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## 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 2023 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 decision 24/CP.19, is due by 15 April each year (dates of submission are provided in the table on p.2).
3. In accordance with decisions 24/CP.19 and 6/CP.27, Parties report aggregate emissions and removals in carbon dioxide equivalent using the global warming potential values from the Fourth or Fifth 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 3–4, of the Kyoto Protocol

LULUCF: land use, land-use change and forestry

NIR: national inventory report

SEF: standard electronic format

*Kyoto Protocol units*

AAU: assigned amount unit

CER: certified emission reduction

ERU: emission reduction unit

ICER: long-term certified emission reduction

RMU: removal unit

tCER: temporary certified emission reduction

### *Gases*

CH<sub>4</sub>: methane

CO: carbon monoxide

CO<sub>2</sub>: carbon dioxide

HFC: hydrofluorocarbon

HFC/PFC mix: unspecified mix of hydrofluorocarbons and perfluorocarbons

N<sub>2</sub>O: nitrous oxide

NF<sub>3</sub>: nitrogen trifluoride

NM VOC: non-methane volatile organic compound

NO<sub>x</sub>: nitrogen oxides

PFC: perfluorocarbon

SF<sub>6</sub>: sulfur hexafluoride

SO<sub>2</sub>: sulfur dioxide

### *Notation keys*

C: confidential

IE: included elsewhere

NA: not applicable

NE: not estimated

NO: not occurring



Part I														
General information regarding 2023 inventory submission														
General information		Date of original submission			Date(s) of resubmission(s)				Comments <sup>a</sup>					
	NIR	6 April 2023												
	CRF tables <sup>b</sup>	6 April 2023							Latest inventory (assessed in this report): SWE_2023_1					
	Additional information <sup>c</sup>													
	CRF tables provided for years	1990–2021							Global warming potential values used			Fifth Assessment Report		
	Base year or period <sup>d</sup>	1990		Base year for HFCs, PFCs and SF <sub>6</sub> <sup>e</sup>				1995		Base year for NF <sub>3</sub> <sup>f</sup>		1995		
	Gases covered <sup>g</sup>	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	HFCs	PFCs	HFC/PFC mix	SF <sub>6</sub>	NF <sub>3</sub>	NO <sub>x</sub>	CO	NMVOCs	SO <sub>2</sub>	
✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
CRF tables	Source categories accounting for 7% or more of the Party's aggregate emissions from sources included in Annex A to the Kyoto Protocol <sup>h</sup>		No missing source category accounting for 7% or more has been identified											

<sup>a</sup> The comments 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 additional information) and any other information relevant to the submission.

<sup>b</sup> Contained in annex II to decision 24/CP.19.

<sup>c</sup> Additional information can be any information submitted by a Party in conjunction with its NIR or CRF tables.

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

<sup>e</sup> A Party may select 1995 as the base year for HFCs, PFCs and SF<sub>6</sub> in accordance with Article 3, para. 8, of the Kyoto Protocol.

<sup>f</sup> A Party may select 1995 or 2000 as the base year for NF<sub>3</sub> in accordance with Article 3, para. 8 bis, in the Doha Amendment.

<sup>g</sup> If, for the latest inventory year, for a given gas, a Party reported a numerical value or a notation key other than “NE”, a tick is shown in the respective cell; if “NE”, zero or no value was reported, the cell is blank.

<sup>h</sup> In accordance with decision 15/CMP.1, para. 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(s) of resubmission(s)	Comments <sup>a</sup>
	KP-LULUCF information <sup>b</sup>			
	KP-LULUCF CRF tables <sup>c</sup>	6 April 2023		KP-LULUCF CRF tables provided for years 1990, 2013–2021
	Information on Kyoto Protocol units (AAUs, CERs, ERUs and RMUs) <sup>d</sup>	6 April 2023		NIR annex 6
	SEF tables with Kyoto Protocol units <sup>e</sup>	6 April 2023		Reported year: 2022 - SEF tables for the first commitment period submitted on 6 April 2023 - SEF tables for the second commitment period submitted on 6 April 2023
	Changes in national system <sup>f</sup>	6 April 2023		NIR chapter 11
	Changes in national registry <sup>f</sup>	6 April 2023		NIR annex 6
	Minimization of adverse impacts <sup>f</sup>			

<sup>a</sup> Where applicable, the comments field indicates the location of the reported information in the NIR.

<sup>b</sup> The requirement for Parties to include in their annual inventory submission information on anthropogenic GHG emissions by sources and removals by sinks from LULUCF activities under Article 3, para. 3, of the Kyoto Protocol, and, if any, elected activities under Article 3, para. 4, is set out in decision 2/CMP.8, annex II, paras. 1–5.

<sup>c</sup> The requirement for Parties to report anthropogenic GHG emissions by sources and removals by sinks from LULUCF activities under Article 3, para. 3, of the Kyoto Protocol, forest management and, if any, elected activities under Article 3, para. 4, is set out in decision 6/CMP.9. Parties may also elect to report these tables for the base year or 1990.

<sup>d</sup> The requirement for Parties to include in their annual inventory submission information on AAUs, CERs, ICERs, tCERs, ERUs and RMUs is set out in decision 15/CMP.1, annex, chap. I.E, in conjunction with annex II to decision 3/CMP.11.

<sup>e</sup> The requirement for Parties to report information on the holding of Kyoto Protocol units is set out in annex II to decision 3/CMP.11.

<sup>f</sup> The requirements for Parties to report on changes in the national system in accordance with Article 5, para. 1, of the Kyoto Protocol, changes in the national registry and the minimization of adverse impacts in accordance with Article 3, para. 14, of the Kyoto Protocol are set out in decision 15/CMP.1, annex, chaps. I.F, I.G and I.H respectively, in conjunction with annex II to decision 3/CMP.11.

Part III														
Completeness of CRF tables for the latest reported inventory year (2021)														
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			✓								
Cross-sectoral report tables	Table6 (Indirect emissions of N <sub>2</sub> O and CO <sub>2</sub> )					✓								
Other tables	Table9 (Information on notation keys – “NE”)					✓	Table9 (Information on notation keys – “IE”)					✓		

Note: A tick indicates that the respective CRF table is not blank.

<sup>a</sup> Tables that are automatically generated by CRF Reporter (summary table 1.A, summary table 2, summary table 3, table 7 key categories and table 10 emission trends) are not included here.

Part IV									
Provision of selected information in the CRF tables									
<i>Direct GHG totals<sup>a</sup></i>	Gas	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	HFCs	PFCs	HFC/PFC mix	SF <sub>6</sub>	NF <sub>3</sub>
	Provided for years	1990–2021	1990–2021	1990–2021	1990–2021	1990–2021	1990–2021	1990–2021	1990–2021
<i>Indirect CO<sub>2</sub><sup>b</sup></i>	Sector	Energy	IPPU	Agriculture	LULUCF	Waste	Other		
	Provided for years	1990–2021							
<i>Energy CO<sub>2</sub><sup>c</sup></i>	Comparison of estimated CO <sub>2</sub> emissions from fuel combustion <sup>c</sup>	Reference approach	Sectoral approach	Difference in estimate between reference and sectoral approach more than 2%					
		✓	✓	Liquid	✓	Solid	✓	Gaseous	
<i>International bunkers</i>	Bunker type	Aviation	Navigation						
	Provided for years	1990–2021	1990–2021						
<i>HFCs and PFCs<sup>d</sup></i>	Disaggregation by species	HFCs	PFCs						
		✓	✓						

<sup>a</sup> Considered provided if the total for a given gas is a numerical value or a notation key other than “NE”.  
<sup>b</sup> Considered provided if the total for a given sector is a numerical value or a notation key other than “NE”.  
<sup>c</sup> A tick indicates that the information was provided.  
<sup>d</sup> Assessment based on information reported for the latest inventory year.

Part V					
Completeness of CRF tables for years reported (base year, 1990–2021)					
	<i>Yes/no</i>	<i>Sector</i>	<i>Table</i>	<i>Year(s)</i>	<i>Notation keys used</i>
CRF submission contains blank tables <sup>a</sup>	Yes	KP-LULUCF	NIR-1	1990, 2013–2021	
		KP-LULUCF	NIR-2	1990, 2013–2021	
		KP-LULUCF	NIR-2.1	1990, 2013–2021	
		KP-LULUCF	NIR-3	1990, 2013–2021	
		KP-LULUCF	4(KP)	1990, 2013–2021	
		KP-LULUCF	4(KP-I)A.1	1990, 2013–2021	
		KP-LULUCF	4(KP-I)A.1.1	1990, 2013–2021	
		KP-LULUCF	4(KP-I)A.2	1990, 2013–2021	
		KP-LULUCF	4(KP-I)A.2.1	1990, 2013–2021	
		KP-LULUCF	4(KP-I)B.1	1990, 2013–2021	
		KP-LULUCF	4(KP-I)B.1.1	1990, 2013–2021	
		KP-LULUCF	4(KP-I)B.1.2	1990, 2013–2021	
		KP-LULUCF	4(KP-I)B.1.3	1990, 2013–2021	
		KP-LULUCF	4(KP-I)B.2	1990, 2013–2021	
		KP-LULUCF	4(KP-I)B.3	1990, 2013–2021	
		KP-LULUCF	4(KP-I)B.4	1990, 2013–2021	
		KP-LULUCF	4(KP-I)B.5	1990, 2013–2021	
		KP-LULUCF	4(KP-I)C	1990, 2013–2021	
		KP-LULUCF	4(KP-II)1	1990, 2013–2021	
		KP-LULUCF	4(KP-II)2	1990, 2013–2021	
KP-LULUCF	4(KP-II)3	1990, 2013–2021			
KP-LULUCF	4(KP-II)4	1990, 2013–2021			
CRF submission includes tables containing only notation keys <sup>b</sup>	Yes	Energy	Table1.C	1990–2021	NO
		Agriculture	Table3.C	1990–2021	NO
		Agriculture	Table3.E	1990–2021	NO
		Agriculture	Table3.F	1990–2021	NE, NO

<sup>a</sup> Excludes CRF table 8 for the latest reported inventory year.

<sup>b</sup> 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(s) reported for year(s) <sup>a</sup>	1990–2020					
Recalculated sectors/gases <sup>b</sup>	Energy	IPPU	Agriculture	LULUCF	Waste	KP-LULUCF
CO <sub>2</sub>	✓	✓		✓		
CH <sub>4</sub>	✓	✓	✓	✓	✓	
N <sub>2</sub> O	✓	✓	✓	✓	✓	
HFCs		✓				
PFCs		✓				
HFC/PFC mix						
SF <sub>6</sub>		✓				
NF <sub>3</sub>						
Indirect CO <sub>2</sub>						
Percentage difference in estimated aggregate GHG emissions	Base year <sup>c</sup>	With LULUCF	–27.86%	Without LULUCF	0.05%	
	Latest recalculated year <sup>d</sup>	With LULUCF	–24.43%	Without LULUCF	–0.15%	

<sup>a</sup> Years for which recalculations were performed.

<sup>b</sup> A tick indicates that, for the respective sector and gas, recalculations were performed for one or more years.

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

<sup>d</sup> Latest reported inventory year minus one.