Industrial processes sector	CO ₂	2,666.52	3450.30	5	0	5	0.23	0.0033	0.0559	0.0000	0.3955	0.40	M	R
Energy sector	CH ₄	797.03	794.25	5	50	50	0.53	-0.0028	0.0129	-0.1425	0.0910	0.17	D	R
CRF2A - mineral products	CH ₄	NO	NO											
CRF2B - chemical industry	CH ₄	20.16	45.69	0	80	80	0.05	0.0003	0.0007	0.0274	0.0000	0.03	D	R
CRF4A - enteric fermentation	CH ₄	21553.97	23714.98	2	53	53	16.75	-0.0407	0.3844	-2.1559	1.0873	2.41	M	M
CRF4B - manure management	CH ₄	583.30	745.88	2	100	100	0.99	0.0006	0.0121	0.0583	0.0342	0.07	M	M
CRF4E- prescribed burning	CH ₄	2.82	0.70	20	60	63	0.00	0.0000	0.0000	-0.0027	0.0003	0.00	D	R
CRF4F - burning of residues	CH ₄	18.78	18.88	50	40	64	0.02	-0.0001	0.0003	-0.0026	0.0216	0.02	D	R
LULUCF sector	CH ₄	93.54	75.15	10	35	36	0.04	-0.0006	0.0012	-0.0220	0.0172	0.03		
CRF 6A - Solid waste disposal	CH ₄	2177.70	1507.49	0	20	20	0.40	-0.0185	0.0244	-0.3704	0.0000	0.37	M	R
CRF 6B - wastewater handling	CH ₄	156.66	166.95	0	20	20	0.04	-0.0004	0.0027	-0.0077	0.0000	0.01	D	R
Energy sector	N ₂ O	151.26	265.05	5	50	50	0.18	0.0013	0.0043	0.0656	0.0304	0.07	D	R
CRF4D -Agricultural soils	N ₂ O	10021.98	12768.17	5	73	73	12.44	0.0092	0.2070	0.6740	1.4635	1.61	M	M
CRF4B - manure management	N ₂ O	37.93	63.50	5	100	100	0.08	0.0003	0.0010	0.0281	0.0073	0.03		
CRF4E- prescribed burning	N ₂ O	0.51	0.13	20	60	63	0.00	0.0000	0.0000	-0.0005	0.0001	0.00	D	R
CRF4F - burning of residues	N ₂ O	6.46	6.20	50	40	64	0.01	0.0000	0.0001	-0.0011	0.0071	0.01	D	R
LULUCF sector	N ₂ O	9.49	7.63	10	35	36	0.00	-0.0001	0.0001	-0.0022	0.0017	0.00		
CRF6B - wastewater handling	N ₂ O	146.92	163.92	0	1200	1200	2.62	-0.0002	0.0027	-0.2898	0.0000	0.29	D	R
CRF2F	HFCs	0.00	597.36	120	50	130	1.03	0.0097	0.0097	0.4841	1.6433	1.71	D	R
CRF2C	PFCs	515.60	80.70	0	30	30	0.03	-0.0089	0.0013	-0.2659	0.0000	0.27	M	M
CRF2F	SF ₆	9.46	21.49	5	20	21	0.01	0.0002	0.0003	0.0032	0.0025	0.00		
Total emissions/removals		61691.64	75084.58				Uncertainty in the year	21.2%		Uncertainty in the trend		4.9%		

assumptions as per IPCC GPG

- where only total uncertainty is known for a source category then the following rules have been used.
 - if uncertainty is assumed to be correlated across years, then total uncertainty is entered as emission factor uncertainty
 - if uncertainty is assumed not to be correlated across years, then the total uncertainty is entered as activity data uncertainty
 - Column K: The same emission factor is used in both years and the emission factors are fully correlated.
 - Column L: The activity data in both years is assumed independent (not correlated).
- Note that the total emissions shown will not equal the total reported in the CRF/NIR as not every source is specified in the uncertainty analysis