ANNEX 1

SUMMARY 1.A SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES

Inventory
2015
Submission
2017 v1
FINLAND

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Net CO_2 emissions/removals	CH_4	N_2O	HFCs[1]	PFCs[1]	Unspecified mix of HFCs and PFCs[1]	SF_6	NF_3	NO_x	CO	NMVOC	SO_2
	(kt)			(kt CO_2 equivalent)					(kt)			
Total national emissions and removals	16205.06	231.80	19.88	1547.41	6.62	NO	0.00	NO	130.38	335.64	85.27	40.93
1. Energy	39998.97	11.31	1.79						126.19	332.78	61.82	29.97
A. Fuel combustion Reference approach(2)	40126.57											
Sectoral approach(2)	39890.72	9.84	1.79						126.09	332.76	52.61	29.96
1. Energy industries	15952.63	0.99	0.83						29.20	19.22	0.96	18.83
2. Manufacturing industries and construction	8287.06	0.87	0.47						33.59	34.74	2.21	6.71
3. Transport	11011.76	0.86	0.26						44.85	81.77	10.70	0.20
4. Other sectors	3543.35	7.01	0.20						16.36	195.88	38.58	3.49
5. Other	1095.92	0.12	0.02						2.08	1.17	0.16	0.73
B. Fugitive emissions from fuels	108.25	1.46	0.00						0.09	0.02	9.21	0.00
1. Solid fuels	NO	NO	NO						NO	NO	NO	NO
2. Oil and natural gas and other emissions from energy production	108.25	1.46	0.00						0.09	0.02	9.21	0.00
C. CO_2 Transport and storage	NA,NO											
2. Industrial processes and product use	4200.86	0.01	0.95	1547.41	6.62	NO	0.00	NO	1.91	0.03	23.01	10.96
A. Mineral industry	962.52								0.04	NO	NO	0.01
B. Chemical industry	916.24	NA,NO	0.87	NO	NO	NO	NO	NO	1.05	NO	2.44	6.72
C. Metal industry	2185.71	0.00	NO				NA,NO		0.67	NO	0.32	3.22
D. Non-energy products from fuels and solvent use	136.39	0.01	0.00						0.15	0.03	16.33	0.15
E. Electronic industry				NO,IE	NO,IE	NO	NO,IE	NO				
F. Product uses as substitutes for ODS				1544.17	4.42							
G. Other product manufacture and use	NO	NO	0.08	NO	NO	NO	0.00	NO	NO	NO	NO	NO
H. Other[3]	NO	NO	NO	3.24	2.20		0.00		0.00	NO	3.92	0.86
3. Agriculture	181.85	103.34	12.47						2.28	2.67	NE,NA,NO	NO
A. Enteric fermentation		84.70										
B. Manure management		18.57	0.97								NE	
C. Rice cultivation		NO									NA,NO	
D. Agricultural soils		NE,NO	11.50						2.21	NE	NE,NO	
E. Prescribed burning of savannas		NO	NO						NO	NO	NO	
F. Field burning of agricultural residues		0.08	0.00						0.07	2.67	NE	
G. Liming	179.75											
H. Urea application	2.10											
I. Other carbon-contining fertilizers	NA											
J. Other	NO	NO	NO						NO	NO	NO	NO
4. Land use, land-use change and forestry (4)	-28176.62	36.80	4.25						0.01	0.16	NE	NE
A. Forest land (4)	-36095.36	33.75	3.79						0.00	0.14	NE	
B. Cropland (4)	6665.66	IE,NA	0.04						NE,IE	NE,IE	NE	
C. Grassland (4)	681.79	0.00	0.01						0.00	0.02	NE	
D. Wetlands (4)	2128.33	3.05	0.33						NE,NA	NE,NA	NE	
E. Settlements (4)	775.97	NE,NA	0.07						NE,NA	NE,NA	NE	
F. Other land (4)	NO,NA	NA	NA						NA	NA	NE	
G. Harvested wood products	-2333.01											
H. Other (4)	NA	NA	NA						NA	NA	NE	NE
5. Waste	NE,NO,IE	80.34	0.42						NE,NO,IE	NE,NO,IE	0.44	NE,NO,IE
A. Solid waste disposal (5)	NO	70.66							NO	NO	0.10	
B. Biological treatment of solid waste (5)		2.76	0.15						NO	NO	0.05	
C. Incineration and open burning of waste (5)	NE,NO,IE	NE,NO,IE	NE,NO,IE						NE,IE	NE,IE	NE,IE	NE,IE
D. Wastewater treatment and discharge		6.93	0.27						NO	NO	0.29	
E. Other (5)	NO	NO	NO						NO	NO	NO	NO
6. Other (please specify)(6)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Memo items:[7]												
International bunkers	2883.11	0.10	0.08						24.47	4.30	0.90	1.10
Aviation	1963.08	0.02	0.05						7.77	2.10	0.22	0.52
Navigation	920.02	0.08	0.02						16.70	2.20	0.68	0.58
Multilateral operations	NO	NO	NO						NO	NO	NO	NO
CO_2 emissions from biomass	38690.95											
CO_2 captured	138.28											
Long-term storage of C in waste disposal sites	54650.70											
Indirect N_2O			0.61									
Indirect CO_2	52.00											

(1) The emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), unspecified mix of HFCs and PFCs and other fluorinated gases are to be expressed as carbon dioxide (CO_2) equivalent emissions. Data on disaggregated emissions of HFCs and

(2) For verification purposes, Parties are requested to report the results of their calculations using the Reference approach and to explain any differences with the Sectoral approach in the documentation box to table 1.A(c). For estimating national total emi

(3) 2.H. Other includes pulp and paper and food and beverages industry.

(4) For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

(5) CO_2 from categories solid waste disposal on land and waste incineration should only be included if it stems from non-biogenic or inorganic waste streams. Only emissions from waste incineration without energy recovery are to be reported in the waste sector, whereas emissions from incineration with energy recovery are to be reported in the energy sector.

(6) If reporting any country-specific category under sector "6. Other", detailed explanations should be provided in Chapter 8: Other (CRF sector 6) of the national inventory report (NIR).

7) Parties are asked to report emissions from international aviation and international navigation and multilateral operations, as well as CO_2 emissions from biomass and CO_2 captured, under Memo Items.
These emissions should not be included in the national total emissions from the energy sector. Amounts of biomass used as fuel are included in the national energy consumption but the corresponding CO_2 emissions are not included in the national total as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net CO_2 emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

SUMMARY 2 SUMMARY REPORT FOR CO_2 EQUIVALENT EMISSIONS

(Sheet 1 of 1)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO_2 [1]	CH_4	N_2O	HFCs	PFCs	SF_6	Unspecified mix of HFCs and PFCs	NF_3	Total
	CO_2 equivalent (kt)								
Total (net emissions)[1]	16205.06	5794.97	5924.84	1547.41	6.62	37.55	NO	NO	29516.44
1. Energy	39998.97	282.67	534.70						40816.34
A. Fuel combustion (sectoral approach)	39890.72	246.08	534.10						40670.90
1. Energy industries	15952.63	24.76	248.01						16225.40
2. Manufacturing industries and construction	8287.06	21.85	140.44						8449.35
3. Transport	11011.76	21.38	77.81						11110.95
4. Other sectors	3543.35	175.16	60.40						3778.91
5. Other	1095.92	2.94	7.43						1106.29
B. Fugitive emissions from fuels	108.25	36.59	0.61						145.44
1. Solid fuels	NO	NO	NO						NO
2. Oil and natural gas	108.25	36.59	0.61						145.44
C. CO_2 transport and storage	NA,NO								NA,NO
2. Industrial processes and product use	4200.86	0.15	283.59	1547.41	6.62	37.55	NO	NO	6076.18
A. Mineral industry	962.52								962.52
B. Chemical industry	916.24	NA,NO	258.63	NO	NO	NO	NO	NO	1174.87
C. Metal industry	2185.71	0.00	NO			NA,NO			2185.71
D. Non-energy products from fuels and solvent use	136.39	0.15	0.87						137.40
E. Electronic Industry				NO,IE	NO,IE	NO,IE	NO	NO	NO,IE
F. Product uses as ODS substitutes				1544.17	4.42				1548.59
G. Other product manufacture and use	NO	NO	24.09	NO	NO	10.85	NO	NO	34.94
H. Other	NO	NO	NO	3.24	2.20	26.70			32.14
3. Agriculture	181.85	2583.57	3715.56						6480.97
A. Enteric fermentation		2117.43							2117.43
B. Manure management		464.18	287.91						752.09
C. Rice cultivation		NO							NO
D. Agricultural soils		NE,NO	3427.04						3427.04
E. Prescribed burning of savannas		NO	NO						NO
F. Field burning of agricultural residues		1.96	0.61						2.57
G. Liming	179.75								179.75
H. Urea application	2.10								2.10
I. Other carbon-containing fertilizers	NA								NA
J. Other	NO	NO	NO						NO
4. Land use, land-use change and forestry[1]	-28176.62	920.06	1265.79						-25990.77
A. Forest land	-36095.36	843.75	1127.96						-34123.65
B. Cropland	6665.66	IE,NA	11.71						6677.37
C. Grassland	681.79	0.01	1.51						683.31
D. Wetlands	2128.33	76.30	99.57						2304.20
E. Settlements	775.97	NE,NA	22.05						798.02
F. Other land	NO,NA	NA	NA						NO,NA
G. Harvested wood products	-2333.01								-2333.01
H. Other	NA	NA	NA						NA
5. Waste	NE,NO,IE	2008.52	125.20						2133.72
A. Solid waste disposal	NO	1766.41							1766.41
B. Biological treatment of solid waste		68.89	43.97						112.85
C. Incineration and open burning of waste	NE,NO,IE	NE,NO,IE	NE,NO,IE						NE,NO,IE
D. Waste water treatment and discharge		173.22	81.23						254.46
E. Other	NO	NO	NO						NO
6. Other *(as specified in summary 1.A)*	NO	NO	NO	NO	NO	NO	NO	NO	NO

Memo items:[2]									
International bunkers	2883.11	2.60	22.36						2908.08
Aviation	1963.08	0.62	15.98						1979.68
Navigation	920.02	1.99	6.38						928.39
Multilateral operations	NO	NO	NO						NO
CO_2 emissions from biomass	38690.95								38690.95
CO_2 captured	138.28								138.28
Long-term storage of C in waste disposal sites	54650.70								54650.70
Indirect N_2O			182.16						
Indirect CO_2 [3]	52.00								
Total CO_2 equivalent emissions without land use, land-use change and forestry									55507.21
Total CO_2 equivalent emissions with land use, land-use change and forestry									29516.44
Total CO_2 equivalent emissions, including indirect CO_2, without land use, land-use change and forestry									55559.21
Total CO_2 equivalent emissions, including indirect CO_2, with land use, land-use change and forestry									29568.44

[1] For carbon dioxide (CO_2) from land use, land-use change and forestry the net emissions/removals are to be reported. For the purposes of reporting, the signs for removals are always negative (-) and

[2] See footnote 7 to table Summary 1.A.

[3] In accordance with the UNFCCC Annex I inventory reporting guidelines, for Parties that decide to report indirect CO_2, the national totals shall be provided with and without indirect CO_2.

TABLE 10 EMISSION TRENDS
GHG CO_2 eq emissions
(Sheet 1 of 6)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	(kt CO_2 eq)													
Total (net emissions)[2]	58452.91	58452.91	43475.83	48058.32	49447.63	61896.87	59307.12	56030.98	57812.22	55783.12	52153.41	48188.59	51845.23	53737.97
1. Energy	53557.84	53557.84	52203.24	51568.25	53519.75	58793.89	55328.25	61074.91	59489.69	56163.11	55555.41	53754.85	59187.23	61782.94
A. Fuel combustion (sectoral approach)	53434.81	53434.81	52051.48	51392.38	53279.19	58634.27	55160.68	60915.40	59304.48	56015.08	55433.28	53633.43	59056.18	61656.98
1. Energy industries	18969.25	18969.25	18788.03	18607.65	21353.52	26343.19	24031.16	29781.90	27394.93	24148.96	23607.72	22137.73	27566.06	30394.87
2. Manufacturing industries and construction	13662.91	13662.91	13138.90	12601.15	12697.71	12972.89	12408.69	12272.35	12555.98	12199.45	12172.82	12209.83	11759.34	11442.26
3. Transport	12101.30	12101.30	11725.55	11638.68	11183.63	11539.08	11337.91	11338.79	11901.28	12033.76	12242.17	12127.53	12244.67	12427.23
4. Other sectors	7565.22	7565.22	7386.44	7497.39	7089.83	6573.28	6083.97	6175.10	6161.70	6235.39	6144.03	5791.08	6016.35	5970.52
5. Other	1136.12	1136.12	1012.56	1047.50	954.49	1205.83	1298.94	1347.26	1290.58	1397.52	1266.54	1367.26	1469.76	1422.10
B. Fugitive emissions from fuels	123.03	123.03	151.76	175.87	240.56	159.62	167.58	159.50	185.21	148.03	122.13	121.42	131.05	125.96
1. Solid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2. Oil and natural gas and other emissions from energy production	123.03	123.03	151.76	175.87	240.56	159.62	167.58	159.50	185.21	148.03	122.13	121.42	131.05	125.96
C. CO_2 transport and storage	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
2. Industrial Processes	5370.16	5370.16	4966.37	4677.25	4708.42	4906.23	4913.67	5121.08	5402.29	5431.28	5614.31	5827.36	5866.30	5842.07
A. Mineral industry	1195.90	1195.90	1027.71	929.91	836.81	876.54	853.04	892.18	924.53	933.77	1007.26	1059.03	1064.39	1061.61
B. Chemical industry	1861.86	1861.86	1672.17	1488.40	1495.29	1616.77	1669.13	1670.37	1646.94	1578.25	1550.73	1588.64	1526.72	1597.11
C. Metal industry	1975.53	1975.53	1986.47	1990.83	2112.78	2121.28	2075.60	2197.95	2413.71	2418.71	2447.65	2388.29	2439.22	2317.35
D. Non-energy products from fuels and solvent use	219.66	219.66	175.06	177.58	178.72	197.60	187.31	167.61	152.16	147.60	141.58	137.87	144.11	143.48
E. Electronic industry	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE
F. Product uses as ODS substitutes	0.01	0.01	0.02	0.03	0.17	5.21	26.57	73.69	149.50	249.00	365.27	571.58	611.54	648.37
G. Other product manufacture and use	109.50	109.50	97.02	82.67	78.50	81.20	91.15	85.75	81.98	79.27	79.32	62.23	59.14	55.21
H. Other	7.70	7.70	7.91	7.83	6.14	7.63	10.88	33.54	33.46	24.68	22.50	19.73	21.17	18.95
3. Agriculture	7525.30	7525.30	7007.27	6490.64	6756.46	6854.10	6837.79	6787.49	6805.54	6620.73	6509.90	6466.33	6511.77	6615.73
A. Enteric fermentation	2422.95	2422.95	2326.74	2250.44	2270.63	2272.58	2140.70	2146.05	2178.03	2131.31	2100.90	2112.68	2090.61	2112.93
B. Manure management	654.67	654.67	618.70	616.52	627.58	648.21	646.79	666.15	694.92	677.52	667.34	665.21	671.62	687.04
C. Rice cultivation	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
D. Agricultural soils	3796.30	3796.30	3600.62	3321.19	3381.36	3456.51	3636.68	3493.80	3437.20	3356.80	3285.53	3333.99	3326.55	3365.28
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Field burning of agricultural residues	4.02	4.02	3.66	3.03	3.77	3.62	3.35	3.66	3.60	2.70	2.53	3.60	3.14	3.26
G. Liming	642.01	642.01	455.16	296.88	472.14	472.49	409.67	477.26	490.96	451.61	452.82	350.01	418.92	446.22
H. Urea application	5.35	5.35	2.39	2.58	0.98	0.69	0.60	0.58	0.83	0.80	0.78	0.84	0.93	0.99
I. Other carbon-containing fertilizers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land use, land-use change and forestry[2]	-12672.35	-12672.35	-25427.45	-19416.44	-20268.53	-13324.93	-12368.91	-21443.50	-18252.70	-16614.16	-19618.45	-21709.98	-23410.33	-23933.88
A. Forest land	-20009.14	-20009.14	-34515.69	-28397.10	-26784.73	-19320.17	-19294.02	-28635.04	-23097.79	-21450.51	-24496.34	-26049.33	-30684.88	-31287.23
B. Cropland	5601.08	5601.08	5738.38	5871.69	5702.74	6410.20	6909.10	6696.17	6808.47	6867.51	6481.49	6312.45	6634.08	7047.10
C. Grassland	863.16	863.16	849.01	820.35	815.58	791.76	775.72	753.42	762.68	736.90	725.39	716.00	735.24	715.13
D. Wetlands	1551.88	1551.88	1530.00	1707.36	1655.33	1867.35	1742.78	1792.64	1868.06	1674.57	2089.08	1896.90	2114.87	2158.81
E. Settlements	884.07	884.07	920.50	959.57	1023.62	1080.71	1087.91	1155.30	1260.72	1314.63	1315.57	1336.74	1510.50	1482.49
F. Other land	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA
G. Harvested wood products	-1565.63	-1565.63	48.24	-380.67	-2682.90	-4156.71	-3592.63	-3208.12	-5856.95	-5760.05	-5736.35	-5924.82	-3722.71	-4052.78
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Waste	4671.95	4671.95	4726.40	4738.63	4731.53	4667.58	4596.31	4491.01	4367.40	4182.14	4092.25	3850.03	3690.26	3431.11
A. Solid waste disposal	4327.75	4327.75	4384.59	4400.82	4391.98	4326.01	4245.11	4133.90	4016.84	3828.31	3737.86	3492.09	3332.66	3070.63
B. Biological treatment of solid waste	44.10	44.10	49.52	55.56	59.79	64.01	72.98	82.38	83.08	88.14	93.22	97.91	102.95	107.96
C. Incineration and open burning of waste	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE
D. Waste water treatment and discharge	300.10	300.10	292.28	282.25	279.76	277.56	278.22	274.73	267.48	265.70	261.17	260.03	254.65	252.53
E. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6. Other ***(as specified in summary 1.A)***	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Memo items:														
International bunkers	2865.99	2865.99	2718.70	3071.70	2535.81	2189.31	1973.53	2179.04	2315.91	2705.56	2891.00	3139.34	2950.12	3175.65
Aviation	1016.29	1016.29	956.34	845.43	794.47	836.44	904.64	968.49	1006.23	1030.97	1103.49	1072.48	1099.41	1086.82
Navigation	1849.70	1849.70	1762.36	2226.27	1741.34	1352.87	1068.90	1210.55	1309.68	1674.58	1787.51	2066.86	1850.72	2088.84
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
CO_2 emissions from biomass	19333.60	19333.60	19010.45	18704.73	22233.93	23112.38	23480.25	23459.30	26746.63	27403.80	29663.01	29486.39	28474.50	30852.86
CO_2 captured	NO	NO	NO,NA	NO,NA	0.86	20.07	54.15	73.54	106.08	127.68	156.47	181.77	177.15	176.34
Long-term storage of C in waste disposal sites	37785.27	37785.27	39123.77	40334.09	41438.78	42456.86	43405.85	44279.05	45095.90	45864.24	46594.67	47315.29	47996.76	48624.41
Indirect N_2O	422.89	422.89	399.96	384.33	385.99	385.63	356.35	362.24	357.19	339.44	336.53	323.19	326.42	324.19
Indirect CO_2 [3]	165.38	165.38	155.40	148.07	140.67	136.57	129.35	121.26	114.94	111.53	107.29	103.97	104.77	95.87
Total CO_2 equivalent emissions without land use, land-use change and forestry	71125.26	71125.26	68903.28	67474.77	69716.17	75221.80	71676.03	77474.48	76064.92	72397.28	71771.86	69898.57	75255.56	77671.85
Total CO_2 equivalent emissions with land use, land-use change and forestry	58452.91	58452.91	43475.83	48058.32	49447.63	61896.87	59307.12	56030.98	57812.22	55783.12	52153.41	48188.59	51845.23	53737.97
Total CO_2 equivalent emissions, including indirect CO2, without land use, land-use ch	71290.64	71290.64	69058.68	67622.84	69856.84	75358.38	71805.38	77595.74	76179.85	72508.81	71879.15	70002.55	75360.33	77767.72
Total CO_2 equivalent emissions, including indirect CO2, with land use, land-use chang	58618.29	58618.29	43631.23	48206.40	49588.30	62033.44	59436.47	56152.24	57927.15	55894.66	52260.70	48292.56	51950.00	53833.84

Note: All footnotes for this table are given at the end of the table on sheet 6.

TABLE 10 EMISSION TRENDS
GHG CO_2 eq emissions
(Sheet 1 of 6)

Inventory 2015
Submission 2017 v1
FINLAND

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Change from base to latest reported year
	(kt CO_2 eq)													%
Total (net emissions)[2]	60660.28	55410.34	42425.22	47266.57	53337.44	46385.00	29373.94	48287.81	38898.46	30057.66	36859.69	30735.96	29516.44	-49.50
1. Energy	69374.40	65494.81	53714.93	64817.79	62822.13	54488.14	52563.66	60165.64	52716.99	47484.45	48326.60	44434.03	40816.34	-23.79
A. Fuel combustion (sectoral approach)	69248.16	65376.63	53571.78	64696.87	62684.18	54335.88	52436.58	60023.94	52589.53	47341.34	48207.36	44317.48	40670.90	-23.89
1. Energy industries	37463.28	33396.59	22143.66	33028.35	31032.96	24503.91	25608.17	30943.60	24860.69	20882.77	22166.84	19611.06	16225.40	-14.46
2. Manufacturing industries and construction	11817.12	11913.73	11619.08	11878.60	11724.11	11112.38	8851.18	10187.68	9872.91	8566.40	8562.69	8559.01	8449.35	-38.16
3. Transport	12626.46	12958.55	12936.06	13094.16	13435.02	12784.47	12212.82	12717.75	12525.68	12213.16	12192.14	11052.97	11110.95	-8.18
4. Other sectors	5865.48	5760.54	5424.76	5306.39	5154.57	4678.60	4646.55	4953.98	4272.20	4544.04	4212.84	4045.67	3778.91	-50.05
5. Other	1475.81	1347.23	1448.22	1389.36	1337.52	1256.52	1117.86	1220.93	1058.06	1134.97	1072.85	1048.77	1106.29	-2.63
B. Fugitive emissions from fuels	126.24	118.18	143.14	120.92	137.94	152.26	127.08	141.70	127.46	143.11	119.24	116.56	145.44	18.22
1. Solid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
2. Oil and natural gas and other emissions from energy production	126.24	118.18	143.14	120.92	137.94	152.26	127.08	141.70	127.46	143.11	119.24	116.56	145.44	18.22
C. CO_2 transport and storage	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	0.00
2. Industrial Processes	6095.00	6406.00	6497.24	6535.87	7105.46	7459.57	5738.31	6260.15	6014.66	6023.52	5995.93	5921.01	6076.18	13.15
A. Mineral industry	1107.50	1180.33	1157.21	1248.53	1275.41	1217.27	902.01	1158.25	1247.68	1111.89	1054.53	1025.12	962.52	-19.51
B. Chemical industry	1667.94	1771.83	1854.69	1754.94	2123.61	2336.11	1588.96	1036.93	949.47	995.30	1122.62	982.50	1174.87	-36.90
C. Metal industry	2479.17	2574.63	2403.65	2472.49	2494.78	2553.51	1968.86	2439.49	2377.35	2285.28	2095.07	2053.23	2185.71	10.64
D. Non-energy products from fuels and solvent use	118.13	111.01	103.15	114.53	131.38	126.77	101.37	85.14	82.84	83.97	97.10	89.25	137.40	-37.45
E. Electronic industry	NE,NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	0.00
F. Product uses as ODS substitutes	649.11	697.41	906.30	871.75	1018.79	1153.64	1118.34	1481.49	1297.66	1487.95	1563.56	1704.93	1548.59	11358205.26
G. Other product manufacture and use	51.45	50.60	57.06	51.28	49.27	47.08	38.74	42.31	41.25	40.21	37.50	37.87	34.94	-68.09
H. Other	21.69	20.20	15.18	22.35	12.21	25.18	20.03	16.54	18.41	18.92	25.55	28.10	32.14	317.60
3. Agriculture	6476.98	6434.47	6457.30	6414.82	6390.74	6469.37	6487.93	6576.22	6410.69	6373.21	6483.94	6510.80	6480.97	-13.88
A. Enteric fermentation	2091.39	2076.12	2061.71	2065.24	2045.08	2030.19	2053.15	2098.94	2076.37	2058.61	2060.41	2090.68	2117.43	-12.61
B. Manure management	705.79	709.26	727.46	723.09	727.56	707.78	735.60	748.16	729.77	740.33	732.94	744.98	752.09	14.88
C. Rice cultivation	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
D. Agricultural soils	3373.81	3369.07	3374.19	3301.85	3337.98	3402.05	3356.75	3448.28	3400.27	3368.87	3382.36	3448.61	3427.04	-9.73
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
F. Field burning of agricultural residues	3.04	3.01	2.95	2.63	2.88	2.80	2.72	1.85	2.17	2.13	2.87	2.62	2.57	-36.17
G. Liming	301.90	275.91	289.86	320.64	275.46	325.01	338.26	277.41	199.54	201.61	304.38	222.21	179.75	-72.00
H. Urea application	1.04	1.11	1.14	1.37	1.78	1.54	1.44	1.57	2.57	1.67	0.98	1.69	2.10	-60.84
I. Other carbon-containing fertilizers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
4. Land use, land-use change and forestry[2]	-24511.57	-25988.75	-27067.70	-33399.55	-25775.33	-24707.00	-37998.07	-27297.44	-28746.06	-32272.67	-26278.60	-28336.47	-25990.77	105.10
A. Forest land	-31361.95	-32567.94	-37273.60	-41297.50	-32237.23	-35191.56	-51337.04	-37082.01	-38146.27	-41875.29	-35076.68	-36578.07	-34123.65	70.54
B. Cropland	7195.49	7275.42	6902.37	7278.88	6797.20	6905.83	6823.70	7083.62	6872.06	6839.27	6689.64	6670.74	6677.37	19.22
C. Grassland	712.04	768.86	800.88	813.64	813.46	805.38	753.78	704.66	656.38	653.79	662.03	664.86	683.31	-20.84
D. Wetlands	2077.21	1964.73	2197.60	2474.01	2171.65	2317.85	2459.68	2457.12	2391.78	2342.30	2457.76	2339.18	2304.20	48.48
E. Settlements	1527.80	1668.22	1679.45	1563.90	1648.10	1658.79	1640.98	1624.51	1558.28	1299.49	1065.22	978.34	798.02	-9.73
F. Other land	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	0.00
G. Harvested wood products	-4665.04	-5101.08	-1377.23	-4235.82	-4971.26	-1206.33	1658.22	-2088.77	-2081.39	-1535.39	-2079.55	-2414.58	-2333.01	49.01
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00
5. Waste	3225.47	3063.80	2823.46	2897.64	2794.45	2674.92	2582.11	2583.25	2502.17	2449.14	2331.82	2206.60	2133.72	-54.33
A. Solid waste disposal	2858.53	2693.28	2440.20	2510.87	2394.48	2285.67	2201.35	2193.96	2105.66	2067.96	1952.20	1825.49	1766.41	-59.18
B. Biological treatment of solid waste	112.05	116.52	130.60	134.65	147.00	138.00	138.47	143.63	145.98	127.30	129.74	128.53	112.85	155.90
C. Incineration and open burning of waste	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NE,NO,IE	NE,NO,IE	0.00
D. Waste water treatment and discharge	254.90	254.00	252.66	252.12	252.97	251.25	242.29	245.66	250.53	253.88	249.89	252.58	254.46	-15.21
E. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
6. Other *(as specified in summary 1.A)*	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
Memo items:														
International bunkers	3197.04	2956.68	2930.60	3251.36	3142.99	3096.46	2372.31	2330.02	2590.24	2256.73	2339.85	2210.19	2908.08	1.47
Aviation	1123.10	1293.26	1301.26	1446.83	1669.69	1807.29	1583.46	1667.58	1973.23	1904.55	1965.73	1937.01	1979.68	94.79
Navigation	2073.93	1663.42	1629.34	1804.53	1473.30	1289.17	788.85	662.44	617.00	352.18	374.12	273.18	928.39	-49.81
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
CO_2 emissions from biomass	31482.48	33112.10	30946.14	34577.70	33375.17	34268.66	30752.71	36396.69	35992.81	37546.16	38409.81	39464.57	38690.95	100.12
CO_2 captured	188.91	208.06	186.73	211.83	233.99	213.20	184.96	197.62	179.59	146.64	139.81	142.65	138.28	100.00
Long-term storage of C in waste disposal sites	49234.64	49822.08	50428.27	51070.55	51678.73	52232.48	52695.93	53164.85	53602.46	53981.06	54284.11	54498.88	54650.70	44.63
Indirect N_2O	338.03	319.68	280.01	303.69	287.70	262.42	237.89	250.39	229.30	216.66	210.20	196.94	182.16	-56.93
Indirect CO_2 [3]	92.87	90.64	85.01	85.15	84.67	75.88	66.00	68.66	61.89	59.01	57.05	53.35	52.00	-68.56
Total CO_2 equivalent emissions without land use, land-use change and forestry	85171.85	81399.09	69492.92	80666.12	79112.78	71091.99	67372.00	75585.25	67644.52	62330.33	63138.29	59072.44	55507.21	-21.96
Total CO_2 equivalent emissions with land use, land-use change and forestry	60660.28	55410.34	42425.22	47266.57	53337.44	46385.00	29373.94	48287.81	38898.46	30057.66	36859.69	30735.96	29516.44	-49.50
Total CO_2 equivalent emissions, including indirect CO2, without land use, land-use ch	85264.72	81489.73	69577.93	80751.27	79197.45	71167.87	67438.00	75653.91	67706.40	62389.34	63195.34	59125.79	55559.21	-22.07
Total CO_2 equivalent emissions, including indirect CO2, with land use, land-use chang	60753.15	55500.99	42510.23	47351.72	53422.11	46460.87	29439.94	48356.47	38960.34	30116.67	36916.73	30789.31	29568.44	-49.56

Note: All footnotes for this table are given at the end of the table on sheet 6.

TABLE 10 EMISSION TRENDS

CO_2

(Sheet 2 of 6)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	(kt)													
1. Energy	52642.27	52642.27	51272.52	50630.70	52543.82	57789.74	54336.92	60042.61	58463.62	55150.58	54575.46	52812.96	58172.93	60761.83
A. Fuel combustion (sectoral approach)	52530.78	52530.78	51169.06	50520.86	52386.92	57723.31	54262.33	59977.85	58360.40	55086.64	54520.31	52754.49	58119.97	60700.33
1. Energy industries	18843.01	18843.01	18651.33	18460.49	21185.15	26149.66	23833.72	29548.82	27162.88	23917.16	23378.08	21921.04	27297.32	30082.98
2. Manufacturing industries and construction	13478.23	13478.23	12966.66	12441.50	12519.52	12789.08	12227.29	12088.21	12354.50	12003.93	11971.59	12006.39	11563.49	11256.70
3. Transport	11827.48	11827.48	11462.87	11383.44	10937.61	11300.94	11105.29	11111.66	11678.32	11819.45	12035.00	11930.68	12055.20	12249.42
4. Other sectors	7258.20	7258.20	7086.25	7198.40	6799.71	6289.85	5810.28	5895.61	5887.07	5962.67	5882.17	5542.71	5748.62	5703.11
5. Other	1123.85	1123.85	1001.95	1037.02	944.94	1193.77	1285.75	1333.55	1277.62	1383.44	1253.47	1353.66	1455.34	1408.11
B. Fugitive emissions from fuels	111.49	111.49	103.46	109.84	156.89	66.43	74.60	64.76	103.22	63.94	55.15	58.48	52.96	61.50
1. Solid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2. Oil and natural gas and other emissions from energy production	111.49	111.49	103.46	109.84	156.89	66.43	74.60	64.76	103.22	63.94	55.15	58.48	52.96	61.50
C. CO_2 transport and storage	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
2. Industrial processes	3659.35	3659.35	3477.42	3332.77	3314.43	3431.06	3377.15	3519.82	3748.41	3754.41	3851.37	3861.83	3931.99	3835.51
A. Mineral industry	1195.90	1195.90	1027.71	929.91	836.81	876.54	853.04	892.18	924.53	933.77	1007.26	1059.03	1064.39	1061.61
B. Chemical industry	270.23	270.23	289.75	236.06	187.71	237.38	262.90	263.59	259.36	255.64	256.15	277.88	285.54	314.31
C. Metal industry	1975.53	1975.53	1986.47	1990.83	2112.77	2121.28	2075.60	2197.95	2413.71	2418.71	2447.65	2388.29	2439.22	2317.35
D. Non-energy products from fuels and solvent use	217.69	217.69	173.49	175.98	177.13	195.86	185.62	166.10	150.81	146.29	140.32	136.64	142.84	142.24
E. Electronic industry														
F. Product uses as ODS substitutes														
G. Other product manufacture and use	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
H. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
3. Agriculture	647.36	647.36	457.55	299.46	473.12	473.18	410.27	477.83	491.79	452.40	453.60	350.85	419.85	447.21
A. Enteric fermentation														
B. Manure management														
C. Rice cultivation														
D. Agricultural soils														
E. Prescribed burning of savannas														
F. Field burning of agricultural residues														
G. Liming	642.01	642.01	455.16	296.88	472.14	472.49	409.67	477.26	490.96	451.61	452.82	350.01	418.92	446.22
H. Urea application	5.35	5.35	2.39	2.58	0.98	0.69	0.60	0.58	0.83	0.80	0.78	0.84	0.93	0.99
I. Other carbon-containing fertilizers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land use, land-use change and forestry [2]	-15482.67	-15482.67	-28216.46	-22187.17	-23016.88	-16069.20	-15097.98	-24158.42	-20959.16	-19309.63	-22286.74	-24346.21	-26025.79	-26518.89
A. Forest land	-22674.23	-22674.23	-37158.59	-31017.96	-29383.05	-21910.88	-21863.88	-31188.42	-25639.07	-23974.29	-26989.74	-28511.96	-33121.09	-33691.66
B. Cropland	5592.17	5592.17	5730.09	5862.31	5695.86	6402.84	6900.43	6687.97	6800.25	6856.16	6470.73	6304.59	6624.06	7036.97
C. Grassland	861.95	861.95	847.77	819.11	814.30	790.44	774.38	752.11	761.30	735.68	724.07	714.76	733.93	713.74
D. Wetlands	1432.72	1432.72	1409.24	1584.17	1529.29	1738.41	1610.11	1657.04	1729.18	1533.16	1944.48	1750.27	1965.91	2009.34
E. Settlements	870.36	870.36	906.79	945.86	1009.61	1066.70	1073.61	1141.00	1246.12	1299.73	1300.07	1320.95	1494.11	1465.51
F. Other land	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA
G. Harvested wood products	-1565.63	-1565.63	48.24	-380.67	-2682.90	-4156.71	-3592.63	-3208.12	-5856.95	-5760.05	-5736.35	-5924.82	-3722.71	-4052.78
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Waste	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE
A. Solid waste disposal	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
B. Biological treatment of solid waste														
C. Incineration and open burning of waste	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE
D. Waste water treatment and discharge														
E. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6. Other ***(as specified in summary 1.A)***	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Memo items:														
International bunkers	2839.72	2839.72	2693.75	3043.24	2512.50	2169.38	1955.73	2159.25	2294.79	2680.68	2863.84	3110.16	2922.80	3146.74
Aviation	1007.73	1007.73	948.28	838.29	787.76	829.37	896.99	960.24	997.65	1022.15	1094.07	1063.28	1089.98	1077.56
Navigation	1832.00	1832.00	1745.48	2204.95	1724.74	1340.01	1058.74	1199.00	1297.14	1658.53	1769.77	2046.88	1832.82	2069.18
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
CO_2 emissions from biomass	19333.60	19333.60	19010.45	18704.73	22233.93	23112.38	23480.25	23459.30	26746.63	27403.80	29663.01	29486.39	28474.50	30852.86
CO_2 captured	NO	NO	NO,NA	NO,NA	0.86	20.07	54.15	73.54	106.08	127.68	156.47	181.77	177.15	176.34
Long-term storage of C in waste disposal sites	37785.27	37785.27	39123.77	40334.09	41438.78	42456.86	43405.85	44279.05	45095.90	45864.24	46594.67	47315.29	47996.76	48624.41
Indirect N_2O														
Indirect CO_2 [3]	165.38	165.38	155.40	148.07	140.67	136.57	129.35	121.26	114.94	111.53	107.29	103.97	104.77	95.87
Total CO_2 equivalent emissions without land use, land-use change and forestry	56948.99	56948.99	55207.49	54262.93	56331.37	61693.97	58124.35	64040.26	62703.82	59357.39	58880.44	57025.65	62524.76	65044.55
Total CO_2 equivalent emissions with land use, land-use change and forestry	41466.32	41466.32	26991.03	32075.75	33314.49	45624.78	43026.36	39881.85	41744.66	40047.76	36593.69	32679.44	36498.97	38525.67
Total CO_2 equivalent emissions, including indirect CO2, without land use, land-use change and forestry	57114.37	57114.37	55362.89	54411.00	56472.05	61830.55	58253.70	64161.52	62818.75	59468.92	58987.73	57129.62	62629.53	65140.42
Total CO_2 equivalent emissions, including indirect CO2, with land use, land-use change and forestry	41631.71	41631.71	27146.43	32223.83	33455.16	45761.35	43155.72	40003.10	41859.59	40159.30	36700.98	32783.42	36603.74	38621.54

Note: All footnotes for this table are given at the end of the table on sheet 6.

TABLE 10 EMISSION TRENDS

CO_2

(Sheet 2 of 6)

Inventory 2015

Submission 2017 v1

FINLAND

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Change from base to latest reported year
	(kt)													%
1. Energy	68321.90	64482.27	52784.88	63834.73	61862.16	53562.48	51676.58	59169.38	51811.87	46589.62	47449.60	43588.58	39998.97	-24.02
A. Fuel combustion (sectoral approach)	68265.88	64427.23	52714.46	63776.47	61781.25	53465.35	51601.87	59072.97	51724.08	46487.76	47370.45	43504.85	39890.72	-24.06
1. Energy industries	37110.67	33064.98	21872.49	32678.50	30687.51	24181.76	25299.20	30564.79	24511.62	20562.76	21844.54	19311.61	15952.63	-15.34
2. Manufacturing industries and construction	11630.10	11719.39	11437.48	11703.18	11555.15	10951.41	8716.03	10035.63	9721.95	8415.84	8409.94	8405.04	8287.06	-38.52
3. Transport	12461.20	12805.98	12794.06	12961.88	13309.28	12670.54	12106.73	12612.28	12422.67	12113.93	12093.71	10954.08	11011.76	-6.90
4. Other sectors	5602.70	5503.49	5176.70	5057.03	4905.03	4417.45	4372.79	4650.98	4020.19	4271.55	3959.83	3795.20	3543.35	-51.18
5. Other	1461.19	1333.39	1433.74	1375.88	1324.28	1244.18	1107.12	1209.29	1047.65	1123.68	1062.42	1038.92	1095.92	-2.49
B. Fugitive emissions from fuels	56.02	55.04	70.42	58.26	80.91	97.13	74.71	96.41	87.79	101.87	79.15	83.73	108.25	-2.91
1. Solid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
2. Oil and natural gas and other emissions from energy production	56.02	55.04	70.42	58.26	80.91	97.13	74.71	96.41	87.79	101.87	79.15	83.73	108.25	-2.91
C. CO_2 transport and storage	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	0.00
2. Industrial processes	4018.88	4198.35	3955.59	4207.08	4602.61	4715.22	3798.18	4559.13	4527.05	4315.94	4157.57	3944.49	4200.86	14.80
A. Mineral industry	1107.50	1180.33	1157.21	1248.53	1275.41	1217.27	902.01	1158.25	1247.68	1111.89	1054.53	1025.12	962.52	-19.51
B. Chemical industry	315.05	333.27	292.40	372.43	702.06	818.63	826.67	876.79	819.72	835.37	911.56	777.47	916.24	239.06
C. Metal industry	2479.17	2574.63	2403.65	2472.48	2494.78	2553.51	1968.86	2439.49	2377.35	2285.28	2095.06	2053.23	2185.71	10.64
D. Non-energy products from fuels and solvent use	117.16	110.12	102.34	113.64	130.36	125.81	100.64	84.59	82.30	83.41	96.41	88.67	136.39	-37.35
E. Electronic industry														
F. Product uses as ODS substitutes														
G. Other product manufacture and use	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
H. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
3. Agriculture	302.94	277.02	290.99	322.01	277.24	326.55	339.71	278.98	202.11	203.28	305.36	223.91	181.85	-71.91
A. Enteric fermentation														
B. Manure management														
C. Rice cultivation														
D. Agricultural soils														
E. Prescribed burning of savannas														
F. Field burning of agricultural residues														
G. Liming	301.90	275.91	289.86	320.64	275.46	325.01	338.26	277.41	199.54	201.61	304.38	222.21	179.75	-72.00
H. Urea application	1.04	1.11	1.14	1.37	1.78	1.54	1.44	1.57	2.57	1.67	0.98	1.69	2.10	-60.84
I. Other carbon-containing fertilizers	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
4. Land use, land-use change and forestry [2]	-27065.27	-28510.24	-29558.58	-35869.24	-28210.48	-27098.48	-40318.60	-29558.45	-30942.89	-34463.19	-28469.17	-30526.82	-28176.62	81.99
A. Forest land	-33732.25	-34904.26	-39577.57	-43575.15	-34479.45	-37383.78	-53455.88	-39133.35	-40132.56	-43852.68	-37053.40	-38553.40	-36095.36	59.19
B. Cropland	7183.92	7263.38	6891.34	7265.74	6786.80	6894.24	6814.01	7070.30	6860.23	6826.87	6678.01	6658.70	6665.66	19.20
C. Grassland	710.54	767.28	799.18	811.85	811.52	803.42	751.79	702.74	654.56	652.13	660.39	663.23	681.79	-20.90
D. Wetlands	1927.34	1814.40	2045.32	2319.92	2014.07	2156.03	2293.73	2288.17	2220.33	2169.04	2282.81	2163.25	2128.33	48.55
E. Settlements	1510.21	1650.04	1660.38	1544.23	1627.84	1637.93	1619.52	1602.46	1535.93	1276.84	1042.57	955.99	775.97	-10.85
F. Other land	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	0.00
G. Harvested wood products	-4665.04	-5101.08	-1377.23	-4235.82	-4971.26	-1206.33	1658.22	-2088.77	-2081.39	-1535.39	-2079.55	-2414.58	-2333.01	49.01
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00
5. Waste	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NE,NO,IE	NE,NO,IE	0.00
A. Solid waste disposal	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
B. Biological treatment of solid waste														
C. Incineration and open burning of waste	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NE,NO,IE	NE,NO,IE	0.00
D. Waste water treatment and discharge														
E. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
6. Other ***(as specified in summary 1.A)***	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
Memo items:														
International bunkers	3167.94	2931.02	2904.33	3222.45	3115.22	3069.47	2351.73	2309.86	2568.00	2237.54	2319.95	2191.45	2883.11	1.53
Aviation	1113.56	1282.23	1290.19	1434.60	1655.60	1792.08	1570.10	1653.51	1956.64	1888.55	1949.24	1920.76	1963.08	94.80
Navigation	2054.38	1648.79	1614.15	1787.86	1459.62	1277.39	781.63	656.34	611.37	348.99	370.70	270.69	920.02	-49.78
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
CO_2 emissions from biomass	31482.48	33112.10	30946.14	34577.70	33375.17	34268.66	30752.71	36396.69	35992.81	37546.16	38409.81	39464.57	38690.95	100.12
CO_2 captured	188.91	208.06	186.73	211.83	233.99	213.20	184.96	197.62	179.59	146.64	139.81	142.65	138.28	100.00
Long-term storage of C in waste disposal sites	49234.64	49822.08	50428.27	51070.55	51678.73	52232.48	52695.93	53164.85	53602.46	53981.06	54284.11	54498.88	54650.70	44.63
Indirect N_2O														
Indirect CO_2 [3]	92.87	90.64	85.01	85.15	84.67	75.88	66.00	68.66	61.89	59.01	57.05	53.35	52.00	-68.56
Total CO_2 equivalent emissions without land use, land-use change and forestry	72643.72	68957.63	57031.47	68363.82	66742.01	58604.25	55814.47	64007.49	56541.03	51108.85	51912.53	47756.98	44381.68	-22.07
Total CO_2 equivalent emissions with land use, land-use change and forestry	45578.45	40447.39	27472.89	32494.59	38531.53	31505.77	15495.87	34449.04	25598.14	16645.66	23443.36	17230.16	16205.06	-60.92
Total CO_2 equivalent emissions, including indirect CO2, without land use, land-use change and forestry	72736.58	69048.28	57116.48	68448.97	66826.68	58680.13	55880.47	64076.15	56602.92	51167.86	51969.58	47810.33	44433.68	-22.20
Total CO_2 equivalent emissions, including indirect CO2, with land use, land-use change and forestry	45671.32	40538.04	27557.89	32579.74	38616.20	31581.65	15561.87	34517.70	25660.03	16704.67	23500.41	17283.51	16257.06	-60.95

Note: All footnotes for this table are given at the end of the table on sheet 6.

TABLE 10 EMISSION TRENDS

CH_4

(Sheet 3 of 6)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	(kt)													
1. Energy	15.04	15.04	15.99	16.39	16.73	16.94	16.63	16.80	16.05	15.87	14.72	13.88	15.11	14.57
A. Fuel combustion (sectoral approach)	14.61	14.61	14.08	13.77	13.41	13.22	12.92	13.03	12.80	12.52	12.05	11.38	12.00	12.01
1. Energy industries	0.39	0.39	0.41	0.43	0.48	0.58	0.62	0.73	0.77	0.78	0.83	0.74	0.92	1.15
2. Manufacturing industries and construction	0.65	0.65	0.63	0.60	0.69	0.71	0.73	0.71	0.75	0.72	0.73	0.75	0.71	0.69
3. Transport	4.51	4.51	4.20	4.01	3.75	3.53	3.37	3.23	3.13	2.97	2.81	2.61	2.50	2.32
4. Other sectors	8.91	8.91	8.72	8.62	8.39	8.28	8.05	8.20	8.01	7.89	7.52	7.13	7.72	7.69
5. Other	0.15	0.15	0.12	0.11	0.10	0.13	0.15	0.16	0.15	0.17	0.15	0.15	0.16	0.16
B. Fugitive emissions from fuels	0.43	0.43	1.91	2.62	3.32	3.71	3.70	3.77	3.25	3.35	2.67	2.50	3.11	2.56
1. Solid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2. Oil and natural gas and other emissions from energy production	0.43	0.43	1.91	2.62	3.32	3.71	3.70	3.77	3.25	3.35	2.67	2.50	3.11	2.56
C. CO_2 transport and storage														
2. Industrial processes	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
A. Mineral industry														
B. Chemical industry	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA
C. Metal industry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D. Non-energy products from fuels and solvent use	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
E. Electronic industry														
F. Product uses as ODS substitutes														
G. Other product manufacture and use	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
H. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
3. Agriculture	111.83	111.83	107.30	104.37	105.62	106.41	101.41	102.19	104.31	101.98	100.61	101.10	100.55	102.02
A. Enteric fermentation	96.92	96.92	93.07	90.02	90.83	90.90	85.63	85.84	87.12	85.25	84.04	84.51	83.62	84.52
B. Manure management	14.78	14.78	14.12	14.26	14.68	15.40	15.68	16.23	17.07	16.65	16.49	16.48	16.83	17.40
C. Rice cultivation	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
D. Agricultural soils	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Field burning of agricultural residues	0.12	0.12	0.11	0.09	0.12	0.11	0.10	0.11	0.11	0.08	0.08	0.11	0.10	0.10
G. Liming														
H. Urea application														
I. Other carbon-containing fertilizers														
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land use, land-use change and forestry	61.55	61.55	60.79	60.21	59.46	58.87	58.20	57.52	56.89	56.14	55.11	53.94	52.90	51.78
A. Forest land	59.60	59.60	58.80	58.17	57.37	56.72	55.99	55.24	54.55	53.76	52.67	51.46	50.38	49.23
B. Cropland	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA
C. Grassland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D. Wetlands	1.95	1.95	1.99	2.04	2.09	2.15	2.21	2.27	2.33	2.38	2.44	2.48	2.53	2.55
E. Settlements	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA
F. Other land	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G. Harvested wood products														
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Waste	182.98	182.98	185.16	185.71	185.48	182.94	179.86	175.57	170.64	163.06	159.42	149.58	143.20	132.83
A. Solid waste disposal	173.11	173.11	175.38	176.03	175.68	173.04	169.80	165.36	160.67	153.13	149.51	139.68	133.31	122.83
B. Biological treatment of solid waste	1.03	1.03	1.16	1.30	1.40	1.49	1.70	1.93	1.95	2.06	2.18	2.29	2.41	2.54
C. Incineration and open burning of waste	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE
D. Waste water treatment and discharge	8.84	8.84	8.62	8.38	8.40	8.40	8.35	8.28	8.01	7.86	7.73	7.61	7.48	7.46
E. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6. Other ***(as specified in summary 1.A)***	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Total CH_4 emissions without CH_4 from LULUCF	309.86	309.86	308.46	306.48	307.84	306.30	297.91	294.56	290.99	280.91	274.76	264.57	258.87	249.42
Total CH_4 emissions with CH_4 from LULUCF	371.41	371.41	369.25	366.69	367.30	365.17	356.11	352.08	347.88	337.06	329.87	318.51	311.78	301.19
Memo items:														
International bunkers	0.15	0.15	0.14	0.18	0.14	0.11	0.09	0.10	0.11	0.14	0.16	0.18	0.16	0.17
Aviation	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Navigation	0.14	0.14	0.13	0.16	0.13	0.10	0.07	0.09	0.09	0.12	0.14	0.15	0.14	0.16
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
CO_2 emissions from biomass														
CO_2 captured														
Long-term storage of C in waste disposal sites														
Indirect N_2O														
Indirect CO_2 [3]														

Note: All footnotes for this table are given at the end of the table on sheet 6.

TABLE 10 EMISSION TRENDS

CH_4

(Sheet 3 of 6)

Inventory 2015 Submission 2017 v1

FINLAND

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Change from base to latest reported year
	(kt)													%
1. Energy	14.62	13.86	13.59	13.35	12.95	13.10	13.10	13.96	12.06	12.62	11.96	11.67	11.31	-24.83
A. Fuel combustion (sectoral approach)	11.82	11.35	10.70	10.86	10.69	10.92	11.02	12.18	10.50	11.00	10.39	10.39	9.84	-32.61
1. Energy industries	1.32	1.22	1.00	1.22	1.13	1.10	1.05	1.21	1.10	1.06	1.06	1.08	0.99	152.36
2. Manufacturing industries and construction	0.71	0.72	0.67	0.72	0.71	0.68	0.58	0.74	0.83	0.82	0.84	0.88	0.87	35.23
3. Transport	2.09	1.91	1.76	1.63	1.51	1.30	1.18	1.11	1.03	0.96	0.92	0.89	0.86	-81.03
4. Other sectors	7.54	7.34	7.09	7.14	7.19	7.70	8.10	8.99	7.42	8.03	7.45	7.42	7.01	-21.39
5. Other	0.17	0.17	0.17	0.15	0.15	0.14	0.12	0.13	0.13	0.14	0.12	0.11	0.12	-20.08
B. Fugitive emissions from fuels	2.79	2.51	2.89	2.49	2.26	2.18	2.08	1.79	1.56	1.61	1.57	1.29	1.46	236.93
1. Solid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
2. Oil and natural gas and other emissions from energy production	2.79	2.51	2.89	2.49	2.26	2.18	2.08	1.79	1.56	1.61	1.57	1.29	1.46	236.93
C. CO_2 transport and storage														
2. Industrial processes	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-47.86
A. Mineral industry														
B. Chemical industry	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NO,NA	NA,NO	NA,NO	0.00
C. Metal industry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	79.80
D. Non-energy products from fuels and solvent use	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-48.41
E. Electronic industry														
F. Product uses as ODS substitutes														
G. Other product manufacture and use	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
H. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
3. Agriculture	101.79	101.43	101.51	101.40	100.68	99.37	100.80	102.75	101.16	100.58	100.56	102.06	103.34	-7.59
A. Enteric fermentation	83.66	83.04	82.47	82.61	81.80	81.21	82.13	83.96	83.05	82.34	82.42	83.63	84.70	-12.61
B. Manure management	18.04	18.29	18.95	18.71	18.79	18.07	18.59	18.73	18.04	18.17	18.05	18.35	18.57	25.59
C. Rice cultivation	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
D. Agricultural soils	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	0.00
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
F. Field burning of agricultural residues	0.09	0.09	0.09	0.08	0.09	0.09	0.08	0.06	0.07	0.07	0.09	0.08	0.08	-36.17
G. Liming														
H. Urea application														
I. Other carbon-containing fertilizers														
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
4. Land use, land-use change and forestry	50.59	49.38	48.29	47.20	46.04	43.76	41.47	39.14	36.88	36.82	36.84	36.84	36.80	-40.21
A. Forest land	48.02	46.79	45.67	44.54	43.31	40.96	38.59	36.21	33.90	33.81	33.81	33.80	33.75	-43.37
B. Cropland	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	0.00
C. Grassland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-79.00
D. Wetlands	2.56	2.58	2.62	2.66	2.72	2.80	2.88	2.93	2.97	3.00	3.03	3.04	3.05	56.30
E. Settlements	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	NE,NA	0.00
F. Other land	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00
G. Harvested wood products														
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00
5. Waste	124.42	117.89	107.92	110.86	106.49	101.83	98.23	98.21	94.85	92.86	88.17	83.03	80.34	-56.09
A. Solid waste disposal	114.34	107.73	97.61	100.43	95.78	91.43	88.05	87.76	84.23	82.72	78.09	73.02	70.66	-59.18
B. Biological treatment of solid waste	2.63	2.73	3.06	3.17	3.47	3.26	3.28	3.42	3.49	3.06	3.12	3.10	2.76	167.51
C. Incineration and open burning of waste	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NE,NO,IE	NE,NO,IE	0.00
D. Waste water treatment and discharge	7.45	7.42	7.25	7.26	7.24	7.14	6.89	7.03	7.14	7.08	6.96	6.91	6.93	-21.61
E. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
6. Other ***(as specified in summary 1.A)***	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
Total CH_4 emissions without CH_4 from LULUCF	240.83	233.18	223.02	225.62	220.12	214.30	212.13	214.92	208.08	206.06	200.69	196.76	195.00	-37.07
Total CH_4 emissions with CH_4 from LULUCF	291.42	282.55	271.31	272.82	266.16	258.06	253.60	254.06	244.95	242.88	237.53	233.61	231.80	-37.59
Memo items:														
International bunkers	0.18	0.14	0.15	0.16	0.14	0.12	0.08	0.08	0.07	0.05	0.06	0.05	0.10	-30.57
Aviation	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	70.83
Navigation	0.16	0.12	0.12	0.14	0.11	0.10	0.06	0.05	0.05	0.03	0.03	0.02	0.08	-41.34
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
CO_2 emissions from biomass														
CO_2 captured														
Long-term storage of C in waste disposal sites														
Indirect N_2O														
Indirect CO_2 [3]														

Note: All footnotes for this table are given at the end of the table on sheet 6.

TABLE 10 EMISSION TRENDS

N_2O

(Sheet 4 of 6)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	(kt)													
1. Energy	1.81	1.81	1.78	1.77	1.87	1.95	1.93	2.05	2.10	2.07	2.05	2.00	2.14	2.20
A. Fuel combustion (sectoral approach)	1.81	1.81	1.78	1.77	1.87	1.95	1.93	2.05	2.09	2.07	2.05	1.99	2.13	2.20
1. Energy industries	0.39	0.39	0.42	0.46	0.52	0.60	0.61	0.72	0.71	0.71	0.70	0.67	0.82	0.95
2. Manufacturing industries and construction	0.57	0.57	0.53	0.49	0.54	0.56	0.55	0.56	0.61	0.60	0.61	0.62	0.60	0.56
3. Transport	0.54	0.54	0.53	0.52	0.51	0.50	0.50	0.49	0.49	0.47	0.46	0.44	0.43	0.40
4. Other sectors	0.28	0.28	0.28	0.28	0.27	0.26	0.24	0.25	0.25	0.25	0.25	0.24	0.25	0.25
5. Other	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
B. Fugitive emissions from fuels	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. Solid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2. Oil and natural gas and other emissions from energy production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C. CO_2 transport and storage														
2. Industrial processes	5.56	5.56	4.86	4.42	4.61	4.85	4.94	4.94	4.88	4.66	4.56	4.59	4.34	4.47
A. Mineral industry														
B. Chemical industry	5.34	5.34	4.64	4.20	4.39	4.63	4.72	4.72	4.66	4.44	4.34	4.40	4.17	4.30
C. Metal industry	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
D. Non-energy products from fuels and solvent use	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E. Electronic industry														
F. Product uses as ODS substitutes														
G. Other product manufacture and use	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.18	0.17	0.16
H. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
3. Agriculture	13.70	13.70	12.98	12.02	12.22	12.49	13.06	12.60	12.44	12.14	11.88	12.04	12.01	12.14
A. Enteric fermentation														
B. Manure management	0.96	0.96	0.89	0.87	0.87	0.88	0.86	0.87	0.90	0.88	0.86	0.85	0.84	0.85
C. Rice cultivation														
D. Agricultural soils	12.74	12.74	12.08	11.14	11.35	11.60	12.20	11.72	11.53	11.26	11.03	11.19	11.16	11.29
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Field burning of agricultural residues	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
G. Liming														
H. Urea application														
I. Other carbon containing fertlizers														
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land use, land-use change and forestry	4.27	4.27	4.26	4.25	4.23	4.27	4.28	4.29	4.31	4.34	4.33	4.32	4.34	4.33
A. Forest land	3.94	3.94	3.94	3.92	3.91	3.94	3.93	3.93	3.95	3.96	3.95	3.95	3.95	3.94
B. Cropland	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.03	0.03	0.03
C. Grassland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D. Wetlands	0.24	0.24	0.24	0.24	0.25	0.25	0.26	0.26	0.27	0.27	0.28	0.28	0.29	0.29
E. Settlements	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06
F. Other land	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G. Harvested wood products														
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Waste	0.33	0.33	0.33	0.32	0.32	0.32	0.33	0.34	0.34	0.35	0.36	0.37	0.37	0.37
A. Solid waste disposal														
B. Biological treatment of solid waste	0.06	0.06	0.07	0.08	0.08	0.09	0.10	0.11	0.12	0.12	0.13	0.14	0.14	0.15
C. Incineration and open burning of waste	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE
D. Waste water treatment and discharge	0.27	0.27	0.26	0.24	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.22
E. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6. Other ***(as specified in summary 1.A)***	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Total direct N_2O emissions without N_2O from LULUCF	21.40	21.40	19.95	18.54	19.02	19.60	20.27	19.94	19.75	19.22	18.86	18.99	18.86	19.18
Total direct N_2O emissions with N_2O from LULUCF	25.67	25.67	24.21	22.78	23.26	23.87	24.54	24.22	24.06	23.56	23.19	23.31	23.19	23.51
Memo items:														
International bunkers	0.08	0.08	0.07	0.08	0.07	0.06	0.05	0.06	0.06	0.07	0.08	0.08	0.08	0.08
Aviation	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Navigation	0.05	0.05	0.05	0.06	0.05	0.04	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.05
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
CO_2 emissions from biomass														
CO_2 captured														
Long-term storage of C in waste disposal sites														
Indirect N_2O	1.42	1.42	1.34	1.29	1.30	1.29	1.20	1.22	1.20	1.14	1.13	1.08	1.10	1.09
Indirect CO_2 [3]														

Note: All footnotes for this table are given at the end of the table on sheet 6.

TABLE 10 EMISSION TRENDS

N_2O

(Sheet 4 of 6)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Change from base to latest reported year
	(kt)													%
1. Energy	2.31	2.24	1.98	2.18	2.14	2.01	1.88	2.17	2.03	1.94	1.94	1.86	1.79	-0.90
A. Fuel combustion (sectoral approach)	2.30	2.23	1.98	2.18	2.13	2.01	1.88	2.17	2.02	1.94	1.94	1.86	1.79	-0.89
1. Energy industries	1.07	1.01	0.83	1.07	1.06	0.99	0.95	1.17	1.08	0.99	0.99	0.91	0.83	113.02
2. Manufacturing industries and construction	0.57	0.59	0.55	0.53	0.51	0.48	0.40	0.45	0.44	0.44	0.44	0.44	0.47	-16.67
3. Transport	0.38	0.35	0.33	0.31	0.30	0.27	0.26	0.26	0.26	0.25	0.25	0.26	0.26	-51.71
4. Other sectors	0.25	0.25	0.24	0.24	0.23	0.23	0.24	0.26	0.22	0.24	0.22	0.22	0.20	-28.26
5. Other	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.02	-13.46
B. Fugitive emissions from fuels	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-10.25
1. Solid fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
2. Oil and natural gas and other emissions from energy production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-10.25
C. CO_2 transport and storage														
2. Industrial processes	4.69	4.97	5.41	4.79	4.91	5.22	2.66	0.65	0.54	0.64	0.80	0.78	0.95	-82.89
A. Mineral industry														
B. Chemical industry	4.54	4.83	5.24	4.64	4.77	5.09	2.56	0.54	0.44	0.54	0.71	0.69	0.87	-83.75
C. Metal industry	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
D. Non-energy products from fuels and solvent use	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-48.37
E. Electronic industry														
F. Product uses as ODS substitutes														
G. Other product manufacture and use	0.15	0.14	0.16	0.14	0.13	0.13	0.10	0.11	0.10	0.10	0.09	0.09	0.08	-62.64
H. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
3. Agriculture	12.18	12.15	12.18	11.94	12.07	12.28	12.18	12.51	12.35	12.27	12.30	12.53	12.47	-8.98
A. Enteric fermentation														
B. Manure management	0.85	0.85	0.85	0.86	0.87	0.86	0.91	0.94	0.94	0.96	0.95	0.96	0.97	1.00
C. Rice cultivation														
D. Agricultural soils	11.32	11.31	11.32	11.08	11.20	11.42	11.26	11.57	11.41	11.30	11.35	11.57	11.50	-9.73
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
F. Field burning of agricultural residues	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-36.17
G. Liming														
H. Urea application														
I. Other carbon containing fertlizers														
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
4. Land use, land-use change and forestry	4.33	4.32	4.31	4.33	4.31	4.35	4.31	4.30	4.28	4.26	4.26	4.26	4.25	-0.45
A. Forest land	3.93	3.91	3.90	3.91	3.89	3.92	3.87	3.85	3.82	3.80	3.80	3.79	3.79	-4.01
B. Cropland	0.04	0.04	0.04	0.04	0.03	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	31.44
C. Grassland	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	31.43
D. Wetlands	0.29	0.29	0.29	0.29	0.30	0.31	0.32	0.32	0.33	0.33	0.33	0.33	0.33	41.55
E. Settlements	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.07	60.87
F. Other land	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00
G. Harvested wood products														
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00
5. Waste	0.39	0.39	0.42	0.42	0.44	0.43	0.42	0.43	0.44	0.43	0.43	0.44	0.42	28.44
A. Solid waste disposal														
B. Biological treatment of solid waste	0.16	0.16	0.18	0.19	0.20	0.19	0.19	0.20	0.20	0.17	0.17	0.17	0.15	139.60
C. Incineration and open burning of waste	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NO,NE,IE	NE,NO,IE	NE,NO,IE	0.00
D. Waste water treatment and discharge	0.23	0.23	0.24	0.24	0.24	0.24	0.23	0.23	0.24	0.26	0.25	0.27	0.27	2.66
E. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
6. Other ***(as specified in summary 1.A)***	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
Total direct N_2O emissions without N_2O from LULUCF	19.56	19.75	19.99	19.33	19.56	19.94	17.14	15.76	15.35	15.28	15.47	15.61	15.63	-26.94
Total direct N_2O emissions with N_2O from LULUCF	23.88	24.07	24.29	23.66	23.87	24.29	21.44	20.06	19.63	19.54	19.73	19.87	19.88	-22.54
Memo items:														
International bunkers	0.08	0.07	0.08	0.08	0.08	0.08	0.06	0.06	0.07	0.06	0.06	0.06	0.08	-0.68
Aviation	0.03	0.04	0.04	0.04	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.05	94.84
Navigation	0.05	0.04	0.04	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.02	-55.43
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
CO_2 emissions from biomass														
CO_2 captured														
Long-term storage of C in waste disposal sites														
Indirect N_2O	1.13	1.07	0.94	1.02	0.97	0.88	0.80	0.84	0.77	0.73	0.71	0.66	0.61	-56.93
Indirect CO_2 (3)														

Note: All footnotes for this table are given at the end of the table on sheet 6.

TABLE 10 EMISSION TRENDS

HFCs, PFCs, SF_6, and NF_3

(Sheet 5 of 6)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	(kt)													
Emissions of HFCs and PFCs - (kt CO_2 equivalent)														
Emissions of HFCs - (kt CO_2 equivalent)	0.02	0.02	0.03	0.04	0.18	5.23	26.59	73.71	149.64	249.04	335.98	559.46	591.88	633.57
HFC-23	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	0.00	0.00	0.00	NO,IE	NO,IE	NO,IE
HFC-32	NO	NO	NO	NO	NO	NO	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
HFC-41	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-43-10mee	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-125	NO	NO	NO	NO	NO	0.00	0.00	0.00	0.01	0.02	0.02	0.03	0.05	0.05
HFC-134	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-134a	NO	NO	NO	NO	0.00	0.00	0.01	0.03	0.06	0.09	0.12	0.21	0.13	0.12
HFC-143	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-143a	NO	NO	NO	NO	NO	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.04	0.05
HFC-152	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-152a	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.03	0.02	0.03	0.00	0.00
HFC-161	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-227ea	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO,IE	NO,IE	NO,IE
HFC-236cb	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-236ea	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-236fa	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-245ca	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-245fa	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-365mfc	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO,IE	NO,IE	NO,IE
Unspecified mix of HFCs[4] - (kt CO_2 equivalent)	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.15	0.04	2.69	0.27	67.54	73.90
Emissions of PFCs - (kt CO_2 equivalent)	0.21	0.21	0.24	0.27	0.31	0.36	0.42	0.48	0.55	0.63	35.69	13.23	22.68	16.50
CF_4	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE
C_2F_6	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE
C_3F_8	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	0.00	0.00	0.00	0.00
C_4F_{10}	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
c-C_4F_8	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE
C_5F_{12}	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
C_6F_{14}	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
$C_{10}F_{18}$	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
c-C_3F_6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Unspecified mix of PFCs[4] - (kt CO_2 equivalent)	0.21	0.21	0.24	0.27	0.31	0.36	0.42	0.48	0.55	0.63	3.71	0.84	0.96	0.96
Unspecified mix of HFCs and PFCs - (kt CO_2 equivalent)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Emissions of SF_6 - (kt CO_2 equivalent)	52.48	52.48	40.16	25.67	19.75	23.86	36.98	54.16	50.11	38.62	30.76	26.06	25.53	25.34
SF_6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions of NF_3 - (kt CO_2 equivalent)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
NF_3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Note: All footnotes for this table are given at the end of the table on sheet 6.

TABLE 10 EMISSION TRENDS

HFCs, PFCs, SF_6, and NF_3

(Sheet 5 of 6)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Change from base to latest reported year
	(kt)													%
Emissions of HFCs and PFCs - (kt CO_2 equivalent)														
Emissions of HFCs - (kt CO_2 equivalent)	634.71	687.28	892.12	855.60	1010.69	1147.31	1109.75	1485.40	1300.45	1488.81	1561.77	1699.34	1547.41	6440749.30
HFC-23	0.00	NO,IE	NO,IE	NO,IE	0.00	0.00	0.00	0.00	NO,IE	NO,IE	0.00	0.00	0.00	100.00
HFC-32	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.03	100.00
HFC-41	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
HFC-43-10mee	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
HFC-125	0.05	0.06	0.07	0.07	0.07	0.09	0.09	0.13	0.11	0.13	0.13	0.14	0.14	100.00
HFC-134	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
HFC-134a	0.12	0.11	0.19	0.16	0.31	0.32	0.29	0.37	0.33	0.35	0.40	0.43	0.36	100.00
HFC-143	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
HFC-143a	0.05	0.05	0.07	0.06	0.07	0.07	0.08	0.11	0.09	0.11	0.12	0.13	0.12	100.00
HFC-152	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
HFC-152a	0.00	0.00	0.00	0.00	0.04	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	9147.28
HFC-161	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
HFC-227ea	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	0.00	100.00
HFC-236cb	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
HFC-236ea	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
HFC-236fa	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
HFC-245ca	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
HFC-245fa	NO	NO	NO	NO	NO,IE	NO,IE	NO,IE	0.00	0.00	0.00	0.00	0.00	0.00	100.00
HFC-365mfc	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	0.00	0.00	0.00	0.00	0.00	100.00
Unspecified mix of HFCs[4] - (kt CO_2 equivalent)	70.98	69.39	84.49	86.07	2.54	8.68	3.04	10.54	11.41	13.73	8.14	4.84	3.24	31109.86
Emissions of PFCs - (kt CO_2 equivalent)	18.32	14.39	15.97	19.21	10.21	13.93	11.58	1.06	2.30	5.66	6.66	10.30	6.62	3095.21
CF_4	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	0.00
C_2F_6	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	0.00	100.00
C_3F_8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NO	0.00	0.00	0.00	0.00	0.00	100.00
C_4F_{10}	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
c-C_4F_8	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	0.00
C_5F_{12}	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
C_6F_{14}	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
$C_{10}F_{18}$	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
c-C_3F_6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
Unspecified mix of PFCs[4] - (kt CO_2 equivalent)	1.27	0.77	1.17	1.31	0.65	0.67	1.41	1.06	1.61	2.04	3.15	2.92	2.20	960.71
Unspecified mix of HFCs and PFCs - (kt CO_2 equivalent)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
Emissions of SF_6 - (kt CO_2 equivalent)	25.57	23.84	22.19	27.56	19.17	26.66	26.71	21.79	23.67	22.16	30.70	34.25	37.55	-28.45
SF_6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-28.45
Emissions of NF_3 - (kt CO_2 equivalent)	NO,NE	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
NF_3	NO,NE	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00

Note: All footnotes for this table are given at the end of the table on sheet 6.

TABLE 10 EMISSION TRENDS

SUMMARY

(Sheet 6 of 6)

GREENHOUSE GAS EMISSIONS	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	CO_2 equivalent (kt)													
CO_2 emissions without net CO_2 from LULUCF	56948.99	56948.99	55207.49	54262.93	56331.37	61693.97	58124.35	64040.26	62703.82	59357.39	58880.44	57025.65	62524.76	65044.55
CO_2 emissions with net CO_2 from LULUCF	41466.32	41466.32	26991.03	32075.75	33314.49	45624.78	43026.36	39881.85	41744.66	40047.76	36593.69	32679.44	36498.97	38525.67
CH_4 emissions without CH_4 from LULUCF	7746.42	7746.42	7711.44	7662.02	7695.90	7657.51	7447.74	7364.02	7274.85	7022.85	6868.90	6614.29	6471.77	6235.46
CH_4 emissions with CH_4 from LULUCF	9285.28	9285.28	9231.23	9167.25	9182.51	9129.35	8902.80	8801.90	8697.00	8426.47	8246.71	7962.87	7794.39	7529.84
N_2O emissions without N_2O from LULUCF	6377.14	6377.14	5943.92	5523.84	5668.64	5840.87	6039.96	5941.85	5885.94	5728.74	5620.09	5659.89	5618.94	5716.43
N_2O emissions with N_2O from LULUCF	7648.59	7648.59	7213.14	6789.33	6930.39	7113.29	7313.96	7218.89	7170.25	7020.59	6910.58	6947.54	6911.78	7007.05
HFCs	0.02	0.02	0.03	0.04	0.18	5.23	26.59	73.71	149.64	249.04	335.98	559.46	591.88	633.57
PFCs	0.21	0.21	0.24	0.27	0.31	0.36	0.42	0.48	0.55	0.63	35.69	13.23	22.68	16.50
Unspecified mix of HFCs and PFCs	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
SF_6	52.48	52.48	40.16	25.67	19.75	23.86	36.98	54.16	50.11	38.62	30.76	26.06	25.53	25.34
NF_3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Total (without LULUCF)	71125.26	71125.26	68903.28	67474.77	69716.17	75221.80	71676.03	77474.48	76064.92	72397.28	71771.86	69898.57	75255.56	77671.85
Total (with LULUCF)	58452.91	58452.91	43475.83	48058.32	49447.63	61896.87	59307.12	56030.98	57812.22	55783.12	52153.41	48188.59	51845.23	53737.97
Total (without LULUCF, with indirect)	71290.64	71290.64	69058.68	67622.84	69856.84	75358.38	71805.38	77595.74	76179.85	72508.81	71879.15	70002.55	75360.33	77767.72
Total (with LULUCF, with indirect)	58618.29	58618.29	43631.23	48206.40	49588.30	62033.44	59436.47	56152.24	57927.15	55894.66	52260.70	48292.56	51950.00	53833.84

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year[1]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	CO_2 equivalent (kt)													
1. Energy	53557.84	53557.84	52203.24	51568.25	53519.75	58793.89	55328.25	61074.91	59489.69	56163.11	55555.41	53754.85	59187.23	61782.94
2. Industrial processes and product use	5370.16	5370.16	4966.37	4677.25	4708.42	4906.23	4913.67	5121.08	5402.29	5431.28	5614.31	5827.36	5866.30	5842.07
3. Agriculture	7525.30	7525.30	7007.27	6490.64	6756.46	6854.10	6837.79	6787.49	6805.54	6620.73	6509.90	6466.33	6511.77	6615.73
4. Land use, land-use change and forestry[5]	-12672.35	-12672.35	-25427.45	-19416.44	-20268.53	-13324.93	-12368.91	-21443.50	-18252.70	-16614.16	-19618.45	-21709.98	-23410.33	-23933.88
5. Waste	4671.95	4671.95	4726.40	4738.63	4731.53	4667.58	4596.31	4491.01	4367.40	4182.14	4092.25	3850.03	3690.26	3431.11
6. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Total (including LULUCF)[5]	58452.91	58452.91	43475.83	48058.32	49447.63	61896.87	59307.12	56030.98	57812.22	55783.12	52153.41	48188.59	51845.23	53737.97

[1] The column "Base year" should be filled in only by those Parties with economies in transition that use a base year different from 1990 in accordance with the relevant decisions of the COP. For these Parties, this different base year is used to calculate the percentage change in the final column of this table.

[2] Fill in net emissions/removals as reported in table Summary 1.A. For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[3] In accordance with the UNFCCC reporting guidelines, for Parties that decide to report indirect CO2 the national totals shall be provided with and without indirect CO_2.

[4] In accordance with the UNFCCC reporting guidelines, HFC and PFC emissions should be reported for each relevant chemical. However, if it is not possible to report values for each chemical (i.e. mixtures, confidential data, lack of disaggregation), this row could be used for reporting aggregate figures for HFCs and PFCs, respectively. Note that the unit used for this row is kt of CO_2 equivalent and that appropriate notation keys should be entered in the cells for the individual chemicals.

[5] Includes net CO_2, CH_4 and N_2O from LULUCF.

TABLE 10 EMISSION TRENDS

SUMMARY

(Sheet 6 of 6)

GREENHOUSE GAS EMISSIONS	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Change from base to latest reported year
	CO_2 equivalent (kt)													(%)
CO_2 emissions without net CO_2 from LULUCF	72643.72	68957.63	57031.47	68363.82	66742.01	58604.25	55814.47	64007.49	56541.03	51108.85	51912.53	47756.98	44381.68	-22.07
CO_2 emissions with net CO_2 from LULUCF	45578.45	40447.39	27472.89	32494.59	38531.53	31505.77	15495.87	34449.04	25598.14	16645.66	23443.36	17230.16	16205.06	-60.92
CH_4 emissions without CH_4 from LULUCF	6020.84	5829.44	5575.57	5640.47	5502.98	5357.52	5303.23	5373.04	5201.95	5151.51	5017.15	4919.05	4874.90	-37.07
CH_4 emissions with CH_4 from LULUCF	7285.52	7063.85	6782.85	6820.39	6653.94	6451.61	6340.02	6351.50	6123.83	6071.93	5938.14	5840.17	5794.97	-37.59
N_2O emissions without N_2O from LULUCF	5828.69	5886.51	5955.60	5759.45	5827.72	5942.31	5106.26	4696.47	4575.12	4553.35	4609.48	4652.52	4659.05	-26.94
N_2O emissions with N_2O from LULUCF	7117.71	7173.59	7239.20	7049.22	7111.90	7239.71	6389.99	5979.02	5850.06	5823.44	5879.05	5921.74	5924.84	-22.54
HFCs	634.71	687.28	892.12	855.60	1010.69	1147.31	1109.75	1485.40	1300.45	1488.81	1561.77	1699.34	1547.41	6440749.30
PFCs	18.32	14.39	15.97	19.21	10.21	13.93	11.58	1.06	2.30	5.66	6.66	10.30	6.62	3095.21
Unspecified mix of HFCs and PFCs	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
SF_6	25.57	23.84	22.19	27.56	19.17	26.66	26.71	21.79	23.67	22.16	30.70	34.25	37.55	-28.45
NF_3	NO,NE	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
Total (without LULUCF)	85171.85	81399.09	69492.92	80666.12	79112.78	71091.99	67372.00	75585.25	67644.52	62330.33	63138.29	59072.44	55507.21	-21.96
Total (with LULUCF)	60660.28	55410.34	42425.22	47266.57	53337.44	46385.00	29373.94	48287.81	38898.46	30057.66	36859.69	30735.96	29516.44	-49.50
Total (without LULUCF, with indirect)	85264.72	81489.73	69577.93	80751.27	79197.45	71167.87	67438.00	75653.91	67706.40	62389.34	63195.34	59125.79	55559.21	-22.07
Total (with LULUCF, with indirect)	60753.15	55500.99	42510.23	47351.72	53422.11	46460.87	29439.94	48356.47	38960.34	30116.67	36916.73	30789.31	29568.44	-49.56

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Change from base to latest reported year
	CO_2 equivalent (kt)													(%)
1. Energy	69374.40	65494.81	53714.93	64817.79	62822.13	54488.14	52563.66	60165.64	52716.99	47484.45	48326.60	44434.03	40816.34	-23.79
2. Industrial processes and product use	6095.00	6406.00	6497.24	6535.87	7105.46	7459.57	5738.31	6260.15	6014.66	6023.52	5995.93	5921.01	6076.18	13.15
3. Agriculture	6476.98	6434.47	6457.30	6414.82	6390.74	6469.37	6487.93	6576.22	6410.69	6373.21	6483.94	6510.80	6480.97	-13.88
4. Land use, land-use change and forestry[5]	-24511.57	-25988.75	-27067.70	-33399.55	-25775.33	-24707.00	-37998.07	-27297.44	-28746.06	-32272.67	-26278.60	-28336.47	-25990.77	105.10
5. Waste	3225.47	3063.80	2823.46	2897.64	2794.45	2674.92	2582.11	2583.25	2502.17	2449.14	2331.82	2206.60	2133.72	-54.33
6. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.00
Total (including LULUCF)[5]	60660.28	55410.34	42425.22	47266.57	53337.44	46385.00	29373.94	48287.81	38898.46	30057.66	36859.69	30735.96	29516.44	-49.50

[1] The column "Base year" should be filled in only by those Parties with economies in transition that use a base year different from 1990 in accordance with the relevant decisions of the COP. For these Parties, this different base year is used to calculate the percentage change in the final column of this table.

[2] Fill in net emissions/removals as reported in table Summary 1.A. For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

[3] In accordance with the UNFCCC reporting guidelines, for Parties that decide to report indirect CO2 the national totals shall be provided with and without indirect CO_2.

[4] In accordance with the UNFCCC reporting guidelines, HFC and PFC emissions should be reported for each relevant chemical. However, if it is not possible to report values for each chemical (i.e. mixtures, confidential data, lack of disaggregation), this row could be used for reporting aggregate figures for HFCs and PFCs, respectively. Note that the unit used for this row is kt of CO_2 equivalent and that appropriate

[5] Includes net CO_2, CH_4 and N_2O from LULUCF.

ANNEX 2

Summary of reporting of the Supplementary information under Article 7, paragraph 2, of the Kyoto Protocol in the NC7

Information reported under Article 7, paragraph 2	NC7 section
National system in accordance with Article 5, paragraph 1	3.3
National registry	3.4
Supplementarity relating to the mechanisms pursuant to Article 6, 12 and 17	5.7
Policies and measures in accordance with Article 2	4, 7 and 8
Domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures	3.3, 3.4, 4.1 – 4.4
Information under Article 10	
Art 10a	3.3, 8.2.4
Art 10b	4.3 to 4.5, 6.3
Art 10c	7.4
Art 10d	4.10, 8.3, 8.4
Art 10e	6.4, 8.3, 8.4 and 9.3
Financial resources	7

ANNEX 3

Recommendations in FCCC/IDR.6/FIN	Finland's response in NC7	Where in NC7
78. During the review week, Finland informed the ERT that the BAU scenario does not fully correspond to the 'without measures' scenario as defined by the reporting guidelines and that values presented in the BAU scenario are outdated. The ERT recommends that Finland improve the transparency of the information on the total effects of PaMs currently presented in Table 5.11 of the NC6, by updatig it in its next submission. As was also stated in the NC6, an alternative to estimating the total effects of PaMs is to use the aggregated estimated effect of individual PaMs per sector as presented in the NC6 in tables 4.4 (energy), 4.5 (transport), 4.7 (industrial processes), 4.8 (agriculture), 4.9 (LULUCF) and 4.10 (waste) while trying to limit the overlapping effects of these PaMs to the greatest extent possible in order to reduce overestimation of the total effect of PaMs.	Finland has improved the description of the estimation of the total effect of PaMs. Also, Finland has used the alternative approach to estimate the total effect of PAMs suggested by the ERT during the review of its 6th NC.	Sections 5.2.1 and 5.4
88. However, the ERT noted that Finland did not clearly distinguish between technology transfer activities undertaken by the public sector and those undertaken by the private sector. During the review, Finland elaborated on the difficulty in distinguishing activities undertaken by the public and private sectors. The ERT recommends that Finland continue to explore ways to improve the transparency of reporting on such information in its NC.	Finland has improved the transparency of reporting on distinguishing between technology transfer activities undertaken by the public sector and those undertaken by the private sector.	Section 7.3.4, as well as other sections in Chapter 7
91. During the review week, Finland provided more information on its support for the development and enhancement of the endogenous capacities and technologies of developing countries. In bilateral cooperation, Finland ensures country ownership through negotiations with partner countries, and thus the priorities of these countries are taken into account. The project documents are agreed upon by the partner countries. The ERT recommends that Finland improve the transparency of reporting by providing more information on the support, development and enhancement of endogenous capacities and technologies of developing countries to improve transparency in the next NC.	Finland has improved the transparency of reporting on the support, development and enhancement of endogenous capacities and technologies of developing countries.	Section 6.4, Sections 7.2, 7.3.3, 7.3.6 and other sections in Chapter 7, as well as Sections 8.1, 8.4 and 9.3

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