United Nations

FCCC/ASR/2019/SWE

Framework Convention on Climate Change

Distr.: General
7 June 2019

English only

Status report of the annual inventory of Sweden

1. This status report was prepared by the secretariat pursuant to decision 22/CMP.1 in conjunction with decision 4/CMP.11, as part of the initial check of Sweden's 2019 annual greenhouse gas inventory, submitted in accordance with decisions 24/CP.19 and 15/CMP.1 in conjunction with decisions 3/CMP.11 and 2/CMP.8.

2. The report reflects the content of the inventory submission as submitted by the Party, which, in accordance with 24/CP.19, is due by 15 April each year (dates of submission are provided in the table on page 2).

3. In accordance with decision 24/CP.19 Parties report aggregate emissions and removals in carbon dioxide equivalent using the global warming potential values from the Fourth Assessment Report of the Intergovernmental Panel on Climate Change over a 100-year time horizon.

4. In this report, the following abbreviations are used:

CRF: common reporting format
GHG: greenhouse gas
HWP: harvested wood products
IPPU: industrial processes and product use
KP-LULUCF activities: activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol
LULUCF: land use, land-use change and forestry
NIR: national inventory report
SEF: standard electronic format

Gases
CH_4: methane
CO: carbon monoxide
CO_2: carbon dioxide
HFC: hydrofluorocarbon
HFC/PFC mix: unspecified mix of hydrofluorocarbons and perfluorocarbons
NF_3: nitrogen trifluoride
NMVOC: non-methane volatile organic compound
NO_X: nitrogen oxides
N_2O: nitrous oxide
PFC: perfluorocarbon
SF_6: sulfur hexafluoride
SO_2: sulfur dioxide

Kyoto Protocol units
AAU: assigned amount unit
CER: certified emission reduction
ERU: emission reduction unit
lCER: long-term certified emission reduction
RMU: removal unit
tCER: temporary certified emission reduction

Notation keys
C: confidential
IE: included elsewhere
NA: not applicable
NE: not estimated
NO: not occurring

Part I General information regarding 2019 inventory submission													
General information		*Date of original submission*		Date *of resubmission(s)*		*Comments*[a]							
	NIR	12 April 2019		25 April 2019									
	CRF tables[b]	12 April 2019				Latest inventory (assessed in this report): SWE_2019_1							
	Additional information[c]	12 April 2019		25 April 2019		Files submitted (12 April 2019): - Annex A CSEUR.pdf - Annex B Changes in EUCR.xlsx - SIAR Reports.xlsx Files submitted (25 April 2019): - NIR sub 2019 Annex 15 April.pdf							
	CRF tables provided for years	1990–2017											
	Base year or period[d]	1990		Base year for HFCs, PFCs and SF_6[e]				1995		Base year for NF_3[f]		1995	
	Gases covered[g]	CO_2	CH_4	N_2O	HFCs	PFCs	HFC/PFC mix	SF_6	NF_3	NO_X	CO	NMVOCs	SO_2
		✓	✓	✓	✓	✓		✓		✓	✓	✓	✓
CRF[h] tables	Source categories accounting for 7% or more of Party's aggregate emissions from sources included in Annex A to the Kyoto Protocol	No missing source category accounting for 7% or more has been identified											

[a] The comment field is used to indicate the name of the inventory being assessed (relevant to CRF tables), the names of the files submitted as additional information (relevant to the row for additional information) and any other information relevant to the submission.

[b] The CRF tables are contained in annex II to decision 24/CP.19.

[c] Additional information can be any information submitted by a Party in conjunction with its NIR or CRF tables.

[d] Parties included in Annex I to the Convention undergoing the process of transition to a market economy may use a base year or a period of years other than 1990, in accordance with the provisions of Article 4, paragraph 6, of the Convention and decisions 9/CP.2 and 11/CP.4.

[e] A Party may select 1995 as the base year for HFCs, PFCs and SF_6 in accordance with Article 3, paragraph 8, of the Kyoto Protocol.

[f] A Party may select 1995 or 2000 as the base year for NF3 in accordance with Article 3, paragraph 8 bis, in the Doha Amendment.

[g] If, in the latest year, for a given gas, a Party reports a numerical value or a notation key other than "NE", a tick is shown in the respective cell; if "NE", zero or no value is reported, the cell is left blank.

[h] In accordance with decision 15/CMP.1, paragraph 3(b), in conjunction with decision 3/CMP.11.

Part II General information regarding the submission of supplementary information under Article 7, paragraph 1, of the Kyoto Protocol					
Reporting of supplementary information		*Date of original submission*	*Date of resubmission(s)*	*Comments*[a]	
	KP-LULUCF information[b]	12 April 2019	25 April 2019	NIR chapter 10	
	KP-LULUCF CRF tables[c]	12 April 2019		KP-LULUCF CRF tables provided for years	1990, 2013–2017
	Information on Kyoto units (ERUs, CERs, RMUs and AAUs)[d]	12 April 2019	25 April 2019	NIR chapter 11	
	SEF tables with Kyoto Protocol units[e]	12 April 2019	23 May 2019	Reported year: 2018 - SEF table for the second commitment period submitted on 12 April 2019 and 23 May 2019	
	Changes in national system[f]	12 April 2019	25 April 2019	NIR chapter 12	
	Changes in national registry[f]	12 April 2019	25 April 2019	NIR chapter 13	
	Minimization of adverse impacts[f]	12 April 2019	25 April 2019	NIR chapter 14	

[a] Where applicable the comments field indicates the location of the reported information in the NIR.

[b] Parties are required to include in their annual submission information on anthropogenic GHG emissions by sources and removals by sinks from LULUCF activities under Article 3, paragraph 3, of the Kyoto Protocol, and, if any, elected activities under Article 3, paragraph 4, in accordance with decision 2/CMP.8, annex II, paragraphs 1–5.

[c] Parties are required to report anthropogenic GHG emissions by sources and removals by sinks from LULUCF activities under Article 3, paragraph 3, of the Kyoto Protocol, forest management and, if any, elected activities under Article 3, paragraph 4. Parties may also elect to report these tables for the base year or 1990.

[d] Parties are required to include in their annual submission information on ERUs, CERs, tCERs, lCERs, AAUs and RMUs, in accordance with decision 15/CMP.1, annex, chapter I.E, in conjunction with annex II to decision 3/CMP.11.

[e] As required by annex II to decision 3/CMP.11.

[f] The requirements for Parties to report on changes in their national systems in accordance with Article 5, paragraph 1, of the Kyoto Protocol, changes in national registries, and the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol, are set out in decision 15/CMP.1, annex, chapters I.F, I.G and I.H respectively, in conjunction with annex II to decision 3/CMP.11.

Part III Completeness[a] of CRF tables for the latest reported inventory year (2017)													
Sectoral tables		*Energy*		*IPPU*		*Agriculture*		*LULUCF*				*Waste*	
	Sectoral report tables	1	✓	2(I)	✓	3	✓	4	✓	4.1	✓	5	✓
	Sectoral background tables	1.A(a)	✓	2(I).A-H	✓	3.A	✓	4.A	✓	4(I)	✓	5.A	✓
		1.A(b)	✓	2(II)	✓	3.B(a)	✓	4.B	✓	4(II)	✓	5.B	✓
		1.A(c)	✓	2(II).B-H	✓	3.B(b)	✓	4.C	✓	4(III)	✓	5.C	✓
		1.A(d)	✓			3.C	✓	4.D	✓	4(IV)	✓	5.D	✓
		1.B.1	✓			3.D	✓	4.E	✓	4(V)	✓		
		1.B.2	✓			3.E	✓	4.F	✓				
		1.C				3.F	✓	4.G	✓				
		1.D	✓			3.G-I	✓						
Summative and cross-cutting tables[b]	*Cross-sectoral report tables*	Table 6 (Indirect emissions of N_2O and CO_2)					✓						
	Other tables	Table 9 (Information on notation keys – NE)					✓	Table 9 (Information on notation keys – IE)					✓

[a] A tick indicates that the respective table is not blank.

[b] Tables that are automatically generated by the CRF Reporter (summary table 1.A, summary table 2, summary table 3, table 7 key categories, table 10 emissions trends) are not included here.

Part III (continued) Completeness[a] of CRF tables related to KP-LULUCF[b] information for the latest reported inventory year (2017)									
Sectoral tables	*Sectoral report tables*	NIR-1	✓						
		NIR-2	✓						
		NIR-3							
		4(KP)	✓						
		4(KP) Recalculation							
	Sectoral background tables	4(KP-I).A.1	✓	4(KP-I)B.1	✓	4(KP-I)B.2	✓	4(KP-II)1	✓
		4(KP-I).A.1.1	✓	4(KP-I)B.1.1	✓	4(KP-I)B.3	✓	4(KP-II)2	✓
		4(KP-I).A.2	✓	4(KP-I)B.1.2		4(KP-I)B.4	✓	4(KP-II)3	✓
		4(KP-I).A.2.1	✓	4(KP-I)B.1.3	✓	4(KP-I)B.5	✓	4(KP-II)4	✓
						4(KP-I).C	✓	Accounting table	✓

[a] A tick indicates that the respective table is not blank.

[b] Parties are required to report anthropogenic GHG emissions by sources and removals by sinks from LULUCF activities under Article 3, paragraph 3, of the Kyoto Protocol, and, if any, elected activities under Article 3, paragraph 4, using the agreed CRF tables adopted under decision 6/CMP.9.

Part IV Provision of selected information in the CRF tables									
Direct GHGs totals[a]	Gas	CO_2	CH_4	N_2O	HFCs	PFCs	HFC/PFC mix	SF_6	NF_3
	Provided for years	1990–2014	1990–2017	1990–2017	1990–2017	1990–2017		1990–2017	

Indirect CO_2	Sector	Energy	IPPU	Agriculture	LULUCF	Waste	Other				
	Provided for years	1990–2017									
Energy CO_2[b]	Comparison of CO_2 emissions from fuel combustion[b]	Reference approach	Sectoral approach	Difference between reference and sectoral approach more than 2%							
		✓	✓	Liquid	✓	Solid	✓	Gaseous			
International bunkers	Bunker type	Aviation	Navigation								
	Provided for years	1990–2017	1990–2017								
HFCs and PFCs[b,c]	Disaggregation by species	HFCs	PFCs								
		✓	✓								

[a] Considered provided if the total for a given gas is a numerical value or a notation key other than "NE".
[b] A tick indicates that the information is provided.
[c] Assessment based on information reported for the latest inventory year.

Part V Completeness of CRF tables for years reported (base year, 1990–2017)[a]					
	Yes/no	*Sector*	*Table*	*Year(s)*	*Notation keys used*
CRF submission contains blank tables[b]	Yes	Energy	Table1.C	1990–2017	
		KP-LULUCF	NIR-3	1990, 2013–2017	
		KP-LULUCF	4(KP-I)B.1.2	1990, 2013–2017	
CRF submission includes tables containing only notation keys[c]	Yes	Agriculture	Table3.C	1990–2017	NO
		Agriculture	Table3.E	1990–2017	NO
		Agriculture	Table3.F	1990–2017	NE, NO
		KP-LULUCF	4(KP)	1990	IE, NA, NO
		KP-LULUCF	4(KP-I)A.1	1990	NA, NO
		KP-LULUCF	4(KP-I)A.1.1	1990, 2013–2017	NO
		KP-LULUCF	4(KP-I)A.2	1990	IE, NA, NO
		KP-LULUCF	4(KP-I)A.2.1	1990, 2013–2017	NO
		KP-LULUCF	4(KP-I)B.1	1990	IE, NA, NO
		KP-LULUCF	4(KP-I)B.1.1	1990	NA
		KP-LULUCF	4(KP-I)B.1.3	1990, 2013–2017	NA
		KP-LULUCF	4(KP-I)B.2	1990, 2013–2017	NA
		KP-LULUCF	4(KP-I)B.3	1990, 2013–2017	NA
		KP-LULUCF	4(KP-I)B.4	1990, 2013–2017	NA
		KP-LULUCF	4(KP-I)B.5	1990, 2013–2017	NA
		KP-LULUCF	4(KP-II)1	1990	IE, NA, NO
		KP-LULUCF	4(KP-II)2	1990	IE, NA, NO
		KP-LULUCF	4(KP-II)3	1990	NA, NO
		KP-LULUCF	4(KP-II)4	1990	IE, NA, NO

[a] KP-LULUCF tables are only considered for the years associated with the second commitment period of the Kyoto Protocol.
[b] Excludes table 8 in the latest reported inventory year.
[c] Notation keys associated with methods and emission factor information are not considered.

Part VI Provision of information in the CRF tables relating to recalculations						
Recalculation reported for years[a]	1990–2016					
Recalculated sectors/gases[b]	Energy	IPPU	Agriculture	LULUCF	Waste	KP-LULUCF
CO_2	✓	✓	✓	✓	✓	✓
CH_4	✓	✓	✓	✓	✓	✓
N_2O	✓	✓	✓	✓	✓	✓
HFCs		✓				
PFCs		✓				
HFC/ and PFC mix						
SF_6		✓				
NF_3						
Indirect CO_2						
Percentage difference in aggregate GHG emissions	Base-year estimate[c]	With LULUCF:	3.71%	Without LULUCF:	–0.30%	
	Latest recalculated year[d]	With LULUCF:	–15.3%	Without LULUCF:	0.09%	

[a] Years in which recalculations were performed.

[b] Tick indicates that, for the respective sector and gas, recalculations were performed in one or more years.

[c] Parties included in Annex I to the Convention undergoing the process of transition to a market economy may use a base year or a period of years other than 1990 in accordance with the provisions of Article 4, paragraph 6, of the Convention and decision 24/CP.19.

[d] The latest recalculated year is the latest reported inventory year minus one.

Part VII Provision of information relating to KP-LULUCF activities			
		Provided[a]	*Observation*
Reporting requirements under decision 2/CMP.8, annex II, paragraphs 1–5	Emissions by sources and removals by sinks are clearly distinguished from emissions from categories included in Annex A to the Kyoto Protocol	✓	
	Information on how inventory methodologies have been applied, taking into account the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* and any relevant supplementary guidance recognizing the principles laid out in decision 16/CMP.1	✓	
	Information on the geographical location of the boundaries of areas that encompass:		
	Units of land subject to activities under Article 3, paragraph 3	✓	
	Units of land subject to activities under Article 3, paragraph 3, which would otherwise be included in land subject to forest management or elected activities under Article 3, paragraph 4	✓	
	Land subject to forest management or elected activities under Article 3, paragraph 4	✓	
	Information on the spatial assessment unit for determining the area of accounting for afforestation, reforestation and deforestation	✓	
	Information on GHG emissions/removals resulting from KP-LULUCF activities, for all geographical locations reported in the current and previous years since the beginning of the commitment period or the onset of the activity, whichever occurs later	✓	
	Information on carbon pools (above-ground/below-ground biomass, litter, deadwood and soil organic carbon) that are not accounted for	✓	
	When a Party applies the provisions for natural disturbances, information demonstrating that these emissions in any single year exceed the background level(s), including a margin, where needed. For this purpose, the Party shall include information showing:		
	That all lands subject to exclusion due to natural disturbances are identified	✓	In chapter 10.3.1.3.1 of the NIR the Party reports that no land was subject to exclusion in 2013, 2014, 2015, 2016 or 2017
	How annual emissions resulting from natural disturbances and the subsequent removals are estimated and excluded from the accounting	✓	In chapter 10.3.1.3.2 of the NIR the Party reports that no land was subject to exclusion in 2013, 2014, 2015, 2016 or 2017
	That no land-use change has occurred on lands for which the provisions in decision 2/CMP.7, annex, paragraph 33, are applied	✓	In chapter 10.3.1.3.3 of the NIR the Party reports that no land was subject to exclusion in 2013, 2014, 2015, 2016, or 2017

Part VII Provision of information relating to KP-LULUCF activities		
	Provided[a]	*Observation*
That events and circumstances were beyond the control of the Party	✓	In chapter 10.3.1.3.4 of the NIR the Party reports that no land was subject to exclusion in 2013, 2014, 2015, 2016 or 2017
That the efforts taken to rehabilitate the land for which the provisions contained in decision 2/CMP.7, annex, paragraph 33, are applied	✓	In chapter 10.3.1.3.5 of the NIR the Party reports that no land was subject to exclusion in 2013, 2014, 2015, 2016 or 2017
That emissions associated with salvage logging were not excluded from the accounting	✓	In chapter 10.3.1.3.6 of the NIR the Party reports that no land was subject to exclusion in 2013, 2014, 2015, 2016 or 2017
If not accounted for by instantaneous oxidation, information on GHG emissions/removals resulting from changes in the HWP pool accounted for in accordance with decision 2/CMP.7, including:		
Activity data for the HWP categories used for estimating the pool removed from domestic forests, for domestic consumption and for export	✓	
Half-lives used in estimating emissions/removals for the HWP categories used	✓	
Whether emissions from HWP originating from forests prior to the start of the second commitment period have been included in the accounting, if the forest management reference level is based on a projection		Information required in paragraph 2(g)(iii) of annex II to decision 2/CMP.8 could not be identified in the submission
How emissions from the HWP pool accounted for in the first commitment period on the basis of instantaneous oxidation have been excluded from the accounting for the second commitment period		Information required in paragraph 2(g)(iv)of annex II to decision 2/CMP.8 could not be identified in the submission
How HWP resulting from deforestation has been accounted on the basis of instantaneous oxidation	✓	
How CO_2 emissions from HWP in solid waste disposal sites and from wood harvested for energy purposes have been accounted on the basis of instantaneous oxidation		Information required in paragraph 2(g)(vi)of annex II to decision 2/CMP.8 could not be identified in the submission
How emissions/removals from changes in the HWP pool accounted for do not include imported HWP		Information required in paragraph 2(g)(vii)of annex II to decision 2/CMP.8 could not be identified in the submission
Information on anthropogenic GHG emissions from KP-LULUCF activities, factoring out removals from:		
Elevated CO_2 concentrations above pre-industrial levels	✓	
Indirect nitrogen deposition	✓	
The dynamic effects of age structure resulting from activities prior to 1 January 1990	✓	
Specific information to be reported for activities under Article 3, paragraph 3:		

Part VII Provision of information relating to KP-LULUCF activities		
	Provided[a]	*Observation*
Activities that began on or after 1 January 1990 and before 31 December of the last year of the commitment period, and are directly human-induced	✓	
How harvesting or forest disturbance that is followed by the re-establishment of forest is distinguished from deforestation	✓	
Specific information to be reported for activities under Article 3, paragraph 4:		
Activities that have occurred since 1 January 1990 and are human-induced	✓	
Cropland management, grazing land management, revegetation, wetland drainage and rewetting: emissions/removals reported for each year of the commitment period and for the base year for each of the elected activities at the geographical locations reported	✓	The Party does not elect cropland management, grazing land management, revegetation, wetland drainage or rewetting
Emissions/removals from activities under Article 3, paragraph 4, are not accounted for under activities under Article 3, paragraph 3	✓	
Information on how emissions arising from the conversion of natural forests to planted forests are accounted for	✓	
Methodological consistency between the reference level and reporting for forest management	✓	
Technical corrections made pursuant to decision 2/CMP.7, annex, paragraph 14	✓	
Forest management: if emissions/removals from the harvest and conversion of forest plantations to non-forest land were included, information on how requirements set out in decision 2/CMP.7, annex, paragraphs 37–39, were met, including:		
The identification of all lands and associated carbon pools subject to decision 2/CMP.7, annex, paragraph 37, including the georeferenced location and year of conversion	✓	In table 10.1 of the NIR the Party reports that carbon equivalent forest is not relevant for Sweden
A demonstration that the forest plantation was first established through direct human-induced planting and/or seeding of non-forest land before 1 January 1990, and, if the forest plantation was re-established, that this last occurred on forest land through direct human-induced planting and/or seeding after 1 January 1960	✓	In table 10.1 of the NIR the Party reports that carbon equivalent forest is not relevant for Sweden
A demonstration that a new forest of area at least equivalent to the harvested forest plantation is established through direct human-induced planting and/or seeding of non-forest land that did not contain forest on 31 December 1989	✓	In table 10.1 of the NIR the Party reports that carbon equivalent forest is not relevant for Sweden

Part VII Provision of information relating to KP-LULUCF activities					
				Provided[a]	*Observation*
			A demonstration that this newly established forest will reach at least the equivalent carbon stock that was contained in the harvested forest plantation at the time of harvest, within the normal harvesting cycle of the harvested forest plantation, and, if not, that a debit would be generated under Article 3, paragraph 4	✓	In table 10.1 of the NIR the Party reports that carbon equivalent forest is not relevant for Sweden

[a] A tick is accompanied by an explanatory comment in the observation field where the provision of information is not applicable.