



COMPLIANCE COMMITTEE

CC/ERT/IRR/2017/10
6 April 2017

**Report on the review of the report to facilitate the calculation of the
assigned amount for the second commitment period of the Kyoto Protocol
of Sweden**

Note by the secretariat

The report on the review of the report to facilitate the calculation of the assigned amount for the second commitment period of the Kyoto Protocol of Sweden was published on 6 April 2017. For purposes of rule 10, paragraph 2, of the rules of procedure of the Compliance Committee (annex to decision 4/CMP.2), the report is considered received by the secretariat on the same date. This report, FCCC/IRR/2016/SWE, contained in the annex to this note, is being forwarded to the Compliance Committee in accordance with section VI, paragraph 3, of the annex to decision 27/CMP.1.



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Report on the review of the report to facilitate the calculation of the assigned amount for the second commitment period of the Kyoto Protocol of Sweden

Note by the expert review team

Summary

According to decision 2/CMP.8, each Party with a quantified emission limitation or reduction commitment inscribed in the third column of Annex B to the Kyoto Protocol, as contained in annex I to decision 1/CMP.8, shall submit to the secretariat a report to facilitate the calculation of the assigned amount for the second commitment period of the Kyoto Protocol. In accordance with decision 22/CMP.1, annex I, paragraph 11, in conjunction with decision 4/CMP.11, the report to facilitate the calculation of the assigned amount is subject to a review. This report presents the results of the technical review of the report to facilitate the calculation of the assigned amount for the second commitment period of the Kyoto Protocol, conducted by an expert review team in accordance with the "Guidelines for review under Article 8 of the Kyoto Protocol." The review took place from 29 August to 3 September in Bonn, Germany.

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I. Introduction¹

1. The review of the report to facilitate the calculation of the assigned amount for the second commitment period of the Kyoto Protocol (hereinafter referred to as the report to facilitate the calculation of the assigned amount) of Sweden was organized by the UNFCCC secretariat, in accordance with the “Guidelines for review under Article 8 of the Kyoto Protocol”.² The review took place from 29 August to 3 September 2016 in Bonn, Germany, and was coordinated by Ms. Lisa Hanle and Ms. Claudia do Valle (UNFCCC secretariat). Table 1 provides information on the composition of the expert review team (ERT) that conducted the review of Sweden.

2. A draft version of this report was communicated to the Government of Sweden, which provided comments that were considered and incorporated, as appropriate, into this final version of the report.

Table 1

Composition of the expert review team that conducted the review of Sweden

<i>Area of expertise</i>	<i>Name</i>	<i>Party</i>
Generalist	Ms. Olia Glade	New Zealand
	Mr. Mauro Meirelles de Oliveira Santos	Brazil
Energy	Mr. Graham Anderson	Germany
	Ms. Veronika Ginzburg	Russian Federation
	Ms. Cuimei Ma	China
	Mr. Haakon Marold	Australia
IPPU	Ms. Siriluk Chiarakorn	Thailand
	Mr. Predrag Novosel	Montenegro
	Mr. Alexander Valencia	Colombia
Agriculture	Mr. Amnat Chidthaisong	Thailand
	Mr. Sorin Deaconu	Romania
	Ms. Lilian Portillo	Paraguay
LULUCF	Ms. Bridget Fraser	New Zealand
	Mr. Doru Leonard Irimie	Romania
	Mr. Stanley Wapot	Vanuatu
Waste	Ms. Violeta Hristova	Bulgaria
	Mr. Igor Ristovski	The former Yugoslav Republic of Macedonia
Lead reviewers	Ms. Olia Glade	
	Mr. Mauro Meirelles de Oliveira Santos	

Abbreviations: IPPU = industrial processes and product use, LULUCF = land use, land-use change and forestry.

¹ At the time of publication of this report, Sweden had not yet submitted its instrument of ratification of the Doha Amendment, and the amendment had not yet entered into force. The implementation of the provisions of the Doha Amendment is therefore considered in this report in the context of decision 1/CMP.8, paragraph 6, pending the entry into force of the amendment.

² Decision 22/CMP.1 and its annex and any revisions contained in decision 4/CMP.11 and its annex I.

II. Summary of the reporting on mandatory elements in the report to facilitate the calculation of the assigned amount

3. Table 2 provides a summary of the ERT's assessment of the reporting of mandatory elements by Sweden in its report to facilitate the calculation of the assigned amount. Key data and elections by the Party are included in table 4.

Table 2

Expert review team's assessment of the reporting of mandatory elements by Sweden in its report to facilitate the calculation of the assigned amount

Item	Comment	
General Party information		
Date of submission		Original submission: 15 June 2016
Are there any missing categories or issues related to completeness ^a in the reporting of GHG emissions by sources and removals by sinks for the base year or period?	Yes	For further information, see FCCC/ARR/2016/SWE
Was the GHG inventory recalculated in accordance with decision 4/CMP.7 for all years from 1990 to the most recent year available?	Yes	
Did the Party report the base year for NF ₃ ?	Yes	See annex I, table 4
Information related to agreement by the Party under Article 4 of the Kyoto Protocol to implement commitments jointly		
Has complete information been reported in accordance with decision 3/CMP.11, paragraph 11, by the Party in fulfilment of its agreement under Article 4 of the Kyoto Protocol in relation to the following:		
(a) Application of decision 1/CMP.8, paragraphs 23–26, related to carry-over and the previous period surplus reserve account	Yes	For further information, see ID#6 in table 3
(b) Calculation of base year emissions	No	See annex I, table 4. For further information, see ID#1 in table 3
(c) Calculation of the assigned amount	Yes	See annex I, table 4. For further information, see ID#2 in table 3
(d) Calculation of the commitment period reserve	Yes	See annex I, table 4. For further information, see ID#3 in table 3
(e) Application and calculation pursuant to decision 2/CMP.7, annex, paragraph 13	Yes	For further information, see ID#4 in table 3
Information related to the assigned amount and the commitment period reserve		
Was the assigned amount in the original submission calculated in accordance with Article 3, paragraph 8, of the Kyoto Protocol, Article 3, paragraphs 7 bis and 8 bis, as	Yes	See annex I, table 4. For further information, see

<i>Item</i>	<i>Comment</i>	
contained in the Doha Amendment, and decision 13/CMP.1 in conjunction with decision 3/CMP.11?		ID#2 in table 3
Has the Party reported in the original submission the difference between the assigned amount for the second commitment period and average annual emissions for the first three years of the first commitment period, multiplied by eight?	Yes	See annex I, table 4. For further information, see ID#5 in table 3
Has the Party indicated in the original submission the approach ^b used to calculate average annual emissions for the first three years of the first commitment period?	Yes	See annex I, table 4. For further information, see ID#5 in table 3
Did land-use change and forestry constitute a net source of GHG emissions in the base year, and therefore did the Party include emissions from deforestation in the calculation of the assigned amount?	No	
Was the commitment period reserve in the original submission calculated in accordance with the annex to decision 18/CP.7, the annex to decision 11/CMP.1, the annex to 13/CMP.1, paragraph 8 quinquies, and decision 1/CMP.8, paragraph 18?	Yes	See annex I, table 4. For further information, see ID#3 in table 3
<i>Information related to activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol</i>		
If the Party identified activities elected under Article 3, paragraph 4, of the Kyoto Protocol, are these elections in accordance with decision 2/CMP.7, annex, paragraphs 6–8?	NA	See annex I, table 4
Do the activities elected under Article 3, paragraph 4, of the Kyoto Protocol for the second commitment period include at least those activities elected for the first commitment period?	NA	
Is information reported on how the national system under Article 5, paragraph 1, of the Kyoto Protocol will identify land areas associated with all additional elected activities and how the Party ensures that land that was accounted for in the first commitment period continues to be accounted for in the second commitment period?	Yes	
Has the Party identified for each activity under Article 3, paragraphs 3 and 4, of the Kyoto Protocol whether it intends to account annually or for the entire commitment period?	Yes	See annex I, table 4
Did the Party provide information on the forest management reference level, including, if appropriate, information on technical corrections and information on how emissions from harvested wood products originating from forests prior to the start of the second commitment period have been calculated in the reference level?	Yes	See annex I, table 4
Has the Party reported the quantity amounting to 3.5% of the base year GHG emissions, excluding LULUCF, in the original submission?	Yes	See annex I, table 4. For further information, see ID#4 in table 3
Did the Party indicate whether it intends to apply the	Yes	See annex I, table 4

<i>Item</i>	<i>Comment</i>	
provisions to exclude emissions from natural disturbances for the accounting for afforestation and reforestation and/or forest management and provide the relevant information in accordance with decision 2/CMP.7, annex, paragraph 33?		
<i>Information related to the national system and national registry</i>		
Was a description of the national system provided, in accordance with the guidelines for national systems under Article 5, paragraph 1, of the Kyoto Protocol?	NA	This information was already reported and reviewed as part of the initial review of the report to facilitate the calculation of the assigned amount for the first commitment period and did not need to be reported
Was a description of the national registry provided, in accordance with the requirements contained in the annex to decision 13/CMP.1, the annex to decision 5/CMP.1 and the technical standards for data exchange between registry systems adopted by the CMP?	NA	This information was already reported and reviewed as part of the initial review of the report to facilitate the calculation of the assigned amount for the first commitment period and did not need to be reported

Abbreviations: CMP = Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry, NA = not applicable.

^a Issues related to missing categories and completeness are only for those categories for which methods are available in the *2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories*.

^b Parties may elect to calculate average annual emissions for the first three years of the first commitment period by including either the gases and sources listed in Annex A to the Kyoto Protocol, or the GHGs, sectors and source categories used to calculate the assigned amount for the second commitment period.

III. Technical assessment of the elements reviewed

4. In accordance with decision 22/CMP.1, and in conjunction with decisions 4/CMP.11 and 10/CMP.11, the review of the report to facilitate the calculation of the assigned amount for Sweden has been undertaken together with the review of the inventory submissions for the first year of the second commitment period (2015 and 2016).³ Table 3 contains additional information, if any, to support the ERT's assessment included in table 2 above of the Party's capacity to account for its emissions and the assigned amount, specifically related to: the calculation of the assigned amount for the second commitment period and any adjustments applied; information related to Article 3, paragraph 7 ter, as contained in the Doha Amendment; information related to reporting of activities under Article 3,

³ The annual review report on the 2016 inventory submission of Sweden is available at <http://unfccc.int/resource/docs/2017/arr/swe.pdf>, while the annual review report on the 2015 inventory submission of Sweden is available at <http://unfccc.int/resource/docs/2016/arr/swe.pdf>.

paragraphs 3 and 4, of the Kyoto Protocol; calculation of the commitment period reserve; and the national system and national registry.

Table 3

Additional findings of the expert review team, if any, related to Sweden's reporting of mandatory elements in its report to facilitate the calculation of the assigned amount

<i>ID#</i>	<i>Finding classification</i>	<i>Description of the finding</i>	<i>Classification of problem</i>
1.	Article 4 agreement	In its original submission, Sweden reported base year emissions to be 71,917,260 t CO ₂ eq. The ERT noted that the Party's calculation of the base year total emissions, excluding LULUCF, was incorrect as it did not take into account that the base year elected by Sweden for the fluorinated gases is 1995 and not 1990. During the review, the ERT calculated the base year emissions to be 72,057,123 t CO ₂ eq, which was agreed by Sweden. The revised estimates for the base year emissions do not affect the assigned amount for Sweden (see ID#2 below), because the assigned amount is determined based on the allocations in the European Union decisions referenced in ID#2 below and is not calculated using the base year emission estimates for Sweden. The ERT invites Sweden to communicate the revised base year emissions to the European Union with a view to their being considered in the calculation of the joint assigned amount of the European Union, its member States and Iceland	Not a problem
2.	Calculation of the assigned amount	<p>The assigned amount submitted by the Party in its report to facilitate the calculation of the assigned amount was calculated in accordance with Article 3, paragraphs 7 bis, 8 and 8 bis, of the Kyoto Protocol, the annex to decision 13/CMP.1 and annex I to decision 3/CMP.11</p> <p>The ERT notes that the European Union, its member States and Iceland stated that they will fulfil their reduction targets under the second commitment period jointly.^a The joint assigned amount for the European Union, its member States and Iceland is calculated pursuant to the quantified emission limitation or reduction commitment listed in the third column of the table contained in Annex B to the Kyoto Protocol, while the assigned amount of each member State is determined in accordance with the terms of the joint fulfilment agreement. Specifically, the assigned amount for Sweden is fixed based on Annex II to European Commission decision 2013/162/EU and as adjusted by Commission implementing decision 2013/634/EU^b</p> <p>The ERT concludes that the assigned amount reported by Sweden is in accordance with the joint fulfilment agreement by the European Union, its member States and Iceland</p>	Not a problem
3.	Calculation of the commitment period reserve	The commitment period reserve was calculated in accordance with the annex to decision 18/CP.7, the annex to decision 11/CMP.1 and decision 1/CMP.8, paragraph 18	Not a problem
4.	Accounting of activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol	In its original submission, Sweden reported the quantity amounting to 3.5 % of the base year GHG emissions, excluding LULUCF, multiplied by eight, to be 20,149,238 t CO ₂ eq. However, the Party's calculation of the base year total emissions excluding LULUCF was incorrect as it did not take into account that the base year for the fluorinated gases is 1995 and not 1990 (see ID#1 above). During the review, Sweden indicated that the correct	Not a problem

<i>ID#</i>	<i>Finding classification</i>	<i>Description of the finding</i>	<i>Classification of problem</i>
		value of the quantity amounting to 3.5% of the base year GHG emissions, excluding LULUCF, multiplied by eight, should be 20,175.99 kt CO ₂ eq. The ERT confirms that the final value is 20,175,994 t CO ₂ eq	
5.	Reporting pursuant to Article 3.7 ter of the Doha Amendment	In line with the terms of the joint fulfilment of the European Union, its member States and Iceland under Article 3 of the Kyoto Protocol, and as described in the report to facilitate the calculation of the assigned amount of the European Union, Article 3, paragraph 7 ter, of the Kyoto Protocol is applied to the joint assigned amount of the European Union, its member States and Iceland for the second commitment period. In its report, the European Union includes the value for the difference between the joint assigned amount for the second commitment period and average annual emissions for the first three years of the first commitment period for the member States and Iceland, multiplied by eight. The report of the European Union also clarifies that the approach used to calculate average annual emissions for the first three years of the first commitment period is the gases and sources listed in Annex A to the Kyoto Protocol	Not a problem
6.	National registry	In the report to facilitate the calculation of the assigned amount, the Party noted that it will establish a PPSR account in its national registry. The ERT notes that the 2016 standard independent assessment report for Sweden indicates that the PPSR account is expected to be established as soon as technically possible after the release of the consolidated registry software for the European Union	Not a problem
7.	Adjustments	The ERT has not identified the need to apply any adjustments to the estimate for the assigned amount for the second commitment period, as reported by Sweden in its report to facilitate the calculation of the assigned amount	Not a problem

Abbreviations: ERT = expert review team, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry, PPSR = previous period surplus reserve.

^a The report to facilitate the calculation of the assigned amount for the European Union is available at http://unfccc.int/national_reports/initial_reports_under_the_kyoto_protocol/second_commitment_period_2013-2020/items/9499.php.

^b At the time of publication of this report, the European Union had not yet submitted its instrument of ratification of the Doha Amendment and information on the joint implementation of such an amendment.

IV. Questions of implementation

5. No questions of implementation were identified by the ERT during the review.

Annex I

Key relevant data for Sweden

1. Table 4 provides key data and parameters for, and elections by, Sweden, relevant for the implementation of the second commitment period of the Kyoto Protocol. The information included in table 4 is as given by the Party in its report to facilitate the calculation of the assigned amount, unless otherwise specified.

Table 4

Key relevant data for Sweden^a

<i>Key information or parameter provided</i>	<i>Comment</i>
<i>General Party information</i>	
Did the Party have a QELRC in the first commitment period?	Yes
Sweden's QELRC in the second commitment period	Sweden will implement its reduction target under the second commitment period jointly with the European Union, its member States and Iceland as described in ID#2, table 3. The QELRC for the European Union, its member States and Iceland is 80% of the base year emissions
Has the Party reached an agreement under Article 4 of the Kyoto Protocol to fulfil its commitments jointly with other Parties?	Yes
Base year	1990
Base year for HFCs, PFCs and SF ₆	1995
Base year for NF ₃	1995
Base year emissions, as reported by the Party	71,917,260 t CO ₂ eq
Base year emissions, final, as calculated by the ERT and agreed by the Party	72,057,123 t CO ₂ eq
<i>Information related to the calculation of the assigned amount and the commitment period reserve</i>	
Assigned amount, as reported by the Party and agreed by the ERT	315,554,578 t CO ₂ eq
Approach used to calculate the average annual emissions for the first three years of the first commitment period	This difference is calculated on the basis of the joint assigned amount of the European Union, its member States and Iceland and is based on the gases and sources listed in Annex A to the Kyoto Protocol
Difference between the assigned amount for the second commitment period and average annual emissions for the first three years of the first commitment period, multiplied by eight, as reported	This difference is calculated on the basis of the joint assigned amount of the European Union, its member States and Iceland and is based on the gases and sources listed in Annex A to the

<i>Key information or parameter provided</i>	<i>Comment</i>
by the Party and agreed by the ERT	Kyoto Protocol
Commitment period reserve, as reported by the Party and agreed by the ERT	283,999,121 t CO ₂ eq
<i>Information related to activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol</i>	
LULUCF parameters	Minimum tree crown cover: 10% Minimum land area: 0.5 ha Minimum tree height: 5 m
Elections under Article 3, paragraphs 3 and 4, of the Kyoto Protocol:	
(a) Afforestation/reforestation	Commitment period accounting
(b) Deforestation	Commitment period accounting
(c) Forest management	Commitment period accounting
(d) Cropland management	Not elected
(e) Grazing land management	Not elected
(f) Revegetation	Not elected
(g) Wetland drainage and rewetting	Not elected
FMRL	–41.336 Mt CO ₂ eq/year
Technical corrections to the FMRL as reported in the original submission and agreed by the ERT	7.268 Mt CO ₂ eq/year
3.5 per cent of total base year GHG emissions, excluding LULUCF and including indirect CO ₂ emissions, as reported by the Party	Not reported in the original submission
3.5 per cent of total base year GHG emissions, excluding LULUCF and including indirect CO ₂ emissions, final value, as calculated by the ERT	2,521.999 kt CO ₂ eq*
3.5 per cent of total base year GHG emissions, excluding LULUCF and including indirect CO ₂ emissions, multiplied by 8, as reported by the Party	20,149.238 kt CO ₂ eq
3.5 per cent of total base year GHG emissions, excluding LULUCF and including indirect CO ₂ emissions, multiplied by 8, final value	20,175.994 kt CO ₂ eq
Will the Party exclude emissions from natural disturbances in accounting for:	
(a) Afforestation and reforestation	Yes
(b) Forest management	Yes

Abbreviations: ERT = expert review team, FMRL = forest management reference level, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry, QELRC = quantified emission limitation and reduction commitment.

^a An asterisk is included next to the “Key information or parameter” in all cases where the information was not submitted by the Party in its report to facilitate the calculation of the assigned amount for the second commitment period of the Kyoto Protocol, because the Party had already submitted this information in the report to facilitate the calculation of the assigned amount for the first commitment period of the Kyoto Protocol or because the information was not otherwise required.

2. Tables 5–7 provide an overview of total greenhouse gas emissions and removals, as submitted by Sweden. Where a Party has decided to voluntarily report indirect carbon dioxide emissions, this is noted in the relevant table.

Table 5

Total greenhouse gas emissions for Sweden, base year^a–2014^b(kt CO₂ eq)

Year	Total GHG emissions excluding indirect CO ₂ emissions		Total GHG emissions including indirect CO ₂ emissions ^c		Land-use change (Article 3.7 bis as contained in the Doha Amendment) ^d
	Total including LULUCF	Total excluding LULUCF	Total including LULUCF	Total excluding LULUCF	
Base year	35 085.26	72 057.12	35 085.26	72 057.12	NA
1990	34 945.40	71 917.26	34 945.40	71 917.26	
1995	41 093.82	74 029.36	41 093.82	74 029.36	
2000	30 732.59	68 868.77	30 732.59	68 868.77	
2010	20 118.83	64 997.09	20 118.83	64 997.09	
2011	21 103.98	60 987.15	21 103.98	60 987.15	
2012	13 078.26	57 578.36	13 078.26	57 578.36	
2013	13 690.80	55 939.52	13 690.80	55 939.52	
2014	9 315.50	54 382.74	9 315.50	54 382.74	

Abbreviations: GHG = greenhouse gas, LULUCF = land use, land-use change and forestry, NA = not applicable.

^a Base year refers to the base year under the Kyoto Protocol, which is 1990 for CO₂, CH₄ and N₂O, and 1995 for HFCs, PFCs SF₆ and NF₃.

^b Emissions/removals reported in the sector other (sector 6) are not included in total GHG emissions.

^c The Party has not reported indirect CO₂ emissions in common reporting format table 6.

^d The value reported in this column refers to 1990.

Table 6

Greenhouse gas emissions by gas for Sweden, excluding land use, land-use change and forestry, 1990–2014^a(kt CO₂ eq)

<i>Year</i>	<i>CO₂^b</i>	<i>CH₄</i>	<i>N₂O</i>	<i>HFCs</i>	<i>PFCs</i>	<i>Unspecified mix of HFCs and PFCs</i>	<i>SF₆</i>	<i>NF₃</i>
1990	57 546.54	7 989.91	5 840.75	4.60	433.72	NA	101.73	NA
1995	59 318.67	7 882.65	6 148.13	149.18	395.55	NA	135.19	NA
2000	54 730.42	7 192.46	5 918.67	631.37	277.06	NA	118.78	NA
2010	53 057.73	5 687.88	5 053.51	950.24	184.82	NA	62.91	NA
2011	49 133.59	5 564.03	5 106.58	915.23	212.95	NA	54.77	NA
2012	46 559.64	5 377.21	4 640.93	869.97	78.28	NA	52.34	NA
2013	44 899.15	5 277.93	4 831.68	838.55	51.00	NA	41.21	NA
2014	43 404.90	5 158.27	4 884.13	807.11	81.70	NA	46.62	NA
Per cent change 1990–2014	–24.6	–35.4	–16.4	17 437.0	–81.2	NA	–54.2	NA

Abbreviations: NA = not applicable.^a Emissions/removals reported in the sector other (sector 6) are not included in total greenhouse gas emissions.^b Sweden did not report indirect CO₂ emissions in common reporting format table 6.

Table 7

Greenhouse gas emissions by sector for Sweden, 1990–2014^{a, b}(kt CO₂ eq)

<i>Year</i>	<i>Energy</i>	<i>IPPU</i>	<i>Agriculture</i>	<i>LULUCF</i>	<i>Waste</i>	<i>Other</i>
1990	53 148.81	7 023.92	8 003.74	–36 971.86	3 740.79	NO
1995	54 951.10	7 241.98	8 275.93	–32 935.54	3 560.35	NO
2000	50 225.73	7 473.84	7 946.63	–38 136.18	3 222.57	NO
2010	48 590.56	7 516.41	6 942.06	–44 878.26	1 948.06	NO
2011	44 727.12	7 051.93	7 337.73	–39 883.16	1 870.36	NO
2012	42 324.85	6 699.70	6 824.47	–44 500.10	1 729.34	NO
2013	40 732.02	6 540.62	7 049.19	–42 248.72	1 617.69	NO
2014	39 285.29	6 432.51	7 143.42	–45 067.23	1 521.51	NO
Per cent change 1990–2014	–26.1	–8.4	–10.7	21.9	–59.3	NA

Abbreviations: IPPU = industrial processes and product use, LULUCF = land use, land-use change and forestry, NA = not applicable, NO = not occurring.

^a Emissions/removals reported in the sector other (sector 6) are not included in total greenhouse gas emissions.

^b Sweden did not report indirect CO₂ emissions in common reporting format table 6.

Annex II

Documents and information used during the review

A. Reference documents

“Guidelines for national systems for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, paragraph 1, of the Kyoto Protocol”. Annex to decision 19/CMP.1. Available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf#page=14>.

“Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”. Annex to decision 15/CMP.1. Available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a02.pdf>.

“Guidelines for review under Article 8 of the Kyoto Protocol”. Annex to decision 22/CMP.1. Available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf#page=51>.

“Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories”. Annex I to decision 24/CP.19. Available at <http://unfccc.int/resource/docs/2013/cop19/eng/10a03.pdf#page=4>.

“Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention”. Annex to decision 13/CP.20. Available at <http://unfccc.int/resource/docs/2014/cop20/eng/10a03.pdf#page=6>.

“Implications of the implementation of decisions 2/CMP.7 to 4/CMP.7 and 1/CMP.8 on the previous decisions on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8 of the Kyoto Protocol, part I: implications related to accounting and reporting and other related issues”. Decision 3/CMP.11. Available at <http://unfccc.int/resource/docs/2015/cmp11/eng/08a01.pdf#page=5>.

“Implications of the implementation of decisions 2/CMP.7 to 4/CMP.7 and 1/CMP.8 on the previous decisions on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8 of the Kyoto Protocol, part II: implications related to review and adjustments and other related issues”. Decision 4/CMP.11. Available at <http://unfccc.int/resource/docs/2015/cmp11/eng/08a01.pdf#page=30>.

Intergovernmental Panel on Climate Change. 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. Available at <http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html>.

Intergovernmental Panel on Climate Change. 2014. *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*. Available at <http://www.ipcc-nggip.iges.or.jp/public/kpsg>.

Intergovernmental Panel on Climate Change. 2014. *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*. Available at <http://www.ipcc-nggip.iges.or.jp/public/wetlands/index.html>.

B. Additional information provided by the Party

Responses to questions during the review were received from Mr. Hakam Al-Hanbali (Swedish Environmental Protection Agency), including additional material on the methodology and assumptions used. The following documents¹ and personal communications were also provided by Sweden:

M. Abraham. 2016. Swedish Car Recyclers Association, personal communication on the recovery of fluorinated greenhouse gases at decommissioning of mobile air-conditioning systems in Sweden, 2016.

Edborg P, Stenmarck A, Sundqvist J and Szudy M. 2010. *Förbättring av beräkningsunderlag för metangasberäkningar avseende avfallsdeponering* (Improvement of the calculations for methane from landfills). Available at <http://www.smed.se/wp-content/uploads/2012/01/F%C3%B6rb%C3%A4ttring-av-metangasber%C3%A4kningar-avseende-avfallsdeponering.pdf>.

P. Jonasson, Swedish Refrigeration and Heat Pump Association. Personal communication on recovery of fluorinated greenhouse gases at decommissioning of stationary and mobile systems in Sweden, 2016.

Sundqvist J and Szudy M. 2012. *Analys av reviderade avfallskategoriernas DOC-halter i WStatR-rapporteringen 2012 avseende 2010* (Analysis of the revised waste categories DOC concentrations in reporting in 2012 for 2010).

Swedish Environmental Protection Agency. 2003. *Åtgärder för en begränsad användning av fluorerade växthusgaser* (Measures for limiting the use of fluorinated greenhouse gases). Available at <http://www.naturvardsverket.se/Om-Naturvardsverket/Publikationer/ISBN/5300/91-620-5311-6/>.

¹ Reproduced as received from the Party.

Annex III

Acronyms and abbreviations

CH ₄	methane
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
ERT	expert review team
FMRL	forest management reference level
GHG	greenhouse gas
HFC	hydrofluorocarbon
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
kt	kilotonne
LULUCF	land use, land-use change and forestry
Mt	million tonnes
NA	not applicable
NF ₃	nitrogen trifluoride
NO	not occurring
N ₂ O	nitrous oxide
PFC	perfluorocarbon
PPSR	previous period surplus reserve
QELRC	quantified emission limitation and reduction commitment
SF ₆	sulphur hexafluoride
UNFCCC	United Nations Framework Convention on Climate Change
