

Annex XXV - Table 1a: Greenhouse gas projections by gases and categories ⁽¹⁾

Version 12 June 2023

Instructions (click the '+' in the left):

Category (2)	Scenario (WEM, WNM, WNW)	2022																																		
		CO2 (kt)					CH4 (kt)					N2O (kt)					SF6 (kt)																			
		2020	2018	2019	2020	2025	2030	2035	2040	2045	2050	2020	2025	2030	2035	2040	2045	2050	2020	2025	2030	2035	2040	2045	2050	2020	2025	2030	2035							
Total excluding LULUCF	WEM	138268,84				133189,82	96917,77	89999,83	83473,02	69935,19	66823,92	678,70							629,63	599,42	581,40	570,25	560,19	559,97	26,02	22,50	22,17	21,50	21,27	24,08	24,08	0,01		0,01	0,00	0,00
Total including LULUCF	WEM	142423,24				137042,60	100490,35	93002,76	86312,57	72652,19	69404,78	678,72							629,63	599,42	581,40	570,25	560,19	559,97	26,33	22,80	22,49	21,80	21,57	24,39	24,39	0,01		0,01	0,00	0,00
1. Energy	WEM	132037,21				125923,21	98577,62	91370,01	85534,40	62956,00	59826,06	85,70							78,99	72,28	69,63	70,23	71,22	80,36	1,96	1,82	1,77	1,30	1,27	4,43	4,70					
1.A. Fuel combustion	WEM	131105,75				122336,29	94168,82	87276,40	81768,43	NK	NK	66,77							64,02	58,53	57,07	58,25	NK	NK	1,96	1,78	1,73	1,27	1,23	NK	NK					
1.A.1. Energy industries	WEM	47438,14				41280,73	21597,82	18210,53	18662,86	NK	NK	5,49							9,52	9,52	5,80	5,80	NK	NK	0,86	0,45	0,45	0,03	0,03	NK	NK					
1.A.1.a. Public electricity and heat production	WEM	35415,07				29795,72	11711,25	9328,60	10672,83	NK	NK	4,47							8,62	8,62	4,90	4,90	NK	NK	0,78	0,42	0,42	0,00	0,00	NK	NK					
1.A.1.b. Petroleum refining	WEM	9373,22				8082,65	7227,46	6743,61	6376,38	NK	NK	0,62							0,90	0,90	0,90	0,90	NK	NK	0,03	0,03	0,03	0,03	0,03	NK	NK					
1.A.1.c. Manufacture of solid fuels and other energy industries	WEM	2649,85				3402,37	2659,10	2138,32	1613,65	NK	NK	0,40							0,00	0,00	0,00	0,00	NK	NK	0,04	0,00	0,00	0,00	0,00	0,00	NK	NK				
1.A.2. Manufacturing industries and construction	WEM	27158,39				26827,56	23484,57	23439,29	22657,60	NK	NK	2,63							0,13	0,12	0,11	0,13	NK	NK	0,14	0,02	0,02	0,02	0,02	0,02	NK	NK				
1.A.3. Transport	WEM	26540,23				27402,81	24848,66	23330,12	20477,27	NK	NK	2,39							2,60	2,44	2,18	1,84	NK	NK	0,77	0,86	0,81	0,77	0,74	NK	NK					
1.A.3.a. Domestic aviation	WEM	23,96				32,64	31,48	31,15	30,89	NK	NK	0,00							0,00	0,00	0,00	0,00	NK	NK	0,00	0,00	0,00	0,00	0,00	NK	NK					
1.A.3.b. Road transportation	WEM	25175,30				26378,50	23797,51	22281,59	19432,03	NK	NK	2,28							2,47	2,30	2,04	1,70	NK	NK	0,75	0,83	0,78	0,74	0,71	NK	NK					
1.A.3.c. Railways	WEM	60,60				53,22	58,74	62,47	63,98	NK	NK	0,00							0,00	0,00	0,00	0,00	NK	NK	0,00	0,00	0,00	0,00	0,00	NK	NK					
1.A.3.d. Domestic navigation	WEM	601,37				598,65	960,93	954,89	950,37	NK	NK	0,11							0,13	0,13	0,13	0,13	NK	NK	0,02	0,03	0,03	0,03	0,03	0,03	NK	NK				
1.A.3.e. Other transportation	WEM	89,00				IE	IE	IE	IE	NK	NK	0,11							IE	IE	IE	IE	NK	NK	0,00	IE	IE	IE	IE	NK	NK					
1.A.4. Other sectors	WEM	30308,31				26668,61	24081,19	22139,88	19814,09	NK	NK	58,26							51,75	46,44	48,96	50,49	NK	NK	0,17	0,44	0,44	0,44	0,44	NK	NK					
1.A.4.a. Commercial/institutional	WEM	6375,20				5376,10	4607,92	4158,83	3526,99	NK	NK	1,79							3,37	3,36	3,36	3,36	NK	NK	0,02	0,05	0,05	0,05	0,05	NK	NK					
1.A.4.b. Residential	WEM	15033,52				14347,55	13279,51	12200,86	10602,71	NK	NK	13,11							12,83	12,24	11,66	11,16	NK	NK	0,09	0,36	0,36	0,36	0,36	NK	NK					
1.A.4.c. Agriculture/Forestry/Fishing	WEM	8899,58				7144,96	6193,75	5780,19	5690,39	NK	NK	43,36							35,56	30,83	33,94	35,96	NK	NK	0,04	0,02	0,02	0,02	0,02	NK	NK					
1.A.5. Other	WEM	160,71				156,59	156,59	156,59	156,59	NK	NK	0,01							0,01	0,01	0,01	0,01	NK	NK	0,01	0,01	0,01	0,01	0,01	NK	NK					
1.B. Fugitive emissions from fuels	WEM	931,46				3586,52	4408,80	4093,61	3765,97	NK	NK	16,93							14,97	13,74	12,56	11,98	NK	NK	0,00	0,04	0,04	0,04	0,04	NK	NK					
1.B.1. Solid fuels	WEM	71,89				61,44	188,32	149,31	139,31	NK	NK	0,19							NE	NE	NE	NE	NK	NK	NO	NO	NO	NO	NO	NK	NK					
1.B.2. Oil and natural gas and other emissions from energy production	WEM	859,57				3525,48	4220,48	3944,30	3626,67	NK	NK	16,75							14,97	13,74	12,56	11,98	NK	NK	0,00	0,04	0,04	0,04	0,04	NK	NK					
1.C. CO2 transport and storage	WEM	NO				NO	NO	NO	NO	NK	NK								NO	NO	NO	NO	NK	NK	NO	NO	NO	NO	NO	NK	NK					
2. Industrial processes	WEM	5734,10				6828,42	6634,96	6972,24	6453,79	NK	NK	6437,59							15,05	15,05	15,05	15,05	15,05	15,05	4,41	1,80	1,94	1,88	1,93	1,86	1,86	0,01		0,01	0,00	0,00
2.A. Mineral industry	WEM	1069,62				1379,01	1156,12	1167,18	1180,69	NK	NK																									
2.A.1. Cement production	WEM	NO				NO	NO	NO	NO	NK	NK																									
2.B. Chemical industry	WEM	4180,05				5177,25	5201,53	5326,53	4793,11	NK	NK	13,12							13,22	13,22	13,22	13,22	NK	NK	4,11	1,69	1,73	1,77	1,83	NK	NK	NO	NO	NO	NO	NO
2.C. Metal industry	WEM	131,73				134,82	134,82	134,82	134,82	NK	NK																									
2.C.1. Iron and steel production	WEM	17,13				NE	NE	NE	NE	NK	NK	NO																								
2.D. Non-energy products from fuels and solvent use	WEM	334,68				324,47	329,14	330,13	331,09	NK	NK	0,01							NE	NE	NE	NE	NK	NK	NO	NO	NO	NO	NO	NK	NK	NO	NO	NO	NO	
2.E. Electronics industry	WEM																																			
2.F. Product uses as substitutes for ODS (8)	WEM																																			
2.G. Other product manufacture and use	WEM	0,90				0,90	0,90	0,90	0,90	NK	NK	1,85							1,83	1,83	1,83	1,83	NK	NK	0,30	0,11	0,11	0,11	0,11	NK	NK	0,01		0,01	0,00	0,00
2.H. Other	WEM	17,12				11,58	12,44	12,78	13,18	NK	NK	NO																								
3. Agriculture	WEM	78,21				76,96	75,61	74,26	72,91	71,60	70,27	475,41							459,95	454,38	452,71	450,78	445,91	443,56	19,10	17,90	17,58	17,34	17,09	16,81	16,54					
3.A. Enteric fermentation	WEM																																			
3.B. Manure management	WEM																																			
3.C. Rice cultivation	WEM																																			
3.D. Agricultural soils	WEM																																			
3.E. Prescribed burning of savannahs	WEM																																			
3.F. Field burning of agricultural residues	WEM																																			
3.G. Liming	WEM	31,03				30,54</																														

Annex XXV - Table 1a: Greenhouse gas projections by gases and categories ⁽¹⁾

Version 12 June 2023

Instructions (click the '+' in the left):

Inventory used for base year (6) (year of submission YYYY)		2022																															
Category (2)	Scenario (WEM, WAM, WOM)	CO2 (t)	CO2 (kt)	CO2 (Mt)	CO2 (Mt)	CO2 (kt)	CO2 (kt)	CO2 (kt)	CO2 (kt)	CO2 (kt)	CH4 (t)	CH4 (kt)	CH4 (kt)	CH4 (kt)	CH4 (kt)	CH4 (kt)	CH4 (kt)	CH4 (kt)	CH4 (kt)	N2O (t)	N2O (kt)	N2O (kt)	N2O (kt)	N2O (kt)	N2O (kt)	N2O (kt)	N2O (kt)	N2O (kt)	SF6 (t)	SF6 (kt)	SF6 (kt)	SF6 (kt)	SF6 (kt)
		2020	2018	2019	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	
S.D. Wastewater treatment and discharge	WAM											9,45		8,18	8,18	8,18	8,18			0,26		0,26	0,26	0,26	0,26								
S.E. Other (please specify)	WAM	NO				NO	NO	NO	NO			NO		NO	NO	NO	NO			NO		NO	NO	NO	NO								
Memo items	WAM																																
International bunkers	WAM	43910,36				47495,55	46390,41	44858,45	43808,01			6,44		11,95	22,29	33,02	33,19			1,18		1,28	1,29	1,33	1,35								
II.A. Aviation	WAM	6631,41				10265,10	10819,12	9656,15	8671,29			0,05		0,07	0,08	0,09				0,19		0,29	0,32	0,34	0,36								
II.B. Navigation	WAM	37278,95				37230,46	35571,29	35202,31	35136,72			6,39		11,88	22,21	32,94	33,10			0,99		0,99	0,97	0,99	0,99								
CO2 emissions from biomass	WAM	19265,00				22675,42	15724,62	14582,27	25078,74																								
CO2 captured	WAM	0,00				94,18	8791,54	8809,05	8903,28																								
Indirect CO2 (if available) (10)	WAM	419,32				427,62	444,33	452,77	462,00																								

Notes

Notation: t signifies the first future year ending with 0 or 5 immediately following the reporting year

(1) Consistency with the data reported under Article 8 of this Regulation is encouraged.

(2) Use of notation keys: as regards the terms of use defined in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (chapter 8: reporting guidance and Tables), the notation keys of IE (included elsewhere), NO (not occurring), C (confidential) and NA (not applicable) may be used, as appropriate when projections do not yield data on a specific reporting level (see 2006 IPCC Guidelines). The use of the notation key NE (Not Estimated) shall be restricted to the situation where a disproportionate amount of effort would be required to collect data for a category or a gas from a specific category that would be insignificant in terms of the overall level and trend in national emissions. In these circumstances a Member State shall list all categories and gases from categories excluded on these grounds, together with a justification in the report for exclusion in terms of the likely level of emissions or removals and identify the category as 'not estimated' using the notation key 'NE' in the reporting Tables.

(3) Unspecified mix of HFCs and PFCs is to be reported only if emissions are projected, for which it is not possible to report them under HFCs or under PFCs.

(4) Emissions in the scope of Directive 2003/87/EC

(5) Emissions in the scope of Regulation (EU) 2018/842.

(6) It shall be reported to which inventory submission the base year was calibrated.

(7) Values for t-5 shall only be provided when t-5 is after the projection base year.

(8) ODS – ozone depleting substances.

(9) For the purposes of reporting, the signs for removal shall always be negative (-) and the signs for emissions shall be positive (+). If the information requested in Table 1b is provided in full, this section does not need to be reported.

(10) Projected indirect CO2 emissions reported in this Table are part of the projected **Total** greenhouse gas emissions (excluding and including LULUCF) and shall be reported as such if available and projected separately from the other reported emissions.

Annex XXV - Table 1a: Greenhouse gas projections by gases and categories ⁽¹⁾

Version 12 June 2023

Instructions (click the '+' in the left):

Inventory used for base year (6) (year of submission YYYY)	2022																																						
	Scenario (WEM, WAM, WOV)	SFG (H)	SFG (H)	SFG (H)	NF3 (H)	NF3 (H)	NF3 (H)	NF3 (H)	NF3 (H)	NF3 (H)	NF3 (H)	NF3 (H)	NF3 (H)	NF3 (H)	NF3 (H)	HFC (H) CO2e	HFC (H) CO2e	HFC (H) CO2e	HFC (H) CO2e	HFC (H) CO2e	HFC (H) CO2e	HFC (H) CO2e	HFC (H) CO2e	PFCS (H) CO2e	PFCS (H) CO2e	PFCS (H) CO2e	PFCS (H) CO2e	PFCS (H) CO2e	PFCS (H) CO2e	PFCS (H) CO2e	PFCS (H) CO2e	Unspecified mix of PFCS and PFCs (H) CO2e (E)	Unspecified mix of PFCS and PFCs (H) CO2e (E)	Unspecified mix of PFCS and PFCs (H) CO2e (E)	Unspecified mix of PFCS and PFCs (H) CO2e (E)	Unspecified mix of PFCS and PFCs (H) CO2e (E)	Unspecified mix of PFCS and PFCs (H) CO2e (E)		
		2040	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040					
Total excluding LULUCF	WEM	0,00	0,00	0,00	NK	NK	NK	NK	NK	NK	NK	1118,49	1034,81	845,84	701,93	651,93	521,86	444,94	72,80	94,10	96,32	98,15	100,13	102,13	104,18														
Total including LULUCF	WEM	0,00	0,00	0,00	NK	NK	NK	NK	NK	NK	NK	1118,49	1034,81	845,84	701,93	651,93	521,86	444,94	72,80	94,10	96,32	98,15	100,13	102,13	104,18														
1. Energy	WEM																																						
1.A. Fuel combustion	WEM																																						
1.A.1. Energy industries	WEM																																						
1.A.1.a. Public electricity and heat production	WEM																																						
1.A.1.b. Petroleum refining	WEM																																						
1.A.1.c. Manufacture of solid fuels and other energy industries	WEM																																						
1.A.2. Manufacturing industries and construction	WEM																																						
1.A.3. Transport	WEM																																						
1.A.3.a. Domestic aviation	WEM																																						
1.A.3.b. Road transportation	WEM																																						
1.A.3.c. Railways	WEM																																						
1.A.3.d. Domestic navigation	WEM																																						
1.A.3.e. Other transportation	WEM																																						
1.A.4. Other sectors	WEM																																						
1.A.4.a. Commercial/institutional	WEM																																						
1.A.4.b. Residential	WEM																																						
1.A.4.c. Agriculture/Forestry/Fishing	WEM																																						
1.A.5. Other	WEM																																						
1.B. Fugitive emissions from fuels	WEM																																						
1.B.1. Solid fuels	WEM																																						
1.B.2. Oil and natural gas and other emissions from energy production	WEM																																						
1.C. CO2 transport and storage	WEM																																						
2. Industrial processes	WEM	0,00	0,00	0,00	NK	NK	NK	NK	NK	NK	NK	1118,49	1034,81	845,84	701,93	651,93	521,86	444,94	72,80	94,10	96,32	98,15	100,13	102,13	104,18														
2.A. Mineral industry	WEM																																						
2.A.1. Cement production	WEM																																						
2.B. Chemical industry	WEM	NO	NK	NK	NK	NK	NK	NK	NK	NK	NK	101,31	236,20	236,20	236,20	236,20	NK	NK	10,41	45,07	45,07	45,07	45,07	NK	NK														
2.C. Metal industry	WEM	NO	NK	NK	NO	NO	NO	NO	NO	NK	NK		NO	NO	NO	NO	NK	NK	23,62	15,41	16,28	17,07	17,96	NK	NK														
2.C.1. Iron and steel production	WEM	NO	NK	NK	NO	NO	NO	NO	NO	NK	NK		NO	NO	NO	NO	NK	NK																					
2.D. Non-energy products from fuels and solvent use	WEM																																						
2.E. Electronics industry	WEM	NO	NK	NK	NK	NK	NK	NK	NK	NK	NK		NO	NO	NO	NO	NK	NK	38,77	33,62	34,97	36,01	37,08	NK	NK														
2.F. Product uses as substitutes for ODS (B)	WEM	NO	NK	NK	NO	NO	NO	NO	NO	NK	NK	1017,14	798,52	609,54	465,64	415,64	NK	NK		NO	NO	NO	NO	NO	NK	NK													
2.G. Other product manufacture and use	WEM	0,00	NK	NK									NO	NO	NO	NO	NK	NK		NO	NO	NO	NO	NO	NK	NK													
2.H. Other	WEM	NO	NK	NK																																			
3. Agriculture	WEM																																						
3.A. Enteric fermentation	WEM																																						
3.B. Manure management	WEM																																						
3.C. Rice cultivation	WEM																																						
3.D. Agricultural soils	WEM																																						
3.E. Prescribed burning of savannahs	WEM																																						
3.F. Field burning of agricultural residues	WEM																																						
3.G. Liming	WEM																																						
3.H. Urea application	WEM																																						
3.I. Other carbon-containing fertilizers	WEM																																						
3.J. Other (please specify)	WEM																																						
4. Land Use, Land-Use Change and Forestry (LULUCF, reported emissions and removals) (B)	WEM																																						
4.A. Forest land	WEM																																						
4.B. Cropland	WEM																																						
4.C. Grassland	WEM		</																																				

Annex XXV - Table 1a: Greenhouse gas projections by gases and categories ⁽¹⁾

Version 12 June 2023

Instructions (click the '+' in the left):

Inventory used for base year (6) (year of submission YYYY)	Scenario (WEM, WAM, WOF)	2022																											
		SF6 (t)					NF3 (t)					HFC (t CO2e)					PFC (t CO2e)					Unspecified mix of HFCs and PFCs (t CO2e) (3)							
		2040	2045	2050	2020	2025	2030	2035	2040	2045	2050	2020	2025	2030	2035	2040	2045	2050	2020	2025	2030	2035	2040	2045	2050	2020	2025	2030	2035
IB.Navigation	WEM																												
CO2 emissions from biomass	WEM																												
CO2 captured	WEM																												
Indirect CO2 (if available) (10)	WEM																												
Total excluding LULUCF	WAM	0,00			NK	NK	NK	NK	NK		1118,49		1034,81	845,84	701,93	651,93		72,80		94,10	96,32	98,15	100,13						
Total including LULUCF	WAM	0,00			NK	NK	NK	NK	NK		1118,49		1034,81	845,84	701,93	651,93		72,80		94,10	96,32	98,15	100,13						
1. Energy	WAM																												
1.A. Fuel combustion	WAM																												
1.A.1. Energy industries	WAM																												
1.A.1.a. Public electricity and heat production	WAM																												
1.A.1.b. Petroleum refining	WAM																												
1.A.1.c. Manufacture of solid fuels and other energy industries	WAM																												
1.A.2. Manufacturing industries and construction	WAM																												
1.A.3. Transport	WAM																												
1.A.3.a. Domestic aviation	WAM																												
1.A.3.b. Road transportation	WAM																												
1.A.3.c. Railways	WAM																												
1.A.3.d. Domestic navigation	WAM																												
1.A.3.e. Other transportation	WAM																												
1.A.4. Other sectors	WAM																												
1.A.4.a. Commercial/institutional	WAM																												
1.A.4.b. Residential	WAM																												
1.A.4.c. Agriculture/Forestry/Fishing	WAM																												
1.A.5. Other	WAM																												
1.B. Fugitive emissions from fuels	WAM																												
1.B.1. Solid fuels	WAM																												
1.B.2. Oil and natural gas and other emissions from energy production	WAM																												
1.C. CO2 transport and storage	WAM																												
2. Industrial processes	WAM	0,00			NK	NK	NK	NK	NK		1118,49		1034,81	845,84	701,93	651,93		72,80		94,10	96,32	98,15	100,13						
2.A. Mineral industry	WAM																												
2.A.1. Cement production	WAM																												
2.B. Chemical industry	WAM	NO			NK	NK	NK	NK	NK		101,35		236,20	236,29	236,29	236,29		10,41		45,07	45,07	45,07	45,07						
2.C. Metal industry	WAM	NO			NO	NO	NO	NO	NO				NO	NO	NO	NO		23,62		15,41	16,28	17,07	17,98						
2.C.1. Iron and steel production	WAM				NO	NO	NO	NO	NO				NO	NO	NO	NO													
2.D. Non-energy products from fuels and solvent use	WAM																												
2.E. Electronics industry	WAM	NO			NK	NK	NK	NK	NK				NO	NO	NO	NO		38,77		33,62	34,97	36,01	37,08						
2.F. Product uses as substitutes for ODS (8)	WAM	NO			NO	NO	NO	NO	NO		1017,14		798,52	609,54	465,64	415,64				NO	NO	NO	NO						
2.G. Other product manufacture and use	WAM	0,00											NO	NO	NO	NO				NO	NO	NO	NO						
2.H. Other	WAM	NO																											
3. Agriculture	WAM																												
3.A. Enteric fermentation	WAM																												
3.B. Manure management	WAM																												
3.C. Rice cultivation	WAM																												
3.D. Agricultural soils	WAM																												
3.E. Prescribed burning of savannahs	WAM																												
3.F. Field burning of agricultural residues	WAM																												
3.G. Liming	WAM																												
3.H. Urea application	WAM																												
3.I. Other carbon-containing fertilizers	WAM																												
3.J. Other (please specify)	WAM																												
4. Land Use, Land-Use Change and Forestry (LULUCF, reported emissions and removals) (9)	WAM																												
4.A. Forest land	WAM																												
4.B. Cropland	WAM																												
4.C. Grassland	WAM																												
4.D. Wetlands	WAM																												
4.E. Settlements	WAM																												
4.F. Other Land	WAM																												
4.G. Harvested wood products	WAM																												
4.H. Other	WAM																												
5. Waste	WAM																												
5.A. Solid Waste Disposal	WAM																												
5.B. Biological treatment of solid waste	WAM																												
5.C. Incineration and open burning of waste	WAM																												

Annex XXV - Table 1a: Greenhouse gas projections by gases and categories ⁽¹⁾

Version 12 June 2023

Instructions (click the '+' in the left):

Inventory used for base year (6) (year of submission YYYY)		2022																																						
Category (2)	Scenario (NEM, WAM, WONG)	SF6 (t)	SF6 (t)	SF6 (t)	NF3 (t)	NF3 (t)	NF3 (t)	NF3 (t)	NF3 (t)	NF3 (t)	NF3 (t)	NF3 (t)	NF3 (t)	NF3 (t)	HFC (t) CO2e	HFC (t) CO2e	HFC (t) CO2e	HFC (t) CO2e	HFC (t) CO2e	HFC (t) CO2e	HFC (t) CO2e	HFC (t) CO2e	HFC (t) CO2e	PF6 (t) CO2e	PF6 (t) CO2e	PF6 (t) CO2e	PF6 (t) CO2e	PF6 (t) CO2e	PF6 (t) CO2e	PF6 (t) CO2e	Unspecified mix of HFCs and PF6 (t) CO2e (3)	Unspecified mix of HFCs and PF6 (t) CO2e (3)	Unspecified mix of HFCs and PF6 (t) CO2e (3)	Unspecified mix of HFCs and PF6 (t) CO2e (3)	Unspecified mix of HFCs and PF6 (t) CO2e (3)	Unspecified mix of HFCs and PF6 (t) CO2e (3)				
		2040	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040						
S.D. Wastewater treatment and discharge	WAM																																							
S.E. Other (please specify)	WAM																																							
Memo items	WAM																																							
International bunkers	WAM																																							
IB.Aviation	WAM																																							
IB.Navigation	WAM																																							
CO2 emissions from biomass	WAM																																							
CO2 captured	WAM																																							
Indirect CO2 (if available) (10)	WAM																																							

- Notes**
- Notation: t signifies the first future year ending with 0 or 5 immediately following the ref
- (1) Consistency with the data reported under Article 8 of this Regulation is encouraged.
 - (2) Use of notation keys: as regards the terms of use defined in the 2006 IPCC Guidelines notation keys of IE (included elsewhere), NO (not occurring), C (confidential) and NA (not reporting level) (see 2006 IPCC Guidelines). The use of the notation key NE (Not Estimated) required to collect data for a category or a gas from a specific category that would be ins a Member State shall list all categories and gases from categories excluded on these gro emissions or removals and identify the category as 'not estimated' using the notation key
 - (3) Unspecified mix of HFCs and PF6s is to be reported only if emissions are projected, for
 - (4) Emissions in the scope of Directive 2003/87/EC
 - (5) Emissions in the scope of Regulation (EU) 2018/842.
 - (6) It shall be reported to which inventory submission the base year was calibrated.
 - (7) Values for t-5 shall only be provided when t-5 is after the projection base year.
 - (8) ODS – ozone depleting substances.
 - (9) For the purposes of reporting, the signs for removal shall always be negative (-) and t1
 - (10) Projected indirect CO2 emissions reported in this Table are part of the projected **Tot**

Annex XXV - Table 1a: Greenhouse gas projections by gases and categories ⁽¹⁾

Version 12 June 2023

Instructions (click the '+' in the left):

Inventory used for base year (6) (year of submission YYYY)	2022																																
	Scenario (WEM, WMA, WONG)																																
Category (2)	Unspecified mix of HFCs and PFCs (R-CO2H) (3)		Total GHG emissions (R-CO2H)		Total GHG emissions (R-CO2H)		Total GHG emissions (R-CO2H)		Total GHG emissions (R-CO2H)		Total GHG emissions (R-CO2H)		Total GHG emissions (R-CO2H)		ETS emissions (R-CO2H) (4)		ETS emissions (R-CO2H) (4)		ETS emissions (R-CO2H) (4)		ETS emissions (R-CO2H) (4)		ETS emissions (R-CO2H) (4)		ETS emissions (R-CO2H) (4)		ETS emissions (R-CO2H) (4)		ETS emissions (R-CO2H) (4)				
	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040	2045	2050	2020	2020	2025	2030	2035	2040	2045
Total excluding LULUCF	WEM 165487.84 158037.38 120614.45 112808.90 105851.88 90574.97 87568.84 74089.44 70362.74 41122.63 37977.05 36887.60 32028.94 30844.20 91374.43 87642.20 79460.34 74800.69 68973.40 58546.04 56724.64																																
Total including LULUCF	WEM 169723.66 161971.42 124272.31 115893.18 107871.84 93372.37 90230.10 74089.44 70362.74 41122.63 37977.05 36887.60 32028.94 30844.20 91398.58 87642.20 79460.34 74800.69 68973.40 58546.04 56724.64																																
1. Energy	WEM 134955.85 128617.06 101070.89 93665.17 87837.84 64943.90 61420.90 68796.63 63331.66 41726.78 38142.42 37822.39 25458.89 24275.87 66135.26 62522.97 59312.62 55491.60 49984.56 38585.01 37145.03																																
1.A. Fuel combustion	WEM 133550.31 124600.52 96266.90 89209.60 83726.01 NK NK 67898.29 59761.45 37329.45 34055.86 34062.01 NK NK 65628.06 64806.63 58905.96 55122.58 49633.11 NK NK																																
1.A.1. Energy industries	WEM 47820.84 41667.54 21984.63 18381.80 18834.13 NK NK 46087.26 38092.53 18409.36 15117.27 15698.34 NK NK 1733.58 3575.01 3575.27 3264.53 3135.79 NK NK																																
1.A.1.a. Public electricity and heat production	WEM 35746.06 30148.50 12064.04 9465.84 10810.08 NK NK 34462.24 27186.07 9074.73 6707.54 8053.01 NK NK 1283.82 2962.43 2989.31 2758.29 2757.07 NK NK																																
1.A.1.b. Petroleum refining	WEM 9398.16 8116.67 7261.49 6777.64 6410.40 NK NK 9310.45 8028.52 7179.06 6698.45 6333.68 NK NK 87.21 88.15 82.42 79.18 76.72 NK NK																																
1.A.1.c. Manufacture of solid fuels and other energy industries	WEM 2676.62 3402.37 2659.11 2138.32 1613.66 NK NK 2314.56 2877.94 2155.57 1711.27 1311.66 NK NK 362.06 524.43 503.54 427.05 302.00 NK NK																																
1.A.2. Manufacturing industries and construction	WEM 27295.77 26835.74 23492.49 23446.79 22664.73 NK NK 21291.11 21271.42 18575.80 18629.63 18088.21 NK NK 5976.66 5564.32 4916.60 4817.35 4576.51 NK NK																																
1.A.3. Transport	WEM 26310.55 27793.27 25132.19 23584.22 20723.65 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 26286.58 27670.83 25100.71 23563.07 20692.76 NK NK																																
1.A.3.a. Domestic aviation	WEM 24.14 32.68 31.72 31.39 31.13 NK NK NK NK NK NK 0.00																																
1.A.3.b. Road transportation	WEM 25437.38 26668.12 24069.79 22534.55 19667.37 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 25437.38 26668.12 24069.79 22534.55 19667.37 NK NK																																
1.A.3.c. Railways	WEM 60.84 53.45 58.99 62.72 64.22 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 60.84 53.45 58.99 62.72 64.22 NK NK																																
1.A.3.d. Domestic navigation	WEM 699.15 949.01 971.69 965.55 960.93 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 699.15 949.01 971.69 965.55 960.93 NK NK																																
1.A.3.e. Other transportation	WEM 699.15 949.01 971.69 965.55 960.93 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 699.15 949.01 971.69 965.55 960.93 NK NK																																
1.A.4. Other sectors	WEM 31985.77 28234.83 25498.44 23627.65 21344.36 NK NK 519.92 397.40 344.29 308.96 275.45 NK NK 31465.85 27837.34 25154.15 23318.69 21068.51 NK NK																																
1.A.4.a. Commercial/institutional	WEM 6493.20 5284.63 4716.37 3629.34 NK NK 313.08 235.91 208.31 185.32 NK NK 618.12 5048.72 4508.04 4081.91 3475.65 NK NK																																
1.A.4.b. Residential	WEM 15424.84 14803.35 13719.00 12624.14 11011.96 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 15424.84 14803.35 13719.00 12624.14 11011.96 NK NK																																
1.A.4.c. Agriculture/Forestry/Fishing	WEM 10129.73 8146.85 7063.07 6736.29 6703.06 NK NK 200.84 161.58 135.97 123.65 121.73 NK NK 9922.89 7985.26 6927.10 6621.64 6581.33 NK NK																																
1.A.5. Other	WEM 163.38 159.14 159.14 159.14 159.14 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 163.38 159.14 159.14 159.14 159.14 NK NK																																
1.B. Fugitive emissions from fuels	WEM 1405.54 4016.54 4803.99 4455.57 4111.83 NK NK 898.34 3370.20 4397.33 4086.55 3760.38 NK NK 507.20 446.34 406.66 369.02 351.44 NK NK																																
1.B.1. Solid fuels	WEM 77.10 61.44 188.32 149.31 139.31 NK NK 77.10 61.44 188.32 149.31 139.31 NK NK 0.00																																
1.B.2. Oil and natural gas and other emissions from energy production	WEM 1328.44 3955.09 4615.67 4306.26 3972.52 NK NK 821.24 3508.76 4209.01 3937.25 3621.08 NK NK 507.20 446.34 406.66 369.02 351.44 NK NK																																
1.C. CO2 transport and storage	WEM NO																																
2. Industrial processes	WEM 8640.91 8982.32 8781.60 8724.31 8171.72 NK NK 8008.97 7934.10 5292.26 7042.80 7082.60 7215.29 5596.39 6570.05 6568.33 3248.66 1939.73 1698.95 1509.02 1575.33 1438.99 1365.77																																
2.A. Mineral Industry	WEM 1069.62 1379.01 1156.32 1167.18 1180.69 NK NK 584.47 660.53 645.32 655.45 667.40 NK NK 485.15 518.48 510.79 511.69 513.28 NK NK																																
2.A.1. Cement production	WEM NO																																
2.B. Chemical industry	WEM 5747.46 6277.11 6312.34 6447.73 5928.29 NK NK 4541.79 6232.04 6286.22 6407.91 5776.19 NK NK 1205.67 45.07 25.92 39.81 152.10 NK NK																																
2.C. Metal industry	WEM 155.35 150.23 151.16 151.89 152.80 NK NK 166.01 150.23 151.16 151.89 152.80 NK NK -10.65 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 0.00 0.00 0.00																																
2.C.1. Iron and steel production	WEM 17.13 NE NE NE NE NE NE NE NE NK NK 17.13 NE NE NE NE NK NK 0.00 NE NE NE NE NK NK																																
2.D. Non-energy products from fuels and solvent use	WEM 335.04 324.47 329.34 330.13 331.09 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 335.04 324.47 329.34 330.13 331.09 NK NK																																
2.E. Electronics industry	WEM 38.77 33.62 34.97 36.01 37.08 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 38.77 33.62 34.97 36.01 37.08 NK NK																																
2.F. Product uses as substitutes for ODS (8)	WEM 1017.14 798.52 609.54 465.64 415.64 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 1017.14 798.52 609.54 465.64 415.64 NK NK																																
2.G. Other product manufacture and use	WEM 260.42 207.59 176.14 112.95 112.95 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 260.42 207.59 176.14 112.95 112.95 NK NK																																
2.H. Other	WEM 17.12 11.98 12.44 12.78 13.18 NK NK 0.00 0.00 0.00 0.00 0.00 NK NK 17.12 11.98 12.44 12.78 13.18 NK NK																																
3. Agriculture	WEM 18450.27 17700.03 17457.77 17345.10 17224.23 17012.10 16873.84 18450.27 17700.03 17457.77 17345.10 17224.23 17012.10 16873.84																																
3.A. Enteric fermentation	WEM 9179.74 9047.79 9047.85 9025.97 8995.71 NK NK 9179.74 9047.79 9047.85 9025.97 8995.71 NK NK																																
3.B. Manure management	WEM 4830.77 3830.92 3674.86 3649.87 3626.17 NK NK 4830.77 3830.92 3674.86 3649.87 3626.17 NK NK																																
3.C. Rice cultivation	WEM NO																																
3.D. Agricultural soils	WEM 4361.55 IE IE IE IE IE IE NK NK 4361.55 IE IE IE IE IE NK NK																																
3.E. Prescribed burning of savannahs	WEM NO																																
3.F. Field burning of agricultural residues	WEM NO																																
3.G. Liming	WEM 31.03 30.54 30.00 29.47 28.93 NK NK 31.03 30.54 30.00 29.47 28.93 NK NK																																
3.H. Urea application	WEM 47.17 46.42 45.60 44.79 43.98 NK NK 47.17 46.42 45.60 44.79 43.98 NK NK																																
3.I. Other carbon-containing fertilizers	WEM NO																																
3.J. Other (please specify)	WEM NO																																
4. Land Use, Land-Use Change and Forestry (LULUCF, reported emissions and removals) (9)	WEM 4211.60 3942.01 3665.85 3092.73 2928.71 2797.40 2661.26																																
4.A. Forest land	WEM -2265.76 -2081.58 -2125.72 -2338.42 -2512.47																																
4.B. Cropland	WEM 1699.21 1652.18 1778.24 1800.38 1864.66																																
4.C. Grassland	WEM 3357.33 3166.39 2788.69 2469.07 2406.62																																
4.D. Wetlands	WEM -55.11 -66.10 -35.89 -38.51 -1.99																																
4.E. Settlements	WEM 1174.93 1049.48 1059.71 1036.56 1077.69																																
4.F. Other Land	WEM 178.54 119.12 100.59 66.33 0.00																																
4.G. Harvested wood products	WEM 121.46 102.52 100.22 97.33 94.19																																
4.H. Other	WEM NA NA NA NA NA NA																																
5. Waste	WEM 3021.48 2376.54 1874.60 1491.09 1216.18 1040.00 850.00 3021.48 2376.54 1874.60 1491.09 1216.18 1040.00 850.00																																
5.A. Solid Waste Disposal	WEM 2477.53 1888.78 1386.34 1003.32 728.41 NK NK 2477.53 1888.78 1386.34 1003.32 728.41 NK NK																																
5.B. Biological treatment of solid waste	WEM 210.84 190.39 190.39 190.39 190.39 NK NK 210.84 190.39 190.39 190.39 190.39 NK NK																																
5.C. Incineration and open burning of waste	WEM 0.21 NE NE NE NE NE NE NK NK 0.21 0.00																																
5.D. Wastewater treatment and discharge	WEM 332.90 297.38 297.38 297.38 297.38 NK NK 332.90 297.38 297.38 297.38 297.38 NK NK																																
5.E. Other (please specify)	WEM 0.00 NE NE NE NE NE NE NK NK 0.00																																
Memo items	WEM 44402.35 48810.27 48371.38 48616.00 48465.95 47819.63 48640.48																																
International bunkers	WEM 44402.35 48810.27 48371.38 48616.00 48465.95 47819.63 48640.48																																
IB Aviation	WEM 6881.87 30985.44 11907.27 12237.69 12134.50 12040.60 12040.08																																

