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COMMISSION OF THE EUROPEAN COMMUNITIES



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COMMISSION STAFF WORKING DOCUMENT

Accompanying the

COMMUNICATION FROM THE COMMISSION

FIFTH NATIONAL COMMUNICATION FROM THE EUROPEAN COMMUNITY UNDER THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

(required under Article 12 of the United Nations Framework Convention on Climate Change)

Part 2b

[COM(2009) 667 final]

DIFFUSION ELECTRONIQUE UNIQUEMENT

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Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

(Sheet 1 of 3)

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N_2O	HFC	Ss ⁽¹⁾	PFC	s ⁽¹⁾	SF ₆		NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)			
Total National Emissions and Removals	3,087,180.37	17,417.07	1,066.28	87,598.66	46,187.56	1,726.18	7,278.98	899.16	0.45	10,494.19	31,691.08	10,631.29	6,071.75
1. Energy	3,129,049.23	3,067.67	110.15							10,146.76	27,322.85	4,839.31	5,779.36
A. Fuel Combustion Reference Approach (2)	3,105,486.26												
Sectoral Approach (2)	3,110,794.28	608.20	109.75							10,127.90	27,243.88	4,028.73	5,568.77
Energy Industries	1,111,268.50	56.43	29.98							1,823.72	448.52	54.87	3,874.99
Manufacturing Industries and Construction	550,965.20	56.66	20.16							1,399.68	3,442.23	127.36	965.67
3. Transport	816,324.34	119.58	37.88							5,546.48	16,642.19	2,881.98	270.47
4. Other Sectors	623,555.84	374.80	20.32							1,302.25	6,608.88	955.84	448.65
5. Other	8,680.40	0.73	1.41							55.77	102.06	8.68	9.00
B. Fugitive Emissions from Fuels	18,254.96	2,459.47	0.40							18.87	78.98	810.57	210.59
1. Solid Fuels	1,463.40	1,174.91	0.01							1.35	40.41	6.93	8.26
2. Oil and Natural Gas	16,791.56	1,284.57	0.39							17.51	38.57	803.65	202.33
2. Industrial Processes	213,790.97	28.59	164.44	87,598.66	46,187.56	1,726.18	7,278.98	899.16	0.45	175.25	2,601.33	605.98	282.33
A. Mineral Products	113,070.83	0.66	IE,NA,NE,NO							65.88	14.51	116.20	63.63
B. Chemical Industry	30,516.55	21.03	164.12	NA,NO	C,NA,NO	NA,NO	C,NA,NO	C,NA,NO	C,NA,NO	40.15	172.37	195.61	107.30
C. Metal Production	69,816.70	4.72	0.03				4,575.13		0.12	51.24	2,397.75	24.99	84.19
D. Other Production (3)	49.41	0.31	0.27							17.32	14.25	250.20	26.81
E. Production of Halocarbons and SF ₆					17,368.54		678.41		0.01				
F. Consumption of Halocarbons and SF ₆				87,598.66	28,819.03	1,726.18	2,025.44	899.16	0.30				
G. Other	337.47	1.86	0.02	NA,NE,NO	NA,NO	NA,NO	NA,NO	NA,NO	0.03	0.65	2.44	18.97	0.39

Note: A = Actual emissions based on Tier 2 approach of the IPCC Guidelines.

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 2000 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A) (Sheet 2 of 3)

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HF	Cs (1)	PF	$Cs^{(1)}$	SF	6	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/remova	s		P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)		
3. Solvent and Other Product Use	7,98	7.16	11.58							NA,NO,NE	NA,NO,NE	3,363.33	NA,NO,NE
4. Agriculture		8,351.37								128.45	454.21	499.61	4.14
A. Enteric Fermentation		6,080.51											
B. Manure Management		2,177.69										265.69	
C. Rice Cultivation		101.52										0.10	
D. Agricultural Soils ⁽⁴⁾		-30.01										174.04	
E. Prescribed Burning of Savannas		NA,NE,NC								NO,NE		NO,NE	
F. Field Burning of Agricultural Residues		21.65								13.96	454.21	58.89	4.14
G. Other		NA,NC	NA,NE,NO							114.50	NA,NO	0.90	0.00
5. Land Use, Land-Use Change and Forestry	-266,35	5.90 144.89	10.94							21.56	751.86	1,235.48	0.65
A. Forest Land	(5) -348,61	3.58 56.63	0.58							14.78	513.10	57.38	
B. Cropland	(5) 64,78	3.61 10.20	9.97							2.53	89.26	NA,NE,NO	
C. Grassland	(5) -4,25	5.59 11.05	0.08							2.74	96.60	IE,NA,NE,NO	
D. Wetlands	(5) 4,09	6.86	0.25							0.07	2.53	NA,NE,NO	
E. Settlements	(5) 17,71	5.45 5.53	0.04							1.37	48.35	NA,NE,NO	
F. Other Land	(5) 1,14	5.23 0.23	0.00							0.06	2.01	NA,NE,NO	
G. Other	(5) -1,22	7.88 55.00	0.02							NA,NE,NO	NA,NE,NO	1,178.10	0.65
6. Waste	2,70	5,824.56	34.91							22.18	560.83	87.58	5.26
A. Solid Waste Disposal on Land	(6) 2	5.55 5,228.00	0.01							0.12	9.94	37.43	0.10
B. Waste-water Handling		510.46	32.04							0.00	0.00	3.36	
C. Waste Incineration	(6) 2,68	2.36 21.67	0.94							22.01	550.85	29.42	5.14
D. Other	NA	NO 64.42	1.92							0.05	0.04	17.37	0.02
7. Other (please specify) (7)	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
Other non-specified	NA,NO	NA,NC	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HI	FCs	PF	`Cs	S	F_6	NO_x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
	(Gg)			CO ₂ equiv	alent (Gg)				(G	(g)		
Memo Items: (8)													
International Bunkers	237,551.68	6.18	8.64							1,964.18	261.79	92.37	1,181.52
Aviation	108,848.57	1.46	3.44							404.60	129.00	31.98	23.80
Marine	128,703.11	4.72	5.19							1,559.58	132.80	60.39	1,157.72
Multilateral Operations	0.32	0.00	0.00							0.00	0.00	0.00	0.00
CO ₂ Emissions from Biomass	199,702.60												

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked 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 emissions, the results from the Sectoral approach should be used, where possible.

⁽³⁾ Other Production includes Pulp and Paper and Food and Drink Production.

⁽⁴⁾ Parties which previously reported CO₂ from soils in the Agriculture sector should note this in the NIR.

⁽⁵⁾ For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

⁽⁶⁾ CO₂ from source 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.

⁽⁷⁾ If reporting any country-specific source category under sector "7. Other", detailed explanations should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

⁽⁸⁾ Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as CO₂ emissions from biomass, 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 CO₂ 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 CO₂ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

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Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

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GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N_2O	HFC	Cs ⁽¹⁾	PFC	s ⁽¹⁾	SF ₆		NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)			
Total National Emissions and Removals	3,135,270.69	16,835.46	1,043.36	106,381.24	44,388.87	1,918.05	6,491.02	920.03	0.43	10,278.89	29,885.13	10,152.94	5,806.68
1. Energy	3,202,851.52	2,897.68	112.33							9,954.04	25,798.52	4,528.47	5,528.76
A. Fuel Combustion Reference Approach (2)	3,178,630.37												
Sectoral Approach (2)	3,184,536.67	591.26	111.94							9,934.71	25,730.16	3,746.73	5,332.76
Energy Industries	1,135,487.56	58.52	30.94							1,804.81	451.19	53.46	3,645.01
Manufacturing Industries and Construction	548,362.93	56.10	20.35							1,386.95	3,293.43	127.47	960.00
3. Transport	825,736.87	111.55	38.28							5,358.21	15,311.95	2,637.12	264.81
4. Other Sectors	667,363.32	364.41	21.08							1,337.19	6,581.16	921.16	454.57
5. Other	7,586.00	0.68	1.28							47.54	92.43	7.52	8.36
B. Fugitive Emissions from Fuels	18,314.85	2,306.42	0.39							19.33	68.36	781.74	196.01
Solid Fuels	1,393.76	1,013.37	0.01							1.29	27.65	6.77	8.97
Oil and Natural Gas	16,921.09	1,293.05	0.38							18.04	40.72	774.97	187.04
2. Industrial Processes	208,874.78	27.92	163.08	106,381.24	44,388.87	1,918.05	6,491.02	920.03	0.43	161.67	2,446.77	595.01	267.08
A. Mineral Products	111,191.28	0.69	IE,NA,NE,NO							59.25	14.64	117.83	59.26
B. Chemical Industry	29,897.05	20.69	162.76	NA,NO	C,NA,NO	NA,NO	C,NA,NO	C,NA,NO	C,NA,NO	35.96	173.30	185.14	101.96
C. Metal Production	67,408.93	4.38	0.03				3,920.84		0.12	48.70	2,241.71	22.79	81.90
D. Other Production (3)	43.25	0.31	0.27							17.28	14.82	254.66	23.83
E. Production of Halocarbons and SF ₆					10,908.44		662.26		0.00				
F. Consumption of Halocarbons and SF ₆				106,381.24	33,480.43	1,918.05	1,907.93	920.03	0.27				
G. Other	334.25	1.85	0.02	NA,NE,NO	NA,NO	NA,NO	NA,NO	NA,NO	0.03	0.48	2.30	14.59	0.13

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 2001 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A) (Sheet 2 of 3)

GREENHOUSE GAS SOURCE AND		Net CO ₂	CH ₄	N ₂ O	HFC	Cs (1)	PFC	Cs ⁽¹⁾	SF	6	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emis	sions/removals			P	A	P	A	P	A	1			
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)		
3. Solvent and Other Product Use		7,691.32		10.73							NA,NO,NE	NA,NO,NE	3,235.80	NA,NO,NE
4. Agriculture			8,309.81	709.54							122.55	468.09	499.62	4.30
A. Enteric Fermentation			6,028.10											
B. Manure Management			2,186.53	76.49									270.84	
C. Rice Cultivation			102.81										0.10	
D. Agricultural Soils ⁽⁴⁾			-29.95	632.70									166.76	
E. Prescribed Burning of Savannas			NA,NE,NO	NA,NE,NO							NO,NE	NO,NE	NO,NE	
F. Field Burning of Agricultural Residues			22.31	0.35							12.53	468.09	60.98	4.30
G. Other			NA,NO	NA,NE,NO							110.02	NA,NO	0.93	0.00
5. Land Use, Land-Use Change and Forestry	(5)	-286,834.77	122.62	12.45							17.02	594.04	1,207.47	0.43
A. Forest Land	(5)	-378,284.78	40.02	0.45							10.40	361.20	54.62	
B. Cropland	(5)	70,477.78	9.86	11.43							2.45	86.31	NA,NE,NO	
C. Grassland	(5)	-4,843.30	10.69	0.07							2.66	93.49	IE,NA,NE,NO	
D. Wetlands	(5)	5,407.65	6.29	0.25							0.08	2.70	NA,NE,NO	
E. Settlements	(5)	18,649.72	5.55	0.04							1.38	48.59	NA,NE,NO	
F. Other Land	(5)	1,601.90	0.20	0.00							0.05	1.75	NA,NE,NO	
G. Other	(5)	156.26	50.00	0.21							NA,NE,NO	NA,NE,NO	1,152.85	0.43
6. Waste		2,687.85	5,477.43	35.24							23.62	577.70	86.58	6.11
A. Solid Waste Disposal on Land	(6)	26.49	4,906.40	0.01							0.12	9.63	35.50	0.10
B. Waste-water Handling			483.26	32.24							0.00	0.00	3.25	
C. Waste Incineration	(6)	2,661.36	21.76	0.95							23.08	567.93	29.59	5.95
D. Other		NA,NO	66.01	2.03							0.42	0.14	18.24	0.06
7. Other (please specify) (7)		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
Other non-specified		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

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HI	FCs	PF	Cs	S	F_6	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
	(Gg)			CO ₂ equiv	/alent (Gg)				(G	g)		
Memo Items: (8)													
International Bunkers	241,060.37	6.35	8.65							1,972.75	256.93	93.30	1,206.39
Aviation	107,415.87	1.41	3.41							396.56	126.11	31.38	24.35
Marine	133,644.50	4.94	5.24							1,576.19	130.81	61.92	1,182.03
Multilateral Operations	0.76	0.00	0.00							0.01	0.00	0.00	0.00
CO ₂ Emissions from Biomass	206,856.07												

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked 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 emissions, the results from the Sectoral approach should be used, where possible.

⁽³⁾ Other Production includes Pulp and Paper and Food and Drink Production.

⁽⁴⁾ Parties which previously reported CO₂ from soils in the Agriculture sector should note this in the NIR.

⁽⁵⁾ For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

⁽⁶⁾ CO₂ from source 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.

⁽⁷⁾ If reporting any country-specific source category under sector "7. Other", detailed explanations should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

⁽⁸⁾ Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as CO₂ emissions from biomass, 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 CO₂ 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 CO₂ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

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GREENHOUSE GAS SOURCE AND	Net CO ₂	$\mathrm{CH_4}$	N ₂ O	HFC	Cs ⁽¹⁾	PFC	s ⁽¹⁾	SF ₆		NO _x	co	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)			
Total National Emissions and Removals	3,135,270.69	16,835.46	1,043.36	106,381.24	44,388.87	1,918.05	6,491.02	920.03	0.43	10,278.89	29,885.13	10,152.94	5,806.68
1. Energy	3,202,851.52	2,897.68	112.33							9,954.04	25,798.52	4,528.47	5,528.76
A. Fuel Combustion Reference Approach (2)	3,178,630.37												
Sectoral Approach (2)	3,184,536.67	591.26	111.94							9,934.71	25,730.16	3,746.73	5,332.76
Energy Industries	1,135,487.56	58.52	30.94							1,804.81	451.19	53.46	3,645.01
Manufacturing Industries and Construction	548,362.93	56.10	20.35							1,386.95	3,293.43	127.47	960.00
3. Transport	825,736.87	111.55	38.28							5,358.21	15,311.95	2,637.12	264.81
4. Other Sectors	667,363.32	364.41	21.08							1,337.19	6,581.16	921.16	454.57
5. Other	7,586.00	0.68	1.28							47.54	92.43	7.52	8.36
B. Fugitive Emissions from Fuels	18,314.85	2,306.42	0.39							19.33	68.36	781.74	196.01
Solid Fuels	1,393.76	1,013.37	0.01							1.29	27.65	6.77	8.97
2. Oil and Natural Gas	16,921.09	1,293.05	0.38							18.04	40.72	774.97	187.04
2. Industrial Processes	208,874.78	27.92	163.08	106,381.24	44,388.87	1,918.05	6,491.02	920.03	0.43	161.67	2,446.77	595.01	267.08
A. Mineral Products	111,191.28	0.69	IE,NA,NE,NO							59.25	14.64	117.83	59.26
B. Chemical Industry	29,897.05	20.69	162.76	NA,NO	C,NA,NO	NA,NO	C,NA,NO	C,NA,NO	C,NA,NO	35.96	173.30	185.14	101.96
C. Metal Production	67,408.93	4.38	0.03				3,920.84		0.12	48.70	2,241.71	22.79	81.90
D. Other Production (3)	43.25	0.31	0.27							17.28	14.82	254.66	23.83
E. Production of Halocarbons and SF ₆					10,908.44		662.26		0.00				
F. Consumption of Halocarbons and SF ₆				106,381.24	33,480.43	1,918.05	1,907.93	920.03	0.27				
G. Other	334.25	1.85	0.02	NA,NE,NO	NA,NO	NA,NO	NA,NO	NA,NO	0.03	0.48	2.30	14.59	0.13

Note: A = Actual emissions based on Tier 2 approach of the IPCC Guidelines.

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 2002 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A) (Sheet 2 of 3)

GREENHOUSE GAS SOURCE AND	Net C	CO ₂	CH ₄	N ₂ O	HFC	Cs (1)	PFC	Cs ⁽¹⁾	SF	6	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/r	emovals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)		
3. Solvent and Other Product Use		7,691.32		10.73							NA,NO,NE	NA,NO,NE	3,235.80	NA,NO,NE
4. Agriculture			8,309.81	709.54							122.55	468.09	499.62	4.30
A. Enteric Fermentation			6,028.10											
B. Manure Management			2,186.53	76.49									270.84	
C. Rice Cultivation			102.81										0.10	
D. Agricultural Soils ⁽⁴⁾			-29.95	632.70									166.76	
E. Prescribed Burning of Savannas			NA,NE,NO	NA,NE,NO							NO,NE	NO,NE	NO,NE	
F. Field Burning of Agricultural Residues			22.31	0.35							12.53	468.09	60.98	4.30
G. Other			NA,NO	NA,NE,NO							110.02	NA,NO	0.93	0.00
5. Land Use, Land-Use Change and Forestry	(5)	-286,834.77	122.62	12.45							17.02	594.04	1,207.47	0.43
A. Forest Land	(5)	-378,284.78	40.02	0.45							10.40	361.20	54.62	
B. Cropland	(5)	70,477.78	9.86	11.43							2.45	86.31	NA,NE,NO	
C. Grassland	(5)	-4,843.30	10.69	0.07							2.66	93.49	IE,NA,NE,NO	
D. Wetlands	(5)	5,407.65	6.29	0.25							0.08	2.70	NA,NE,NO	
E. Settlements	(5)	18,649.72	5.55	0.04							1.38	48.59	NA,NE,NO	
F. Other Land	(5)	1,601.90	0.20	0.00							0.05	1.75	NA,NE,NO	
G. Other	(5)	156.26	50.00	0.21							NA,NE,NO	NA,NE,NO	1,152.85	0.43
6. Waste		2,687.85	5,477.43	35.24							23.62	577.70	86.58	6.11
A. Solid Waste Disposal on Land	(6)	26.49	4,906.40	0.01							0.12	9.63	35.50	0.10
B. Waste-water Handling			483.26	32.24							0.00	0.00	3.25	
C. Waste Incineration	(6)	2,661.36	21.76	0.95							23.08	567.93	29.59	5.95
D. Other		NA,NO	66.01	2.03							0.42	0.14	18.24	0.06
7. Other (please specify) (7)		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
Other non-specified	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

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HI	FCs	PF	Cs	S	F_6	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
	(Gg)			CO ₂ equiv	/alent (Gg)				(G	g)		
Memo Items: (8)													
International Bunkers	241,060.37	6.35	8.65							1,972.75	256.93	93.30	1,206.39
Aviation	107,415.87	1.41	3.41							396.56	126.11	31.38	24.35
Marine	133,644.50	4.94	5.24							1,576.19	130.81	61.92	1,182.03
Multilateral Operations	0.76	0.00	0.00							0.01	0.00	0.00	0.00
CO ₂ Emissions from Biomass	206,856.07												

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked 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 emissions, the results from the Sectoral approach should be used, where possible.

⁽³⁾ Other Production includes Pulp and Paper and Food and Drink Production.

⁽⁴⁾ Parties which previously reported CO₂ from soils in the Agriculture sector should note this in the NIR.

⁽⁵⁾ For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

⁽⁶⁾ CO₂ from source 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.

⁽⁷⁾ If reporting any country-specific source category under sector "7. Other", detailed explanations should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

⁽⁸⁾ Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as CO₂ emissions from biomass, 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 CO₂ 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 CO₂ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

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GREENHOUSE GAS SOURCE AND	Net CO ₂	CH_4	N ₂ O	HFC	s ⁽¹⁾	PFC	s ⁽¹⁾	SF ₆		NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)			
Total National Emissions and Removals	3,155,688.35	15,784.81	1,010.69	137,071.05	49,780.89	2,028.09	6,642.60	1,005.26	0.37	9,915.98	27,186.18	9,734.93	5,096.01
1. Energy	3,254,129.32	2,570.33	113.14							9,597.68	22,887.12	3,901.37	4,826.56
A. Fuel Combustion Reference Approach (2)	3,252,344.98												
Sectoral Approach (2)	3,235,665.63	550.23	112.78							9,574.74	22,830.19	3,218.26	4,655.60
Energy Industries	1,193,415.69	60.51	31.90							1,894.46	486.03	57.29	3,340.73
Manufacturing Industries and Construction	541,569.01	55.46	20.27							1,383.25	3,307.31	132.15	712.51
3. Transport	841,858.87	94.43	38.38							4,950.69	12,836.17	2,166.88	223.37
4. Other Sectors	650,998.65	339.18	20.84							1,303.58	6,113.52	854.68	372.93
5. Other	7,823.42	0.65	1.39							42.76	87.16	7.26	6.06
B. Fugitive Emissions from Fuels	18,463.69	2,020.10	0.36							22.95	56.93	683.11	170.97
 Solid Fuels 	1,407.35	823.90	0.01							1.18	24.72	5.90	8.14
2. Oil and Natural Gas	17,056.34	1,196.20	0.35							21.77	32.21	677.21	162.83
2. Industrial Processes	212,554.98	29.49	149.78	137,071.05	49,780.89	2,028.09	6,642.60	1,005.26	0.37	150.46	2,364.59	561.28	259.31
A. Mineral Products	113,039.21	0.69	IE,NA,NE,NO							55.13	14.00	110.37	60.79
B. Chemical Industry	30,382.66	22.24	149.46	NA,NO	C,NA,NO	NA,NO	C,NA,NO	C,NA,NO	C,NA,NO	31.33	128.23	169.57	88.34
C. Metal Production	68,758.80	4.38	0.03				3,965.04		0.11	46.12	2,204.00	21.50	82.28
D. Other Production (3)	46.53	0.32	0.28							17.52	15.32	248.07	21.53
E. Production of Halocarbons and SF ₆					7,894.00		747.99		0.01				
F. Consumption of Halocarbons and SF ₆				137,071.05	41,886.60	2,028.09	1,929.57	1,005.26	0.23				
G. Other	327.78	1.85	0.02	NA,NE,NO	NA,NO	NA,NO	NA,NO	NA,NO	0.02	0.36	3.03	11.77	6.37

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

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GREENHOUSE GAS SOURCE AND	Net C	O_2	CH ₄	N ₂ O	HFC	Cs (1)	PFC	Cs ⁽¹⁾	SF	6	NO_x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/r	emovals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiva	alent (Gg)				(Gg)		
3. Solvent and Other Product Use		7,372.81		10.25							NA,NO,NE	NA,NO,NE	3,101.19	NA,NO,NE
4. Agriculture			8,126.89	689.81							120.18	523.16	535.66	4.94
A. Enteric Fermentation			5,875.20											
B. Manure Management			2,147.55	73.06									264.46	
C. Rice Cultivation			109.11										0.10	
D. Agricultural Soils ⁽⁴⁾			-29.90	616.37									200.71	
E. Prescribed Burning of Savannas			NA,NE,NO	NA,NE,NO							NO,NE	NO,NE	NO,NE	
F. Field Burning of Agricultural Residues			24.93	0.38							13.56	523.16	69.38	4.94
G. Other			NA,NO	NA,NE,NO							106.62	NA,NO	1.01	0.00
5. Land Use, Land-Use Change and Forestry	(5)	321,062.42	143.90	12.27							25.28	870.85	1,550.61	0.96
A. Forest Land	(5)	373,595.75	66.51	0.70							18.70	639.07	75.01	
B. Cropland	(5)	66,726.06	9.93	11.01							2.47	86.84	NA,NE,NO	
C. Grassland	(5)	-40,545.26	10.45	0.07							2.59	91.28	IE,NA,NE,NO	
D. Wetlands	(5)	5,426.84	6.19	0.25							0.08	2.72	NA,NE,NO	
E. Settlements	(5)	18,812.79	5.55	0.04							1.38	48.56	NA,NE,NO	
F. Other Land	(5)	1,709.59	0.27	0.00							0.07	2.37	NA,NE,NO	
G. Other	(5)	403.32	45.00	0.21							NA,NE,NO	NA,NE,NO	1,475.60	0.96
6. Waste		2,693.65	4,914.21	35.43							22.37	540.47	84.82	4.25
A. Solid Waste Disposal on Land	(6)	15.88	4,339.13	0.01							0.08	8.98	31.67	0.06
B. Waste-water Handling			483.67	32.23							NA,NE,NO	NA,NE,NO	3.35	
C. Waste Incineration	(6)	2,677.77	21.23	0.95							22.24	531.45	29.13	4.16
D. Other		NA,NO	70.17	2.25							0.05	0.04	20.68	0.03
7. Other (please specify) (7)		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
Other non-specified	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

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HI	FCs	PF	Cs	S	\mathbf{F}_{6}	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
	(Gg)			CO ₂ equiv	alent (Gg)				(G	g)		
Memo Items: (8)													
International Bunkers	248,503.28	6.50	9.90							2,029.40	260.38	94.96	1,280.95
Aviation	108,891.32	1.42	3.43							394.39	126.16	31.38	24.13
Marine	139,611.96	5.07	6.47							1,635.01	134.22	63.58	1,256.82
Multilateral Operations	0.76	0.00	0.00							0.01	0.00	0.00	0.00
CO ₂ Emissions from Biomass	221,432.97												

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked 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 emissions, the results from the Sectoral approach should be used, where possible.

⁽³⁾ Other Production includes Pulp and Paper and Food and Drink Production.

⁽⁴⁾ Parties which previously reported CO₂ from soils in the Agriculture sector should note this in the NIR.

⁽⁵⁾ For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

⁽⁶⁾ CO₂ from source 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.

⁽⁷⁾ If reporting any country-specific source category under sector "7. Other", detailed explanations should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

⁽⁸⁾ Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as CO₂ emissions from biomass, 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 CO₂ 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 CO₂ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

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GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HFC	Cs ⁽¹⁾	PFC	s ⁽¹⁾	SF ₆		NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)			
Total National Emissions and Removals	3,135,270.69	16,835.46	1,043.36	106,381.24	44,388.87	1,918.05	6,491.02	920.03	0.43	10,278.89	29,885.13	10,152.94	5,806.68
1. Energy	3,202,851.52	2,897.68	112.33							9,954.04	25,798.52	4,528.47	5,528.76
A. Fuel Combustion Reference Approach (2)	3,178,630.37												
Sectoral Approach (2)	3,184,536.67	591.26	111.94							9,934.71	25,730.16	3,746.73	5,332.76
Energy Industries	1,135,487.56	58.52	30.94							1,804.81	451.19	53.46	3,645.01
Manufacturing Industries and Construction	548,362.93	56.10	20.35							1,386.95	3,293.43	127.47	960.00
3. Transport	825,736.87	111.55	38.28							5,358.21	15,311.95	2,637.12	264.81
4. Other Sectors	667,363.32	364.41	21.08							1,337.19	6,581.16	921.16	454.57
5. Other	7,586.00	0.68	1.28							47.54	92.43	7.52	8.36
B. Fugitive Emissions from Fuels	18,314.85	2,306.42	0.39							19.33	68.36	781.74	196.01
Solid Fuels	1,393.76	1,013.37	0.01							1.29	27.65	6.77	8.97
2. Oil and Natural Gas	16,921.09	1,293.05	0.38							18.04	40.72	774.97	187.04
2. Industrial Processes	208,874.78	27.92	163.08	106,381.24	44,388.87	1,918.05	6,491.02	920.03	0.43	161.67	2,446.77	595.01	267.08
A. Mineral Products	111,191.28	0.69	IE,NA,NE,NO							59.25	14.64	117.83	59.26
B. Chemical Industry	29,897.05	20.69	162.76	NA,NO	C,NA,NO	NA,NO	C,NA,NO	C,NA,NO	C,NA,NO	35.96	173.30	185.14	101.96
C. Metal Production	67,408.93	4.38	0.03				3,920.84		0.12	48.70	2,241.71	22.79	81.90
D. Other Production (3)	43.25	0.31	0.27							17.28	14.82	254.66	23.83
E. Production of Halocarbons and SF ₆					10,908.44		662.26		0.00				
F. Consumption of Halocarbons and SF ₆				106,381.24	33,480.43	1,918.05	1,907.93	920.03	0.27				
G. Other	334.25	1.85	0.02	NA,NE,NO	NA,NO	NA,NO	NA,NO	NA,NO	0.03	0.48	2.30	14.59	0.13

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

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GREENHOUSE GAS SOURCE AND		Net CO ₂	CH ₄	N ₂ O	HFC	Cs (1)	PFC	$Cs^{(1)}$	SF	6	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	em	nissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)		
3. Solvent and Other Product Use		7,691.32		10.73							NA,NO,NE	NA,NO,NE	3,235.80	NA,NO,NE
4. Agriculture			8,309.81	709.54							122.55	468.09	499.62	4.30
A. Enteric Fermentation			6,028.10											
B. Manure Management			2,186.53	76.49									270.84	
C. Rice Cultivation			102.81										0.10	
D. Agricultural Soils ⁽⁴⁾			-29.95	632.70									166.76	
E. Prescribed Burning of Savannas			NA,NE,NO	NA,NE,NO							NO,NE	NO,NE	NO,NE	
F. Field Burning of Agricultural Residues			22.31	0.35							12.53	468.09	60.98	4.30
G. Other			NA,NO	NA,NE,NO							110.02	NA,NO	0.93	0.00
5. Land Use, Land-Use Change and Forestry	(5)	-286,834.77	122.62	12.45							17.02	594.04	1,207.47	0.43
A. Forest Land	(5)	-378,284.78	40.02	0.45							10.40	361.20	54.62	
B. Cropland	(5)	70,477.78	9.86	11.43							2.45	86.31	NA,NE,NO	
C. Grassland	(5)	-4,843.30	10.69	0.07							2.66	93.49	IE,NA,NE,NO	
D. Wetlands	(5)	5,407.65	6.29	0.25							0.08	2.70	NA,NE,NO	
E. Settlements	(5)	18,649.72	5.55	0.04							1.38	48.59	NA,NE,NO	
F. Other Land	(5)	1,601.90	0.20	0.00							0.05	1.75	NA,NE,NO	
G. Other	(5)	156.26	50.00	0.21							NA,NE,NO	NA,NE,NO	1,152.85	0.43
6. Waste		2,687.85	5,477.43	35.24							23.62	577.70	86.58	6.11
A. Solid Waste Disposal on Land	(6)	26.49	4,906.40	0.01							0.12	9.63	35.50	0.10
B. Waste-water Handling			483.26	32.24							0.00	0.00	3.25	
C. Waste Incineration	(6)	2,661.36	21.76	0.95							23.08	567.93	29.59	5.95
D. Other		NA,NO	66.01	2.03							0.42	0.14	18.24	0.06
7. Other (please specify) (7)		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
Other non-specified		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

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HI	FCs	PF	Cs	S	$\mathbf{F_6}$	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
	(Gg)			CO ₂ equiv	alent (Gg)				(G	g)		
Memo Items: (8)													
International Bunkers	265,647.42	6.77	10.52							2,129.72	276.08	100.23	1,357.61
Aviation	117,398.72	1.51	3.71							422.99	136.26	33.76	26.38
Marine	148,248.70	5.26	6.81							1,706.73	139.82	66.47	1,331.23
Multilateral Operations	0.76	0.00	0.00							0.01	0.00	0.00	0.00
CO ₂ Emissions from Biomass	236,871.17												

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked 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 emissions, the results from the Sectoral approach should be used, where possible.

⁽³⁾ Other Production includes Pulp and Paper and Food and Drink Production.

⁽⁴⁾ Parties which previously reported CO₂ from soils in the Agriculture sector should note this in the NIR.

⁽⁵⁾ For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

⁽⁶⁾ CO₂ from source 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.

⁽⁷⁾ If reporting any country-specific source category under sector "7. Other", detailed explanations should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

⁽⁸⁾ Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as CO₂ emissions from biomass, 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 CO₂ 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 CO₂ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

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GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HFC	Cs ⁽¹⁾	PFC	s ⁽¹⁾	SF ₆		NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)			
Total National Emissions and Removals	3,156,423.84	14,943.71	995.26	161,219.76	53,422.96	1,868.30	4,053.18	1,083.15	0.38	9,441.90	24,120.44	8,875.00	4,561.67
1. Energy	3,230,636.80	2,273.14	112.06							9,133.66	19,901.26	3,319.30	4,300.71
A. Fuel Combustion Reference Approach (2)	3,236,716.49												
Sectoral Approach (2)	3,212,299.21	521.02	111.68							9,108.31	19,847.91	2,698.01	4,113.24
Energy Industries	1,195,673.95	61.33	31.66							1,871.55	492.63	53.77	2,906.30
Manufacturing Industries and Construction	527,804.69	55.76	20.69							1,398.09	3,239.02	135.49	668.84
3. Transport	848,403.58	78.19	37.23							4,540.31	10,282.74	1,708.98	195.26
4. Other Sectors	632,512.40	325.04	20.77							1,242.74	5,725.94	790.59	336.11
5. Other	7,904.59	0.69	1.34							55.63	107.58	9.17	6.74
B. Fugitive Emissions from Fuels	18,337.59	1,752.12	0.38							25.35	53.35	621.29	187.47
1. Solid Fuels	1,342.57	589.88	0.01							1.16	20.66	6.40	8.53
2. Oil and Natural Gas	16,995.02	1,162.24	0.37							24.19	32.69	614.89	178.94
2. Industrial Processes	218,175.44	30.66	151.37	161,219.76	53,422.96	1,868.30	4,053.18	1,083.15	0.38	149.66	2,554.76	534.12	253.16
A. Mineral Products	115,801.70	0.62	IE,NA,NE,NO							51.75	16.00	98.20	59.99
B. Chemical Industry	31,783.99	21.04	151.04	NA,NO	C,NA,NO	NA,NO	C,NA,NO	C,NA,NO	C,NA,NO	33.56	119.39	147.43	85.74
C. Metal Production	70,170.87	6.92	0.03				1,835.51		0.12	44.99	2,398.99	22.07	84.08
D. Other Production (3)	33.89	0.32	0.28							19.02	15.38	255.65	16.46
E. Production of Halocarbons and SF ₆					4,715.42		475.50		0.00				
F. Consumption of Halocarbons and SF ₆				161,219.76	48,704.06	1,868.30	1,742.17	1,083.15	0.23				
G. Other	384.99	1.76	0.02	NA,NE,NO	NA,NO	NA,NO	NA,NO	NA,NO	0.02	0.34	5.00	10.76	6.88

Note: A = Actual emissions based on Tier 2 approach of the IPCC Guidelines.

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 2005 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A)

GREENHOUSE GAS SOURCE AND		Net CO ₂	CH ₄	N_2O	HFC	Cs (1)	PFC	$Cs^{(1)}$	SI	6	NO_x	CO	NMVOC	SO_2
SINK CATEGORIES	en	nissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)		
3. Solvent and Other Product Use		7,423.33		9.71							NA,NO,NE	NA,NO,NE	3,122.01	NA,NO,NE
4. Agriculture			8,002.27	674.00							114.30	343.41	486.96	2.99
A. Enteric Fermentation			5,761.02											
B. Manure Management			2,146.49	72.24									263.33	
C. Rice Cultivation			108.35										0.09	
D. Agricultural Soils ⁽⁴⁾			-29.96	601.49									178.90	
E. Prescribed Burning of Savannas			NA,NO	NA,NO							NO,NE	NO,NE	NO,NE	
F. Field Burning of Agricultural Residues			16.37	0.26							9.54	343.41	43.69	
G. Other			NA,NO	NA,NE,NO							104.75	NA,NO		0.00
5. Land Use, Land-Use Change and Forestry	(5)	-302,467.83	126.13	11.90							20.65	720.30	1,327.42	0.39
A. Forest Land	(5)	-391,059.70	53.89	0.58							14.19	492.80	58.68	
B. Cropland	(5)	65,588.78	10.00	10.74							2.48	87.47	NA,NE,NO	
C. Grassland	(5)	-2,994.57	10.30	0.07							2.56	90.26	IE,NA,NE,NO	
D. Wetlands	(5)	5,453.55	6.54	0.27							0.07	2.51	NA,NE,NO	
E. Settlements	(5)	18,432.72	5.22	0.03							1.30	45.72	NA,NE,NO	
F. Other Land	(5)	1,480.97	0.18	0.00							0.04	1.53	NA,NE,NO	
G. Other	(5)	630.42	40.00	0.21							NA,NE,NO	NA,NE,NO	1,268.74	0.39
6. Waste		2,656.10	4,511.51	36.22							23.63	600.71	85.18	4.42
A. Solid Waste Disposal on Land	(6)	13.59	3,936.51	0.01							0.08	8.07	29.67	0.05
B. Waste-water Handling			481.05	32.59							NA,NE,NO	NA,NE,NO	3.52	
C. Waste Incineration	(6)	2,642.51	23.71	0.98							23.50	592.59	31.97	4.35
D. Other		NA,NO	70.23	2.65							0.05	0.04	20.02	0.02
7. Other (please specify) (7)		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
Other non-specified		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

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HI	Cs	PF	'Cs	S	F ₆	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
	(Gg)			CO ₂ equiv	alent (Gg)				(G	g)		
Memo Items: (8)													
International Bunkers	278,696.92	6.95	10.88							2,136.92	278.28	103.43	1,368.51
Aviation	123,010.55	1.57	3.88							437.81	143.58	36.61	27.05
Marine	155,686.37	5.38	7.00							1,699.11	134.70	66.82	1,341.45
Multilateral Operations	1.78	0.00	0.00							0.01	0.00	0.00	0.00
CO ₂ Emissions from Biomass	244,969.88												

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked 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 emissions, the results from the Sectoral approach should be used, where possible.

⁽³⁾ Other Production includes Pulp and Paper and Food and Drink Production.

⁽⁴⁾ Parties which previously reported CO₂ from soils in the Agriculture sector should note this in the NIR.

⁽⁵⁾ For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

⁽⁶⁾ CO₂ from source 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.

⁽⁷⁾ If reporting any country-specific source category under sector "7. Other", detailed explanations should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

⁽⁸⁾ Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as CO₂ emissions from biomass, 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 CO₂ 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 CO₂ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

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GREENHOUSE GAS SOURCE AND	Net CO ₂	$\mathrm{CH_4}$	N ₂ O	HFC	Cs ⁽¹⁾	PFC	s ⁽¹⁾	SF ₆		NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)			
Total National Emissions and Removals	3,157,670.87	14,697.49	950.45	170,105.64	54,237.35	1,789.06	3,614.11	1,179.07	0.39	9,141.32	23,083.34	8,703.77	4,353.63
1. Energy	3,221,246.66	2,138.32	112.90							8,834.55	18,949.77	3,039.96	4,090.08
A. Fuel Combustion Reference Approach (2)	3,210,430.36												
Sectoral Approach (2)	3,202,790.75	511.15	112.54							8,807.27	18,889.46	2,443.23	3,908.62
Energy Industries	1,195,430.97	58.15	31.91							1,813.02	494.38	54.31	2,710.84
Manufacturing Industries and Construction	529,660.58	55.03	21.14							1,372.71	3,340.90	136.69	650.90
3. Transport	849,915.01	73.57	37.55							4,371.22	9,269.30	1,483.56	210.46
4. Other Sectors	620,362.57	323.78	20.57							1,201.18	5,690.93	760.88	329.61
5. Other	7,421.61	0.61	1.36							49.14	93.95	7.79	6.81
B. Fugitive Emissions from Fuels	18,455.91	1,627.17	0.36							27.28	60.31	596.73	181.47
Solid Fuels	1,393.04	530.03	0.01							1.20	24.48	6.34	8.58
2. Oil and Natural Gas	17,062.87	1,097.14	0.35							26.08	35.83	590.39	172.88
2. Industrial Processes	220,749.70	30.52	116.94	170,105.64	54,237.35	1,789.06	3,614.11	1,179.07	0.39	148.00	2,405.75	536.77	255.28
A. Mineral Products	117,464.55	0.92	IE,NA,NE,NO							52.82	16.41	106.73	61.18
B. Chemical Industry	30,997.19	20.05	116.61	NA,NO	C,NA,NO	NA,NO	C,NA,NO	C,NA,NO	C,NA,NO	28.12	128.58	134.61	88.61
C. Metal Production	71,898.14	7.45	0.03				1,568.43		0.14	46.56	2,240.69	21.73	82.51
D. Other Production (3)	20.13	0.32	0.28							20.15	15.65	263.24	15.98
E. Production of Halocarbons and SF ₆					2,577.47		345.13		0.01				
F. Consumption of Halocarbons and SF ₆				170,105.64	51,656.59	1,789.06	1,700.56	1,179.07	0.23				
G. Other	369.70	1.79	0.02	NA,NE,NO	NA,NO	NA,NE,NO	NA,NO	NA,NO	0.02	0.35	4.41	10.45	7.00

Note: A = Actual emissions based on Tier 2 approach of the IPCC Guidelines.

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 2006 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A) (Sheet 2 of 3)

GREENHOUSE GAS SOURCE AND		Net CO ₂	CH ₄	N ₂ O	HFO	Cs (1)	PFC	Cs ⁽¹⁾	SI	6	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	en	nissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				((Gg)		
3. Solvent and Other Product Use		7,333.70		9.89							NA,NO,NE	NA,NO,NE	3,100.32	NA,NO,NE
4. Agriculture			7,979.65	662.10							115.60	420.33	501.62	3.84
A. Enteric Fermentation			5,716.49											
B. Manure Management			2,163.58	71.13									258.89	
C. Rice Cultivation			109.29										0.10	
D. Agricultural Soils ⁽⁴⁾			-29.75	590.67									186.72	
E. Prescribed Burning of Savannas			NA,NO	NA,NO							NO,NE		NO,NE	
F. Field Burning of Agricultural Residues			20.04	0.31							11.19		54.90	
G. Other			NA,NO	, ,							104.41	NA,NO	1.02	0.00
5. Land Use, Land-Use Change and Forestry	(5)	-294,337.65	129.37	12.29							21.03	738.23	1,440.28	0.22
A. Forest Land	(5)	-395,583.28	58.44	0.61							14.65	513.30	59.39	
B. Cropland	(5)	66,429.01	9.88	11.10							2.45	86.44	NA,NE,NO	
C. Grassland	(5)	1,480.34	10.09	0.07							2.50	88.20	IE,NA,NE,NO	
D. Wetlands	(5)	4,672.66	6.52	0.26							0.07	2.61	NA,NE,NO	
E. Settlements	(5)	27,062.66	5.28	0.04							1.31	46.16	NA,NE,NO	
F. Other Land	(5)	1,378.61	0.17	0.00							0.04	1.52	NA,NE,NO	
G. Other	(5)	222.35	39.00	0.20							NA,NE,NO	NA,NE,NO	1,380.89	0.22
6. Waste		2,678.46	4,419.64	36.33							22.14	569.27	84.82	4.20
A. Solid Waste Disposal on Land	(6)	13.29	3,840.05	0.00							0.07	7.60	28.76	0.05
B. Waste-water Handling			484.99	32.79							NA,NE,NO	NA,NE,NO	3.54	
C. Waste Incineration	(6)	2,665.17	22.47	0.96							22.02	561.62	30.83	4.13
D. Other		NA,NO	72.13	2.57							0.04	0.04	21.69	0.02
7. Other (please specify) (7)		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
Other non-specified		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

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HI	Cs	PF	'Cs	S	F ₆	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
	(Gg)			CO ₂ equiv	alent (Gg)				(G	g)		
Memo Items: (8)													
International Bunkers	293,890.22	7.29	11.65							2,287.68	296.82	110.02	1,426.51
Aviation	128,201.05	1.60	4.04							456.89	150.34	38.30	30.01
Marine	165,689.17	5.69	7.61							1,830.80	146.48	71.72	1,396.50
Multilateral Operations	2.73	0.00	0.00							0.02	0.00	0.00	0.00
CO ₂ Emissions from Biomass	260,415.03												

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked 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 emissions, the results from the Sectoral approach should be used, where possible.

⁽³⁾ Other Production includes Pulp and Paper and Food and Drink Production.

⁽⁴⁾ Parties which previously reported CO₂ from soils in the Agriculture sector should note this in the NIR.

⁽⁵⁾ For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

⁽⁶⁾ CO₂ from source 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.

⁽⁷⁾ If reporting any country-specific source category under sector "7. Other", detailed explanations should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

⁽⁸⁾ Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as CO₂ emissions from biomass, 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 CO₂ 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 CO₂ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.

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GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HFC	Cs ⁽¹⁾	PFC	s ⁽¹⁾	SF ₆		NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				(Gg)			
Total National Emissions and Removals	3,125,915.64	14,521.00	943.54	178,931.66	56,635.24	1,725.10	3,349.11	1,214.56	0.39	8,812.29	22,082.63	8,205.16	4,163.46
1. Energy	3,155,622.00	2,036.45	111.77							8,511.49	18,156.76	2,868.34	3,898.02
A. Fuel Combustion Reference Approach (2)	3,166,984.77												
Sectoral Approach (2)	3,137,251.89	514.49	111.43							8,487.79	18,095.64	2,289.91	3,723.16
Energy Industries	1,207,863.92	56.45	31.85							1,760.21	505.72	53.43	2,571.16
Manufacturing Industries and Construction	517,244.44	56.72	21.02							1,354.22	3,346.86	135.36	650.08
3. Transport	850,892.12	68.88	37.56							4,206.17	8,451.24	1,361.63	209.46
4. Other Sectors	553,577.21	331.89	19.70							1,118.38	5,704.99	732.18	285.96
5. Other	7,674.21	0.54	1.31							48.80	86.83	7.31	6.50
B. Fugitive Emissions from Fuels	18,370.11	1,521.96	0.34							23.69	61.12	578.43	174.86
Solid Fuels	1,397.00	435.99	0.01							1.08	24.47	6.12	10.52
2. Oil and Natural Gas	16,973.11	1,085.97	0.33							22.62	36.65	572.32	164.34
2. Industrial Processes	225,787.47	31.63	118.34	178,931.66	56,635.24	1,725.10	3,349.11	1,214.56	0.39	150.19	2,325.02	523.10	256.52
A. Mineral Products	119,297.86	0.97	IE,NA,NE,NO							54.56	15.29	100.27	60.51
B. Chemical Industry	32,307.41	20.85	118.01	NA,NO	C,NA,NO	NA,NO	C,NA,NO	C,NA,NO	C,NA,NO	28.89	128.37	128.06	90.16
C. Metal Production	73,837.02	7.73	0.03				1,429.86		0.13	46.05	2,161.39	20.56	84.63
D. Other Production (3)	29.46	0.32	0.28							20.37	15.63	263.76	14.67
E. Production of Halocarbons and SF ₆					1,831.99		322.40		C,NA,NO				
F. Consumption of Halocarbons and SF ₆				178,931.66	54,792.90	1,725.10	1,596.85	1,214.56	0.25				
G. Other	315.72	1.76	0.02	NA,NE,NO	NA,NO	NA,NE,NO	NA,NO	NA,NO	0.01	0.32	4.34	10.45	6.54

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

EU-15, 2007 Summary 1.A Summary report for National Greenhouse Gas Inventories (IPCC Table 7A) (Sheet 2 of 3)

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HFC	Cs (1)	PFC	$Cs^{(1)}$	SI	6	NO _x	CO	NMVOC	SO ₂
SINK CATEGORIES	emissions/removals			P	A	P	A	P	A				
		(Gg)			CO ₂ equiv	alent (Gg)				((Gg)		
3. Solvent and Other Product Use	7,281.6	1	10.28							NA,NO,NE	NA,NO,NE	3,078.07	NA,NO,NE
4. Agriculture		8,011.73	655.60							111.79	420.51	480.06	3.84
A. Enteric Fermentation		5,738.05											
B. Manure Management		2,170.11	71.80									263.30	
C. Rice Cultivation		113.26										0.11	
D. Agricultural Soils ⁽⁴⁾		-29.74	583.49									160.72	
E. Prescribed Burning of Savannas		NA,NO	NA,NO							NO,NE	NO,NE	NO,NE	
F. Field Burning of Agricultural Residues		20.04	0.31							11.20	420.51	55.00	3.84
G. Other		NA,NO	NA,NE,NO							100.59	NA,NO	0.93	0.00
5. Land Use, Land-Use Change and Forestry	(5) -265,232.5	3 115.89	10.91							18.04	632.45	1,170.57	1.02
A. Forest Land	⁽⁵⁾ -355,121.9	8 46.19	0.56							11.68	408.57	60.45	
B. Cropland	(5) 62,838.7	9.69	9.79							2.41	84.83	NA,NE,NO	
C. Grassland	(5) -4,999.6	8 10.12	0.07							2.51	88.52	IE,NA,NE,NO	
D. Wetlands	(5) 4,776.6	9 6.41	0.26							0.07	2.62	NA,NE,NO	
E. Settlements	(5) 27,286.1	5.31	0.04							1.32	46.43	NA,NE,NO	
F. Other Land	(5) 1,368.7	6 0.17	0.00							0.04	1.49	NA,NE,NO	
G. Other	(5) -1,381.1	4 38.00	0.20							NA,NE,NO	NA,NE,NO	1,110.12	1.02
6. Waste	2,457.0	5 4,325.31	36.64							20.79	547.87	85.01	4.05
A. Solid Waste Disposal on Land	(6) 12.5	3,744.15	0.00							0.07	7.10	28.28	0.05
B. Waste-water Handling		485.56	33.02							NA,NE,NO	NA,NE,NO	4.37	
C. Waste Incineration	(6) 2,444.5	2 21.59	0.94							20.69	540.73	29.96	3.98
D. Other	NA,NO	74.01	2.67							0.03	0.04	22.40	0.02
7. Other (please specify) (7)	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
Other non-specified	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

GREENHOUSE GAS SOURCE AND	Net CO ₂	CH ₄	N ₂ O	HI	FCs	PF	'Cs	S	F ₆	NO _x	CO	NMVOC	SO_2
SINK CATEGORIES	emissions/removals			P	Α	P	A	P	A				
	(Gg)			CO ₂ equiv	valent (Gg)				(6	ig)		
Memo Items: (8)													
International Bunkers	298,759.91	7.33	12.40							2,374.68	306.59	111.94	1,439.74
Aviation	131,574.31	1.57	4.19							468.78	152.79	37.65	29.95
Marine	167,185.60	5.76	8.21							1,905.90	153.80	74.29	1,409.79
Multilateral Operations	1.96	0.00	0.00							0.01	0.00	0.00	0.00
CO ₂ Emissions from Biomass	272,338.63												

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked 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 emissions, the results from the Sectoral approach should be used, where possible.

⁽³⁾ Other Production includes Pulp and Paper and Food and Drink Production.

⁽⁴⁾ Parties which previously reported CO₂ from soils in the Agriculture sector should note this in the NIR.

⁽⁵⁾ For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).

⁽⁶⁾ CO₂ from source 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.

⁽⁷⁾ If reporting any country-specific source category under sector "7. Other", detailed explanations should be provided in Chapter 9: Other (CRF sector 7) of the NIR.

⁽⁸⁾ Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as CO₂ emissions from biomass, 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 CO₂ 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 CO₂ emissions are accounted for as a loss of biomass stocks in the Land Use, Land-use Change and Forestry sector.