



**Report of the individual review of the annual submission of
the Netherlands submitted in 2014**

Note by the secretariat

The report of the individual review of the annual submission of the Netherlands submitted in 2014 was published on 10 December. For purposes of rule 10, paragraph 2, of the rules of procedure of the Compliance Committee (annex to decision 4/CMP.2, as amended by decisions 4/CMP.4 and 8/CMP.9), the report is considered received by the secretariat on the same date. This report, FCCC/ARR/2014/NLD, 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 individual review of the annual submission of
the Netherlands submitted in 2014***

* In the symbol for this document, 2014 refers to the year in which the inventory was submitted, and not to the year of publication.

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I. Introduction and summary

1. This report covers the review of the 2014 annual submission of the Netherlands, coordinated by the UNFCCC secretariat, in accordance with the “Guidelines for review under Article 8 of the Kyoto Protocol” (decision 22/CMP.1) (hereinafter referred to as the Article 8 review guidelines). The review took place from 15 to 20 September 2014 in Bonn, Germany, and was conducted by the following team of nominated experts from the UNFCCC roster of experts: generalists – Mr. Justin Goodwin (United Kingdom of Great Britain and Northern Ireland), Mr. Michael Gytarsky (Russian Federation) and Ms. Jolanta Merkeliene (Lithuania); energy – Mr. Ralph Harthan (Germany), Ms. Tahira Munir (Pakistan) and Mr. Jongikhaya Witi (South Africa); industrial processes and solvent and other product use – Ms. Nouf Aburas (Saudi Arabia) and Mr. Ole-Kenneth Nielsen (Denmark); agriculture – Ms. Hongmin Dong (China) and Mr. Kazumasa Kawashima (Japan); land use, land-use change and forestry (LULUCF) – Mr. Kevin Black (Ireland), Mr. Raehyun Kim (Republic of Korea) and Mr. Vladimir Korotkov (Russian Federation); and waste – Mr. Seungdo Kim (Republic of Korea) and Mr. Gabor Kis-Kovacs (Hungary). Mr. Goodwin and Mr. Witi were the lead reviewers. The review was coordinated by Mr. Matthew Dudley (UNFCCC secretariat).

2. In accordance with the Article 8 review guidelines, a draft version of this report was sent to the Government of the Netherlands, which provided comments that were considered and incorporated, as appropriate, into this final version of the report. All encouragements and recommendations in this report are for the next annual submission, unless otherwise specified.

3. All recommendations and encouragements included in this report are based on the expert review team’s (ERT’s) assessment of the 2014 annual submission against the Article 8 review guidelines. The ERT has not taken into account the fact that Parties will prepare the submissions due by 15 April 2015 using the revised “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” (hereinafter referred to as the UNFCCC Annex I inventory reporting guidelines) adopted through decision 24/CP.19. Therefore, when preparing the 2015 annual submissions, Parties should evaluate the implementation of the recommendations and encouragements in this report, in the context of those guidelines.

4. In 2012, the main greenhouse gas (GHG) emitted by the Netherlands was carbon dioxide (CO₂), accounting for 86.2 per cent of total GHG emissions¹ expressed in CO₂ equivalent (CO₂ eq), followed by methane (CH₄) (7.8 per cent) and nitrous oxide (N₂O) (4.7 per cent). Hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆) collectively accounted for 1.3 per cent of the overall GHG emissions in the country. The energy sector accounted for 84.5 per cent of total GHG emissions, followed by the agriculture sector (8.3 per cent), the industrial processes sector (5.2 per cent), the waste sector (1.9 per cent) and the solvent and other product use sector (0.1 per cent). Total GHG emissions amounted to 191,668.70 Gg CO₂ eq and decreased by 10.1 per cent between the base year² and 2012. The ERT concluded that the description in the national inventory report (NIR) of the trends for the different gases and sectors is reasonable.

¹ In this report, the term “total GHG emissions” refers to the aggregated national GHG emissions expressed in terms of CO₂ eq excluding LULUCF, unless otherwise specified.

² “Base year” refers to the base year under the Kyoto Protocol, which is 1990 for CO₂, CH₄ and N₂O, and 1995 for HFCs, PFCs and SF₆. The base-year emissions include emissions from sources included in Annex A to the Kyoto Protocol only.

5. Tables 1 and 2 show GHG emissions from sources included in Annex A to the Kyoto Protocol (hereinafter referred to as Annex A sources), emissions and removals from the LULUCF sector under the Convention and emissions and removals from activities under Article 3, paragraph 3, and, if any, elected activities under Article 3, paragraph 4, of the Kyoto Protocol (KP-LULUCF), by gas and by sector and activity, respectively.
6. Information to be included in the compilation and accounting database can be found in annex I to this report.

Table 1

Greenhouse gas emissions from Annex A sources and emissions/removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol by gas, base year^a to 2012

		<i>Gg CO₂ eq</i>								<i>Change (%)</i>
	<i>Greenhouse gas</i>	<i>Base year^a</i>	<i>1990</i>	<i>1995</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>Base year–2012</i>
Annex A sources	CO ₂	159 235.89	159 235.89	170 737.94	175 171.74	169 902.78	181 350.84	168 058.34	165 261.72	3.8
	CH ₄	25 706.79	25 706.79	24 288.66	16 075.71	16 022.78	15 940.15	15 262.33	14 944.65	–41.9
	N ₂ O	19 992.13	19 992.13	19 891.44	9 702.21	9 453.12	9 345.67	9 281.21	9 060.80	–54.7
	HFCs	6 018.69	4 432.03	6 018.69	1 929.00	2 070.06	2 256.81	2 132.16	2 054.52	–65.9
	PFCs	1 937.82	2 264.48	1 937.82	251.07	167.97	208.86	182.85	150.95	–92.2
	SF ₆	286.78	218.28	286.78	183.79	170.38	184.10	146.63	196.05	–31.6
KP-LULUCF	Article 3.3 ^b			345.90	547.21	371.37	389.70	408.26		
				0.08	0.09	0.10	0.11	0.12		
				0.27	0.93	1.1	1.28	1.47		
	Article 3.4 ^c	NA		NA	NA	NA	NA	NA	NA	
		NA		NA	NA	NA	NA	NA	NA	
		NA		NA	NA	NA	NA	NA	NA	

Abbreviations: Annex A sources = source categories included in Annex A to the Kyoto Protocol, KP-LULUCF = land use, land-use change and forestry emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, NA = not applicable.

^a The base year for Annex A sources refers to the base year under the Kyoto Protocol, which is 1990 for CO₂, CH₄ and N₂O, and 1995 for HFCs, PFCs and SF₆. The base year for cropland management, grazing land management and revegetation under Article 3, paragraph 4, of the Kyoto Protocol is 1990. For activities under Article 3, paragraph 3, of the Kyoto Protocol and forest management under Article 3, paragraph 4, only the inventory years of the commitment period must be reported.

^b CO₂, CH₄ and N₂O emissions included in the rows under Annex A sources do not include the emissions from deforestation that were included in the Netherlands' initial report under the Kyoto Protocol for the base year and subsequently used for the calculation of the assigned amount.

^c Activities under Article 3, paragraph 3, of the Kyoto Protocol, namely afforestation and reforestation, and deforestation.

^d Elected activities under Article 3, paragraph 4, of the Kyoto Protocol, including forest management, cropland management, grazing land management and revegetation.

Table 2
Greenhouse gas emissions by sector and activity, base year^a to 2012

		Gg CO ₂ eq								Change (%)
Sector		Base year	1990	1995	2008	2009	2010	2011	2012	Base year–2012
Annex A sources	Energy	153 773.92	153 773.92	165 672.18	171 513.69	166 560.30	177 886.87	164 407.56	161 949.42	5.3
	Industrial processes	23 520.99	22 192.49	23 566.18	10 240.89	9 955.72	10 406.18	10 427.70	9 921.22	–57.8
	Solvent and other product use	547.08	547.08	449.85	212.66	214.84	212.37	214.80	206.23	–62.3
	Agriculture	22 551.77	22 551.77	22 167.37	16 759.06	16 695.79	16 688.77	16 133.61	15 903.49	–29.5
	Waste	12 784.32	12 784.32	11 305.74	4 587.23	4 360.44	4 092.24	3 879.83	3 688.34	–71.1
	LULUCF	NA	3 013.01	2 840.91	2 209.29	3 214.43	3 306.69	3 404.58	3 536.20	NA
Total (with LULUCF)		NA	214 862.60	226 002.24	205 522.82	201 001.53	212 593.12	198 468.09	195 204.90	NA
Total (without LULUCF)		213 178.09	211 849.59	223 161.32	203 313.53	197 787.10	209 286.43	195 063.51	191 668.70	–10.1
Other ^b		NA	NA	NA	NA	NA	NA	NA	NA	NA
KP-LULUCF	Article 3.3 ^c	Afforestation and reforestation			–413.65	–434.83	–633.14	–644.86	–656.21	
		Deforestation			759.91	983.07	1 005.73	1 035.97	1 066.07	
		Total (3.3)			346.26	548.24	372.59	391.10	409.85	
	Article 3.4 ^d	Forest management			NA	NA	NA	NA	NA	
		Cropland management	NA		NA	NA	NA	NA	NA	NA
		Grazing land management	NA		NA	NA	NA	NA	NA	NA
		Revegetation	NA		NA	NA	NA	NA	NA	NA
		Total (3.4)	NA		NA	NA	NA	NA	NA	NA

Abbreviations: Annex A sources = source categories included in Annex A to the Kyoto Protocol, KP-LULUCF = LULUCF emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, LULUCF = land use, land-use change and forestry, NA = not applicable.

^a The base year for Annex A sources refers to the base year under the Kyoto Protocol, which is 1990 for CO₂, CH₄ and N₂O, and 1995 for HFCs, PFCs and SF₆. The base year for cropland management, grazing land management and revegetation under Article 3, paragraph 4, of the Kyoto Protocol is 1990. For activities under Article 3, paragraph 3, of the Kyoto Protocol and forest management under Article 3, paragraph 4, only the inventory years of the commitment period must be reported.

^b Emissions/removals reported in the sector other (sector 7) are not included in Annex A to the Kyoto Protocol and are therefore not included in national totals.

^c Activities under Article 3, paragraph 3, of the Kyoto Protocol, namely afforestation and reforestation, and deforestation.

^d Elected activities under Article 3, paragraph 4, of the Kyoto Protocol, including forest management, cropland management, grazing land management and revegetation.

II. Technical assessment of the annual submission

A. Overview

1. Annual submission and other sources of information

7. The 2014 annual submission was submitted on 15 April 2014; it contains a complete set of common reporting format (CRF) tables for the period 1990–2012 and an NIR. The Netherlands also submitted the information required under Article 7, paragraph 1, of the Kyoto Protocol, including information on: activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, accounting of Kyoto Protocol units, changes in the national system and in the national registry and the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol. The standard electronic format (SEF) tables were submitted on 15 April 2014. The annual submission was submitted in accordance with decision 15/CMP.1.

8. The list of other materials used during the review is provided in annex II to this report.

2. Question(s) of implementation raised in the 2013 annual review report

9. The ERT noted that no questions of implementation were raised in the 2013 annual review report.

3. Overall assessment of the inventory

10. Table 3 contains the ERT's overall assessment of the annual submission of the Netherlands. For recommendations for improvements for specific categories, please see the paragraphs cross-referenced in the table.

Table 3

The expert review team's overall assessment of the annual submission

<i>Issue</i>	<i>Expert review team assessment</i>	<i>General findings and recommendations</i>
The ERT's findings on completeness		
Annex A sources ^a	Complete	Mandatory: none
		Non-mandatory: CO ₂ and CH ₄ emissions from distribution of oil products; CO ₂ and CH ₄ emissions from other (oil); CO ₂ emissions from other leakage (natural gas); CO ₂ emissions from asphalt roofing; CO ₂ emissions from road paving with asphalt; potential HFC, PFC and SF ₆ emissions from import, export and destroyed amount; CH ₄ emissions from enteric fermentation for poultry and other (enteric fermentation); and N ₂ O emissions from manure management for mules and asses

<i>Issue</i>	<i>Expert review team assessment</i>	<i>General findings and recommendations</i>
Land use, land-use change and forestry ^a	Not complete	<p>Mandatory: the carbon stock changes (CSCs) in living biomass (losses) in forest land remaining forest land (“Trees Outside Forests” (TOF)); CSCs in dead organic matter (DOM) in land converted to forest land; CSCs in organic soils in forest land remaining forest land and land converted to forest land; CSCs in living biomass (losses) in wetlands, settlements and other land converted to forest land; CSCs in living biomass in cropland remaining cropland; CSCs in DOM in forest land (TOF), grassland, wetlands, settlements and other land converted to cropland; CSCs in living biomass (losses) in wetlands, settlements and other land converted to cropland; CSCs in organic soils in land converted to cropland; CSCs in living biomass and soils (subdivision “Nature”) in grassland remaining grassland; CSCs in DOM in forest land (TOF), cropland, wetlands, settlements and other land converted to grassland; CSCs in organic soils in land converted to grassland; CSCs in living biomass (losses) in wetlands, settlements and other land converted to grassland; CSCs in living biomass (gains) in land converted to wetlands; CSCs in living biomass (losses) in settlements and other land converted to wetlands; CSCs in living biomass (gains) in land converted to settlements; CSCs in living biomass (losses) in wetlands and other land converted to settlements; CSCs in living biomass (gains) in land converted to other land; and CSCs in living biomass (losses) in wetlands and settlements converted to other land</p> <p>The ERT recommends that the Party estimate and report emissions from all mandatory categories</p> <p>Non-mandatory: CSCs in DOM in cropland, grassland and settlements remaining in the same category; CSCs in living biomass and DOM in wetlands remaining wetlands; CSCs in DOM in forest land (TOF), cropland, grassland, settlements and other land converted to wetlands; CSCs in all pools, except soils, in settlements remaining settlements; CSCs in DOM in forest land (TOF), cropland, grassland, wetlands and other land converted to settlements; CSCs in DOM in forest land (TOF), cropland, grassland, wetlands and settlements converted to other land; N₂O emissions from lime application in all land use</p>

<i>Issue</i>	<i>Expert review team assessment</i>	<i>General findings and recommendations</i>
KP-LULUCF	Complete	<p>categories; CH₄ and N₂O emissions from drainage of soils; and CO₂, CH₄ and N₂O emissions from harvested wood products</p> <p>The ERT encourages the Party to estimate and report emissions from all non-mandatory categories</p> <p>Verifiable information is provided for missing mandatory carbon pools</p>
The ERT's findings on recalculations and time-series consistency		
Transparency of recalculations	Sufficiently transparent	
Time-series consistency	Sufficiently consistent	Please see paragraph 36 below for a category-specific recommendation
The ERT's findings on QA/QC procedures		
	Sufficient	<p>The Netherlands has elaborated a QA/QC plan and has implemented tier 1 QA/QC procedures in accordance with that plan</p> <p>Please see paragraphs 19, 33, 34, 51, 54 and 62 below for category-specific recommendations</p>
The ERT's findings on transparency		
	Sufficiently transparent	Please see paragraphs 20, 21, 27, 32, 42 and 52 below for category-specific recommendations

Abbreviations: Annex A sources = source categories included in Annex A to the Kyoto Protocol, ERT = expert review team, KP-LULUCF = land use, land-use change and forestry emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, QA/QC = quality assurance/quality control.

^a The assessment of completeness by the ERT considers only the completeness of reporting of mandatory categories (i.e. categories for which methods and default emission factors are provided in the Intergovernmental Panel on Climate Change (IPCC) *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, the *IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* or the *IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry*).

4. Description of the institutional arrangements for inventory preparation, including the legal and procedural arrangements for inventory planning, preparation and management

Inventory planning

11. The NIR described the national system for the preparation of the inventory. As indicated by the Party in its NIR, there were no changes to the inventory planning process. The description of the inventory planning process, as contained in the report of the individual review of the annual submission of the Netherlands submitted in 2013,³ remains relevant.

³ FCCC/ARR/2013/NLD, paragraphs 10–15

Inventory preparation

12. Table 4 contains the ERT's assessment of the Netherlands' inventory preparation process. For improvements related to specific categories, please see the paragraphs cross-referenced in the table.

Table 4

Assessment of inventory preparation by the Netherlands

<i>Issue</i>	<i>ERT assessment</i>	<i>ERT findings and recommendations</i>
<i>Key category analysis</i>		
Was the key category analysis performed in accordance with the IPCC good practice guidance and the IPCC good practice guidance for LULUCF?	Yes	Level and trend analysis performed, including and excluding LULUCF
Approach followed?	Both tier 1 and tier 2	
Were additional key categories identified using a qualitative approach?	No	
Has the Party identified key categories for activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol following the guidance on establishing the relationship between the activities under the Kyoto Protocol and the associated key categories in the UNFCCC inventory?	Yes	
Does the Party use the key category analysis to prioritize inventory improvements?	Yes	
<i>Assessment of uncertainty analysis</i>		
Approach followed?	Tier 1	The most recent tier 2 uncertainty analysis was carried out in 2006
Was the uncertainty analysis carried out in accordance with the IPCC good practice guidance and the IPCC good practice guidance for LULUCF?	Yes	
Quantitative uncertainty (including LULUCF)	Level = 3.3% Trend = 2.6%	
Quantitative uncertainty (excluding LULUCF)	Level = 3.3% Trend = 3.3%	

Abbreviations: ERT = expert review team, IPCC good practice guidance = Intergovernmental Panel on Climate Change (IPCC) *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, IPCC good practice guidance for LULUCF = IPCC *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, LULUCF = land use, land-use change and forestry.

13. The ERT encourages the Netherlands to provide a more complete description of the overall uncertainties in its introductory uncertainties section in future NIRs, which present level and trend uncertainties for emissions expressed in CO₂ eq including and excluding LULUCF.

Inventory management

14. There were no changes to the inventory management process carried out by the Party for the 2014 annual submission, as indicated by the Netherlands in its NIR. The description of the inventory management process, as contained in the report of the individual review of the annual submission of the Netherlands submitted in 2013,⁴ remains relevant. During the review week, the Netherlands provided further information on its archiving process, including its Oracle database system and ISO9001 quality management systems which ensure suitable security of legacy data. The ERT recommends that the Netherlands include this information in the NIR.

5. Follow-up to previous reviews

15. In response to the recommendations made in the previous review report, the Netherlands has:

(a) Improved the time-series consistency of its estimates of CH₄ emissions from mules and asses, and corrected its use of the notation key “NO” (not occurring) in the agriculture sector;

(b) Estimated emissions of N₂O from disturbance associated with land-use conversion to cropland for LULUCF;

(c) Included information on sector-specific quality assurance/quality control (QA/QC) procedures, clarified its use of expert judgement in the NIR, included information on recalculations and corrected inconsistencies between the NIR and the CRF tables for the waste sector;

(d) Provided verifiable information that demonstrates that the pools unaccounted for under the conversions from “Trees Outside Forests” (TOF) to “Forests According to the Kyoto Protocol” (FAD) for afforestation and reforestation and from FAD to TOF for deforestation are not net sources of emissions, as required by the annex to decision 15/CMP.1.

16. Recommendations from previous reviews that have not yet been implemented, as well as issues the ERT identified during the 2014 annual review, are discussed in the relevant sectoral chapters of the report and in table 9 below.

B. Energy

1. Sector overview

17. The energy sector is the main sector in the GHG inventory of the Netherlands. In 2012, emissions from the energy sector amounted to 161,949.42 Gg CO₂ eq, or 84.5 per cent of total GHG emissions. Since 1990, emissions have increased by 5.3 per cent. The

⁴ FCCC/ARR/2013/NLD, paragraph 17.

key drivers for the rise in emissions are the increase in the consumption of natural gas in all non-transport subcategories, followed by the increases in the consumption of oil products in transport, refineries and the petrochemical industry, and in the consumption of coal in electricity production and steel production. Within the sector, 37.2 per cent of the emissions were from energy industries, followed by 24.4 per cent from other sectors, 21.0 per cent from transport, 16.0 per cent from manufacturing industries and construction, 0.9 per cent from oil and natural gas and 0.2 per cent both from other and from solid fuels.

18. The Netherlands has made recalculations between the 2013 and 2014 annual submissions for this sector. The most significant recalculations made by the Netherlands between the 2013 and 2014 annual submissions were in the following category: manufacturing industries and construction. The recalculations were made following changes in activity data (AD) that resulted in the reallocation of emissions from food processing, beverages and tobacco to the category food and drink, and changes in AD in the category other manufacturing industries. Compared with the 2013 annual submission, the recalculations increased emissions in the energy sector by 166.78 Gg CO₂ eq (0.7 per cent), and increased total national emissions by 0.09 per cent. The recalculations were adequately explained in the NIR and the Monitoring Protocols.⁵

19. The Netherlands' reporting of information in the NIR, CRF tables and Monitoring Protocols is not fully consistent; for example, according to the NIR (page 50, "Methodological issues"), tier 1 and tier 2 methods were used to estimate CO₂ emissions from manufacture of solid fuels and other energy industries, while in CRF table summary 3, only a tier 1 method is listed, and the Monitoring Protocol states the use of a tier 2 method. In response to a question raised by the ERT during the review, the Netherlands responded that the information on methodological choices is copied from the NIR into the CRF tables. The ERT reiterates the recommendation made in the previous review report that the Netherlands improve its QC procedures to ensure that all the information provided in the CRF tables and the NIR is consistent.

20. The Netherlands publishes a national fuels list which is available as a link on the website of the NL Agency (Department of the Dutch Ministry of Economic Affairs),⁶ and the key fuels and emission factors (EFs) are presented in annex 2 to the NIR. The list contains a mix of country-specific and IPCC default EFs which are used in the GHG inventory. The ERT noted that some of the EFs are estimated annually (e.g. waste and natural gas), while others are constant throughout the time series. The ERT also noted that it is not fully clear from the NIR which EFs are country-specific and which are IPCC default values. The ERT recommends that the Netherlands provide a clearer indication of the origin of its EFs in future NIRs.

21. The Netherlands uses data from the European Union Emissions Trading System (EU ETS) for the verification of some emission estimates. In response to questions raised by the ERT during the review about providing more information on this verification process, the Netherlands responded that arrangements are made to give the sectoral specialists easier access to the EU ETS data and checking these data is now a standard procedure in the compilation of the emission estimates for the Netherlands. The Party also provided a document about this verification process. The ERT welcomes such arrangements and this verification activity and encourages the Netherlands to continue to perform it, and recommends that the Party provide such information also in its NIR to improve the transparency of its reporting.

⁵ The Netherlands describes its methods for a number of categories in detailed 'Monitoring Protocol' documents. These are kept in the national system archive and are available to access online.

⁶ <<http://www.cbs.nl/nl-NL/menu/themas/industrie-energie/publicaties/mnc/default.htm>>.

22. The ERT noted that the notation key “IE” (included elsewhere) was used to report emissions from gaseous fuel consumption under the other transportation category. However, there is no information on where the corresponding emissions are included. In response to a question raised by the ERT during the review, the Netherlands responded that it does not report any emissions in this category and that the notation key “IE” included in the fuel consumption row is an input error. The Party explained that the correct notation key should be “NO”. The ERT recommends that the Netherlands correct this error in its next annual submission.

2. Reference and sectoral approaches

23. Table 5 provides a review of the information reported under the reference approach and the sectoral approach, as well as comparisons with other sources of international data.

Table 5

Review of reference and sectoral approaches

<i>Issue</i>	<i>Expert review team assessment</i>	<i>Paragraph cross references</i>
Difference between the reference approach and the sectoral approach	Energy consumption: –44.64 PJ, –1.92% CO ₂ emissions: 7,075.99 Gg CO ₂ , 4.48%	
Are differences between the reference approach and the sectoral approach adequately explained in the NIR and the CRF tables?	Yes	
Are differences with international statistics adequately explained?	Yes	
Is reporting of bunker fuels in accordance with the UNFCCC reporting guidelines?	Yes	
Is reporting of feedstocks and non-energy use of fuels in accordance with the UNFCCC reporting guidelines?	Yes	

Abbreviations: CRF = common reporting format, NIR = national inventory report, UNFCCC reporting guidelines = “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories”.

Comparison of the reference approach with the sectoral approach and international statistics

24. No problems were identified.

International bunker fuels

25. No problems were identified.

Feedstocks and non-energy use of fuels

26. No problems were identified.

3. Key categories

Stationary combustion: liquid fuels – CO₂

27. The ERT noted that the implied emission factor (IEF) for CO₂ emissions from liquid fuels in public electricity and heat production for the period 2004–2010 (54.11–63.24 t/TJ)

was lower than for all other reporting Parties (54.11–86.77 t/TJ), and again it was lower in 2012 (62.3 t/TJ). In response to a question raised by the ERT during the review, the Netherlands explained that in 2012 about 97 per cent of the total liquid fuel use in this sector was chemical (and refinery) waste gas. The EF for the waste gas depends on the consistency of the gas and ranged between 53.5 and 66.7 t/TJ in 2012, with an average of 61.6 t/TJ. Furthermore, the Party elaborated that these figures are also reported and verified under the EU ETS. To improve the transparency of its reporting, the ERT encourages the Party to continue this verification activity and recommends that the Netherlands provide a more transparent description, including additional information on the AD and EF used to justify the low value of the IEF in its NIR.

Stationary combustion: solid fuels – CO₂

28. The Netherlands reports CO₂ emissions from the combustion of on-site coke production in iron and steel production plants under iron and steel production. In response to a recommendation made in the previous review report, the Netherlands included in its NIR additional information that clarified and justified the allocation of emissions, and also provided a graphical representation of this information. The ERT commends the Party for this improvement in transparency.

4. Non-key categories

Oil and natural gas: gaseous fuels – CO₂

29. CO₂ emissions from natural gas transmission followed a constant trend until 2010 (0.184 Gg) and then increased in 2011 (0.188 Gg) and in 2012 (0.190 Gg). In response to a question raised by the ERT during the review, the Party mentioned that there has been a small increase in fugitive emissions of CO₂ from natural gas transmission since the length of the transmission network increased in the years 2011 and 2012. The revision was based on new information of the yearly publication *Transport Insight* from Gas Transport Services B.V. The Party further explained that in the next annual submission of CRF tables, a whole new time series will be presented based on the tier 1 EF for marketable gas provided in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (hereinafter referred to as the 2006 IPCC Guidelines). The ERT welcomes this effort to provide a whole new time series and recommends that the Netherlands report on the progress made in its next NIR submission.

C. Industrial processes and solvent and other product use

1. Sector overview

30. In 2012, emissions from the industrial processes sector amounted to 9,921.22 Gg CO₂ eq, or 5.2 per cent of total GHG emissions, and emissions from the solvent and other product use sector amounted to 206.23 Gg CO₂ eq, or 0.1 per cent of total GHG emissions. Since 1990, emissions have decreased by 57.8 per cent in the industrial processes sector, and decreased by 62.3 per cent in the solvent and other product use sector. The key driver for the fall in emissions in the industrial processes sector is the implementation of several technical measures and the closure of one of the aluminium smelters in the Netherlands. Within the industrial processes sector, 46.2 per cent of the emissions were from the chemical industry, followed by 22.0 per cent from consumption of halocarbons and SF₆, 14.5 per cent from metal production and 12.0 per cent from mineral products. Emissions from additional categories such as candles, fireworks and process emissions from other economic activities accounted for 3.2 per cent and production of halocarbons and SF₆ accounted for 1.8 per cent. The remaining 0.3 per cent were from other production.

31. The Netherlands has made recalculations between the 2013 and 2014 annual submissions for the industrial processes sector. The most significant recalculations made by the Netherlands between the 2013 and 2014 annual submissions were in the following categories: food and drink, and consumption of halocarbons and SF₆. The recalculations were made in order to rectify identified errors and following changes in AD, respectively, for the above categories. Compared with the 2013 annual submission, the recalculations decreased emissions in the industrial processes sector by 17.18 Gg CO₂ eq. CO₂ emissions from food and drink increased for 2011, due to the correction of an identified error in the allocation of emissions from use of coke, which increased sectoral emissions by 14.44 Gg CO₂ eq. CO₂ emissions from chemical industry (mainly “other chemical industry”) decreased by 31.28 Gg CO₂ eq for 2011 due to updated AD. HFC emissions from mobile air conditioning for the years 1999–2011 decreased due to the availability of improved AD. The decrease in emissions was equal to 1.0 Gg CO₂ eq for 2011. The recalculations were adequately explained.

2. Key categories

Consumption of halocarbons and SF₆ – HFCs

32. The ERT noted that the Netherlands reported emissions from stocks in industrial refrigeration and mobile air conditioning in the CRF tables; however, the corresponding AD and IEFs are reported with the use of the notation keys “NA” (not applicable), “NO” or “NE” (not estimated). In response to questions raised by the ERT during the review, the Party indicated that most of the AD are confidential, hence the Party is not able to include this information in the CRF tables and instead will use the notation key “C” (confidential). The ERT recommends that the Party change the notation keys “NA”, “NE” and “NO” to “C” in the reporting of the AD and IEFs.

33. The ERT noted an inconsistency in the information reported in the NIR and the CRF tables. The information reported in the NIR indicated that potential emissions of HFCs, PFCs and SF₆ for the period 1990–2011 are included in the CRF tables; however, in the tables, these emissions are reported as “NO” and “NE” for all years of the time series. The ERT raised this issue of inconsistency during the review and the Netherlands provided the potential emissions to the ERT during the review week along with an explanation for not including these emissions in the CRF tables, namely that it was not possible to import the potential emissions into the CRF database. The ERT recommends that the Party ensure the consistency of the information reported in the NIR and the CRF tables.

34. The ERT noted an inconsistency in the emissions data reported in the NIR (table 4.7) and the CRF tables on actual emissions (CRF table 2(I)). In response to a question raised by the ERT during the review, the Netherlands explained that the issue was caused by SF₆ being reported in CO₂ eq in the NIR, which is not the case in the CRF tables. However, the Party did not explain the reason behind the inconsistent data in the emissions of HFC-134a for 2012, with 641 Gg CO₂ eq reported in the NIR and 557 Gg CO₂ eq reported in the CRF tables. The ERT recommends that the Party improve its QC procedures to ensure the consistency of the information reported in the NIR and the CRF tables.

3. Non-key categories

Other production – CO₂

35. The ERT noted in the CRF tables that the Party used the notation key “NA” when reporting the AD and IEFs for food and drink, while the emissions were reported (26.45 Gg CO₂ eq). In response to a question raised by the ERT during the review, the Netherlands explained that the AD are confidential and should have been reported as such. The ERT

recommends that the Netherlands change the notation key “NA” to “C” as suggested by the Party.

Consumption of halocarbons and SF₆ – SF₆

36. Based on the description in the NIR, the ERT noted a change in the methodology used to calculate emissions from electrical equipment after 2006. In response to a question raised by the ERT during the review regarding time-series consistency, the Netherlands explained that recalculations by interpolation have been made to achieve a consistent time series only from 1999 onwards. For the period 1990–1998, the amounts of SF₆ banked are estimated by EnergieNed, the Federation of Energy Companies in the Netherlands. These are used to estimate emissions prior to 1999, in line with the emissions in 1999. The Netherlands considers these estimates to be preferable compared with an extrapolation of the emissions backwards from 1999, as the estimates reported are in line with the developments in the energy production sector in that period. The ERT recommends that the Netherlands include this information in its annual submission.

D. Agriculture

1. Sector overview

37. In 2012, emissions from the agriculture sector amounted to 15,903.49 Gg CO₂ eq, or 8.3 per cent of total GHG emissions. Since 1990, emissions have decreased by 29.5 per cent. The key driver for the fall in emissions is the reduced number of livestock, the decreased land application of animal manure to soil and the decreased use of synthetic fertilizers. Within the sector, 41.2 per cent of the emissions were from enteric fermentation, followed by 35.9 per cent from agricultural soils. The remaining 22.9 per cent were from manure management. Emissions from rice cultivation, prescribed burning of savannas and field burning of agricultural residues have been reported as “NO”.

38. The Netherlands has made recalculations between the 2013 and 2014 annual submissions for this sector. The two most significant recalculations made by the Netherlands between the 2013 and 2014 annual submissions were in the following categories: CH₄ emissions from enteric fermentation for dairy cattle, and N₂O emissions from agricultural soils. The recalculations were made following changes in ammonia emissions from manure applied to soil and in EFs due to the change of chemical composition of rations fed. Compared with the 2013 annual submission, the recalculations increased emissions in the agriculture sector by 104.98 Gg CO₂ eq (0.1 per cent) in 2011, and had a negligible impact on total national emissions. The recalculations were adequately explained.

2. Key categories

Enteric fermentation – CH₄

39. CH₄ emissions from enteric fermentation for the mature dairy cattle and other cattle categories were estimated based on tier 3 and tier 2 methods, respectively. The ERT noted that the Netherlands included additional material in the NIR in reference to the tier 3 methods applied and some parameters for tier 2 and tier 3 in response to recommendations made in the previous review report. However, some basic data (such as weight, milk production, feed intake, composition of diet) are not included in the NIR or in the additional information boxes of CRF table 4.A for developing the country-specific tier 2 and tier 3 EFs. In response to a question raised by the ERT during the review regarding the tier 3 method and its parameters, the Netherlands provided additional references in English and/or Dutch, which describe the data requirements and values of the key parameters. The ERT reiterates the recommendation made in the previous review report that the Netherlands

include information on the key parameters used (weight, milk production, feed intake, diet composition) in its NIR and in the CRF tables.

Manure management – CH₄ and N₂O

40. The Party reported CH₄ emissions from manure management for buffalo as “NO” in CRF table 4.B(a)s1, but as “0” in CRF table 4.B(a)s2. In response to a question raised by the ERT during the previous review, the Party had explained that buffalos do not occur in the Netherlands. The ERT recommends that the Party correct the notation key to “NO”.

41. The ERT noted that there is an inconsistency in the liquid manure allocation of mature non-dairy cattle between CRF tables 4.B(a) and 4.B(b): in CRF table 4.B(a) the allocation of liquid manure was reported as “0” for mature non-dairy cattle, whereas in CRF table 4.B(b), the nitrogen (N) excretion in liquid systems for mature non-dairy cattle was reported as 2,321,139.74 kg N in 2012. In response to a question raised by the ERT during the review regarding inconsistency issues, the Netherlands explained that the calculation methods for CH₄ and N emissions from manure management require different additional data. For CH₄ emissions, measurements of organic matter content expressed in kg/1,000 kg manure are used. To calculate organic matter excretion, these need to be multiplied by manure excretion factors in kg/animal. For mature non-dairy cattle, an estimation method for liquid manure excretion is not available and thus no subdivision in liquid and solid manure can be made. This point is under research as part of the improvement plan in combination with the implementation of the 2006 IPCC Guidelines. One of the options under research is exploring alternative ways of calculation. For N emissions, the calculated N excretion per animal is taken as a starting point, which is then allocated to liquid and solid by share of animal housing systems in the agricultural census. The ERT commends the Netherlands for its efforts in exploring how to improve its estimation of CH₄ and N₂O emissions from manure management systems, and recommends that the Netherlands continue and enhance its efforts to improve the consistency between the CH₄ and N₂O emission estimates, and report correct and, to the extent possible, consistent values for the fractions of the different manure management systems in the NIR and the CRF tables.

Agricultural soils – N₂O

42. The Netherlands has reported in the NIR (page 113) that N₂O emissions from agricultural soils decreased by 46.5 per cent between 1990 (10,669.09 Gg CO₂ eq) and 2012 (5,713.51 Gg CO₂ eq). The ERT noted that this trend is driven by a revised value for the fraction of livestock N excreted and deposited onto soil during grazing (Frac_{GRAZ}) in response to a recommendation made in the previous review report. The revised Frac_{GRAZ} has resulted in decreases in emissions from animal manure produced on pasture land (66.8 per cent) and indirect emissions (57.4 per cent) between the base year and 2012. However, the ERT also noted that the method and related data to support the revised Frac_{GRAZ} are not included in the NIR, that the N excretion per animal reported for the years 1990–2012 in NIR table 8.9 fluctuates, and that the method to derive the country-specific N excretion was not provided in the NIR. In response to a question raised by the ERT during the review, the Netherlands provided a reference to its method of deriving N excretion, and explained that the main driver for the lower N excretion per animal in 2012 compared to 2011 is a covenant agreed with the industry aimed at reducing the mineral content (phosphorus and N) of cattle feed. The ERT recommends that the Netherlands include the method and related parameters used to derive the country-specific N excretion and Frac_{GRAZ} in its next annual submission.

E. Land use, land-use change and forestry

1. Sector overview

43. In 2012, net emissions from the LULUCF sector amounted to 3,536.20 Gg CO₂ eq. Since 1990, net emissions have increased by 17.4 per cent. The key drivers for the rise in emissions are the increased emissions from land converted to cropland, settlements and other land. Within the sector, 3,460.98 Gg CO₂ eq of net removals were from forest land. Net emissions were reported from grassland (4,227.81 Gg CO₂ eq) and from cropland (1,329.49 Gg CO₂ eq). Settlements accounted for 1,125.65 Gg CO₂ eq, other land for 128.22 Gg CO₂ eq and wetlands for 112.70 Gg CO₂ eq. The remaining 73.32 Gg CO₂ eq were from the category other (LULUCF).

44. The Netherlands has made recalculations between the 2013 and 2014 annual submissions for this sector. The most significant recalculations made by the Netherlands between the 2013 and 2014 annual submissions were in the following categories: forest land, cropland, settlements and other land. The recalculations were made in response to the 2013 annual review report (including the carbon stock change in mineral soils, N₂O emissions from land-use conversions to cropland on soils, and CO₂, CH₄ and N₂O emissions from wildfires) and following changes in AD (use of the new land-use map and data from the new Dutch Forest Inventory). Compared with the 2013 annual submission, the recalculations increased emissions in the LULUCF sector by 138.64 Gg CO₂ eq (4.2 per cent). The recalculations were adequately explained.

2. Key categories

Grassland remaining grassland – CO₂

45. The carbon stock changes in living biomass and dead organic matter are reported in the CRF tables as “NE”. The Netherlands has a plan to investigate potential data sources and include these missing pools in future reporting. The ERT reiterates the recommendation made in the previous review report that the Netherlands obtain the data and report the estimates for pools reported as “NE”, for which methods and EFs are available.

3. Non-key categories

N₂O emissions from disturbance associated with land-use conversion to cropland – N₂O

46. Consistent with recommendations made in previous review reports, the Netherlands has reported N₂O emissions from disturbance associated with land-use conversion to cropland for 1990–2012, using a tier 1 method for this category. In 2012, N₂O emissions were equal to 78.14 Gg CO₂-eq. The ERT commends the Party for this improvement.

Biomass burning – CO₂, CH₄ and N₂O

47. Consistent with recommendations made in previous review reports, the Netherlands has reconciled the use of the notation key for controlled burning (it was set to “IE”, “NO” because the area included under wildfires partly includes the occasional burning that is carried out under nature management). Controlled burning of harvest residues is not allowed in the Netherlands.⁷ Wildfires on forest land remaining forest land have been included for the full time series since the 2013 NIR. In the 2014 NIR, emissions from additional wildfires on other land were calculated using default methods provided in the IPCC good practice guidance for LULUCF and have been included under grassland remaining grassland, as, according to the Netherlands, this is probably the most prominent

⁷ According Article 10.2 of *Wet Milieubeheer* – the Environment Law in the Netherlands.

source for wildfires outside forests. Only historic data on the area burned in the period 1980–1992 are available. The average area from this period was used to calculate emissions from wildfires for the period 1993–2012. The notation key for wildfires on other land-use categories was set to “IE”. The ERT commends the Party for these improvements.

F. Waste

1. Sector overview

48. In 2012, emissions from the waste sector amounted to 3,688.34 Gg CO₂ eq, or 1.9 per cent of total GHG emissions. Since 1990, emissions have decreased by 71.1 per cent. The key driver for the fall in emissions is the 75.2 per cent reduction of emissions from landfills due to a considerably reduced amount of disposed waste with organic content. An increased share of recycling and methane recovery also contributed to the trend. Within the sector, 80.6 per cent of the emissions were from solid waste disposal on land, followed by 17.8 per cent from wastewater handling. The remaining 1.6 per cent were from composting and digesting.

49. Compared with the 2013 annual submission, only a minor recalculation occurred in the category N₂O emissions from human sewage due to updated AD on total N discharged to surface water. The recalculation increased emissions in the waste sector by 0.83 Gg CO₂ eq (0.2 per cent). The recalculations were adequately explained.

50. The waste sector is complete with respect to the coverage of categories, gases and years. The Netherlands has followed all recommendations made in the previous review report. In the NIR, additional information is provided on the uncertainty assessment, including updated uncertainty estimates for the AD and EFs. The methodological descriptions, especially regarding wastewater treatment, have also been greatly improved. In addition, new information on category-specific QA/QC procedures is presented, whereby valuable reference is made to the most recent scientific results. The ERT commends the Netherlands for all these developments.

51. The ERT identified some minor inconsistencies between the CRF tables and the NIR. For example, in the NIR the total emissions from the waste sector are reported as 3.9 Tg CO₂ eq, instead of 3.7 Tg CO₂ eq as reported in the CRF tables; total organic product in industrial wastewater is reported as 245 Gg and 295 Gg in the NIR and the CRF tables, respectively; and another typographical error was detected in the reported value for incidental venting of CH₄ in wastewater handling. The ERT recommends that the Party enhance its QC procedures to prevent such inconsistencies and typographical errors.

2. Key categories

Solid waste disposal on land – CH₄

52. The Netherlands has applied a first-order decay model that corresponds to a tier 2 method as described in the IPCC *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (hereinafter referred to as the IPCC good practice guidance). The parameters used are well documented, and comparisons with the default IPCC parameters are presented in the relevant Monitoring Protocol. In general, the transparency of the reporting is ensured by a set of Monitoring Protocols and other background documents. The ERT recommends that the Netherlands include important AD such as the amount and composition of disposed waste in the NIR. The ERT also considers that providing more information on biogas production would further enhance the transparency of the reporting and enable the verification of the recovery data. In response to a question raised by the ERT during the review, the Party provided information on the share

of biogas of different origin. The Netherlands is encouraged to include this information in its future annual submissions.

3. Non-key categories

Wastewater handling – CH₄

53. The ERT noted that the Netherlands reports total organic product in domestic and commercial wastewater expressed as chemical oxygen demand (COD) instead of the generally reported biological oxygen demand (BOD) values. During the review, the Party explained that although it monitors both COD and BOD loads entering the urban wastewater treatment plants, to calculate GHG emissions it chose to use COD data because these better represent the industrial wastewater part of the total organic load of the influents. However, to ensure better comparability among reporting Parties, the ERT encourages the Netherlands to report the AD expressed as BOD in domestic and commercial wastewater while keeping the COD values as the basis of its emission calculations.

54. The ERT found a minor inconsistency regarding CH₄ emissions from sludge fermenters in communal wastewater treatment plants. The parameters in the relevant Monitoring Protocol indicated an EF of 0.00126 kg CH₄/kg COD, whereas for the calculations, the value of 0.0015 kg CH₄/kg COD was used. In response to a question raised by the ERT during the review, the Party confirmed that the correct value was 0.00126 kg CH₄/kg COD. The ERT recommends that the Netherlands improve its QC procedures to ensure consistency in the reported information when compared with the Monitoring Protocols.

55. The ERT noted that for recovery in industrial wastewater handling, “NA” is reported in the CRF tables, whereas the NIR states that in anaerobic plants 99 per cent methane extraction and combustion efficiency is assumed. In response to a question raised by the ERT during the review, the Party acknowledged that the notation key used for the total amount of recovered methane from industrial wastewater treatment was not correct. The ERT recommends that the Netherlands change the notation key to “NE” in case no estimate of the recovered methane is available. Should such data become available, the ERT recommends that the Party provide a numerical estimate for the recovered methane in anaerobic industrial wastewater treatment plants.

Other (waste) – CH₄ and N₂O

56. The Netherlands reports CH₄ and N₂O emissions from the composting and digesting of separately collected organic waste from households. The ERT noted that the corresponding AD are provided in the CRF tables, but only for the years up to 2008. In response to a question raised by the ERT during the review, the Netherlands provided the missing AD for the period 2009–2012. The ERT recommends that the Party report this information for the entire time series in future annual submissions.

G. Supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol

1. Information on activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol

Overview

57. Table 6 provides an overview of the information reported and parameters selected by the Netherlands under Article 3, paragraphs 3 and 4, of the Kyoto Protocol.

Table 6
Supplementary information reported under Article 3, paragraphs 3 and 4, of the Kyoto Protocol

<i>Issue</i>	<i>Expert review team assessment, if applicable</i>	<i>Findings and recommendations</i>
Assessment of the Netherlands' reporting in accordance with the requirements in paragraphs 5–9 of the annex to decision 15/CMP.1	Sufficient	
Activities elected under Article 3, paragraph 4	Activities elected: none	
Period of accounting	Commitment period accounting	
The Netherlands' ability to identify areas of land and areas of land-use change in accordance with paragraph 20 of the annex to decision 16/CMP.1	Sufficient	

58. Chapter G.I includes the ERT's assessment of the 2014 annual submission against the Article 8 review guidelines and decisions 15/CMP.1 and 16/CMP.1. In accordance with decision 6/CMP.9, Parties will begin reporting of KP-LULUCF activities in the submissions due by 15 April 2015 using revised CRF tables, as contained in the annex to decision 6/CMP.9. Owing to this change in the CRF tables for KP-LULUCF activities and the change from the first commitment period to the second commitment period, paragraphs 59–65 below contain the ERT's assessment of the Party's adherence to the current reporting guidelines and do not provide specific recommendations for reporting these activities for the 2015 annual submission.

Activities under Article 3, paragraph 3, of the Kyoto Protocol

Afforestation and reforestation – CO₂

59. The Netherlands updated the AD for afforestation and reforestation according to a revised land-use map (1-1-2013) for 2009–2012. Until the 2013 NIR, the rate of land-use change was extrapolated from the period 2004–2008. The EFs involving living forest biomass were recalculated according to the sixth Dutch Forest Inventory. The methodologies used for the calculation of the carbon stock changes under afforestation and reforestation are appropriate and in line with the IPCC good practice guidance for LULUCF.

60. The Netherlands uses a forest definition of 20 per cent of crown cover and an area of 0.5 ha to define FAD. The Netherlands applies the definition of TOF for the group of trees that cover an area smaller than 0.5 ha. The Party has reported the gains in carbon stocks in above- and below-ground biomass for the land conversions from TOF to FAD and has reported the carbon losses as "NO". The Party provided an explanation in its NIR about the

absence of carbon losses under the conversions from TOF to FAD according to the recommendation from the previous review report. The ERT commends the Party for these improvements.

61. The Netherlands has reported the net carbon stock change in litter and in dead wood as “NE”. The Netherlands has provided verifiable information that demonstrates that these pools are not net sources of emissions.

62. The Netherlands has reported emissions from biomass burning under afforestation and reforestation as “NE” in the table NIR1; however, the Party has reported these emissions in table 5(KP-II)5. The ERT recommends that the Netherlands enhance its QC procedures to identify inconsistencies in its reporting.

Deforestation – CO₂

63. The Netherlands updated the AD for deforestation according to a revised land-use map (1-1-2013) for 2009–2012 as well as an EF for living biomass according to the sixth Dutch Forest Inventory. The methodologies used for the calculation of the carbon stock changes under deforestation are appropriate and in line with the IPCC good practice guidance for LULUCF.

64. In the CRF tables under the subcategory FAD converted to TOF, the Netherlands has reported, for the first time, the losses in the carbon stocks for the above- and below-ground biomass pools in response to a recommendation made in the previous review report. Also, the Party reported CO₂, CH₄ and N₂O emissions from wildfires under deforestation for the first time in the 2014 annual submission. The ERT commends the Party for these improvements.

65. The Netherlands has reported emissions from biomass burning under deforestation as “NE” in table NIR1; however, the Party has reported these emissions in table 5(KP-II)5.

2. Information on Kyoto Protocol units

Standard electronic format and reports from the national registry

66. The Netherlands has reported information on its accounting of Kyoto Protocol units in the required SEF tables, as required by decisions 15/CMP.1 and 14/CMP.1. The ERT took note of the findings included in the standard independent assessment report (SIAR) on the SEF tables and the SEF comparison report.⁸ The SIAR was forwarded to the ERT prior to the review, pursuant to decision 16/CP.10. The ERT reiterated the main findings contained in the SIAR.

67. Information on the accounting of Kyoto Protocol units has been prepared and reported in accordance with decision 15/CMP.1, annex, chapter I.E, and reported in accordance with decision 14/CMP.1 using the SEF tables. This information is consistent with that contained in the national registry and with the records of the international transaction log (ITL) and the clean development mechanism registry and meets the requirements referred to in decision 22/CMP.1, annex, paragraph 88(a–j). The transactions of Kyoto Protocol units initiated by the national registry are in accordance with the requirements of the annex to decision 5/CMP.1 and the annex to decision 13/CMP.1. One discrepancy, however, was identified by the ITL. The Party did not submit an R-2 report and stated in NIR section 12.3 that no discrepancies occurred in the transactions in 2013. The Netherlands states that this error code occurred as a by-product of an incorrect

⁸ The SEF comparison report is prepared by the international transaction log (ITL) administrator and provides information on the outcome of the comparison of data contained in the Party’s SEF tables with corresponding records contained in the ITL.

transaction. The ERT notes that the Party has taken the appropriate corrective action and verified this in accordance with decision 22/CMP.1, annex, paragraph 88(j), and that the Party states that it will report on these discrepancies in its subsequent NIRs. The ERT recommends that the Party include in its annual submission any discrepancy that has been identified by the ITL relating to transactions initiated by the Party in accordance with decision 22/CMP.1, annex, paragraph 88(j).

Accounting of activities under Article 3, paragraph 3, of the Kyoto Protocol

68. The Netherlands has reported information on its accounting of KP-LULUCF in the accounting table, as included in the annex to decision 6/CMP.3. Information on the accounting of KP-LULUCF has been prepared and reported in accordance with decisions 16/CMP.1 and 6/CMP.3.

69. Table 7 shows the accounting quantities for KP-LULUCF as reported by the Party and the final values after the review.

Table 7

Accounting quantities for activities under Article 3, paragraph 3, and, if any, activities under Article 3, paragraph 4, of the Kyoto Protocol, in t CO₂ eq

	2014 annual submission ^a	
	<i>As reported</i>	<i>Revised estimates</i>
		<i>Final accounting quantity^b</i>
Afforestation and reforestation		
Non-harvested land	–2 782 697	–2 782 697
Harvested land	NA, NE, NO	NA, NE, NO
Deforestation	4 850 736	4 850 736
Forest management		
Article 3.3 offset ^c		
Forest management cap ^d		
Cropland management		
Grazing land management		
Revegetation		

Abbreviations: CRF = common reporting format, KP-LULUCF = land use, land-use change and forestry emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, NA = not applicable, NE = not estimated, NO = not occurring.

^a The values included under the 2014 annual submission are the cumulative accounting values for 2008, 2009, 2010, 2011 and 2012, as reported in the accounting table of the KP-LULUCF CRF tables for the inventory year 2012.

^b The “final accounting quantity” is the quantity of Kyoto Protocol units that the Party shall issue or cancel under each activity under Article 3, paragraph 3, and paragraph 4, if relevant, based on the final accounting quantity in the 2014 annual submission.

^c “Article 3.3 offset”: for the first commitment period, a Party included in Annex I to the Convention that incurs a net source of emissions under the provisions of Article 3, paragraph 3, of the Kyoto Protocol may account for anthropogenic greenhouse gas emissions by sources and removals by sinks in areas under forest management under Article 3, paragraph 4, up to a level that is equal to the net source of emissions under the provisions of Article 3, paragraph 3, but not greater than 9.0 megatonnes of carbon times five, if the total anthropogenic greenhouse gas emissions by sources and removals by sinks in the managed forest since 1990 is equal to, or larger than, the net source of emissions incurred under Article 3, paragraph 3.

^d In accordance with decision 16/CMP.1, annex, paragraph 11, for the first commitment period only, additions to and subtractions from the assigned amount of a Party resulting from forest management under Article 3, paragraph 4, of the Kyoto Protocol after the application of decision 16/CMP.1, annex, paragraph 10, and resulting from forest management project activities undertaken under Article 6, shall not exceed the value inscribed in the appendix of the annex to decision 16/CMP.1, times five.

70. Based on the information provided in table 7 for the activity afforestation and reforestation, the Netherlands shall: for non-harvested land, issue 2,782,697 removal units (RMUs) in its national registry.

71. Based on the information provided in table 7 for the activity deforestation, the Netherlands shall cancel 4,850,736 assigned amount units, emission reduction units, certified emission reduction units and/or RMUs in its national registry.

Calculation of the commitment period reserve

72. The Netherlands has reported its commitment period reserve in its 2014 annual submission. The Party reported that its commitment period reserve has not changed since the initial report review (901,135,927 t CO₂ eq) as it is based on the assigned amount and not the most recently reviewed inventory. The ERT agrees with this figure.

3. Changes to the national system

73. The Netherlands reported that there are changes in its national system since the previous annual submission. The Party described the changes in its NIR, which included the change of the name of NL Agency (single national entity/NIE), as of 1 January 2014, to Netherlands Enterprise Agency (RVO.nl). The ERT concluded that the Party's national system continues to be in accordance with the requirements of national systems outlined in decision 19/CMP.1.

4. Changes to the national registry

74. The Netherlands reported that there are changes in its national registry since the previous annual submission. The Party described the changes, specifically due to the change in address of the registry administrator, changes to the database structure of the national registry for which suitable regression and acceptance tests were concluded and documentation provided in its NIR.

75. The ERT concluded that, taking into account the confirmed changes in the national registry, including the additional information provided in the NIR, the Netherlands' national registry continues to perform the functions set out in the annex to decision 13/CMP.1 and the annex to decision 5/CMP.1 and continues to adhere to the technical standards for data exchange between registry systems in accordance with relevant decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP).

5. Minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol

76. Consistent with paragraph 23 of the annex to decision 15/CMP.1, the Netherlands provided information relating to how it is striving, under Article 3, paragraph 14, of the Kyoto Protocol, to implement its commitments in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention.

77. The Netherlands reported that there have been limited changes in its activities related to the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol since the previous annual submission. The ERT concluded that, taking into account the confirmed changes in the reporting, the information provided is complete and transparent.

78. The Netherlands confirmed that its policies on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol are still in place and being executed. The Netherlands continues to have an active involvement in the

formulation of an effective governing instrument for the Green Climate Fund, new market mechanisms, collaboration between authorities, business and knowledge institutions and fast-start finance. The Netherlands has removed from its NIR the description of the carbon dioxide capture and storage demonstration projects, and included a new element describing how it will minimize adverse effects regarding biofuel production.

III. Conclusions and recommendations

A. Conclusions

79. Table 8 summarizes the ERT's conclusions on the 2014 annual submission of the Netherlands, in accordance with the Article 8 review guidelines.

Table 8

Expert review team's conclusions on the 2014 annual submission of the Netherlands

<i>Issue</i>	<i>Expert review team assessment</i>	<i>Paragraph cross references for identified problems</i>
The ERT concludes that the inventory submission of the Netherlands is complete with regard to categories, gases, years and geographical boundaries and contains both an NIR and CRF tables for 1990–2012		
Annex A sources ^a	Complete	
LULUCF ^a	Not complete	45, table 3
KP-LULUCF	Complete	
The ERT concludes that the inventory submission of the Netherlands has been prepared and reported in accordance with the UNFCCC reporting guidelines	Yes	
The Netherlands' inventory is in accordance with the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF	Yes	
The submission of information required under Article 7, paragraph 1, of the Kyoto Protocol has been prepared and reported in accordance with decision 15/CMP.1	Yes	
The Netherlands has reported information on its accounting of Kyoto Protocol units in accordance with decision 15/CMP.1, annex, chapter I.E, and used the required reporting format tables as specified by decision 14/CMP.1	Generally	67
The national system continues to perform its required functions as set out in the annex to decision 19/CMP.1	Yes	
The national registry continues to perform the functions set out in the annex to decision 13/CMP.1 and the annex to decision 5/CMP.1 and continues to adhere to the technical standards for data exchange between registry systems in accordance with relevant CMP decisions	Yes	

<i>Issue</i>	<i>Expert review team assessment</i>	<i>Paragraph cross references for identified problems</i>
Did the Netherlands provide information in the NIR on changes in its reporting of the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol?	Yes	

Abbreviations: Annex A sources = source categories included in Annex A to the Kyoto Protocol, CMP = Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, CRF = common reporting format, ERT = expert review team, IPCC = Intergovernmental Panel on Climate Change, IPCC good practice guidance = IPCC *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, IPCC good practice guidance for LULUCF = IPCC *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, KP-LULUCF = LULUCF emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, LULUCF = land use, land-use change and forestry, NIR = national inventory report, Revised 1996 IPCC Guidelines = *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, UNFCCC reporting guidelines = “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories”.

^a The assessment of completeness by the ERT considers only the completeness of reporting of mandatory categories (i.e. categories for which methods and default emission factors are provided in the Revised 1996 IPCC Guidelines, the IPCC good practice guidance or the IPCC good practice guidance for LULUCF).

B. Recommendations

80. The ERT identified the issues for improvement listed in table 9. All recommendations are for the next annual submission, unless otherwise specified.

Table 9

Recommendations identified by the expert review team

<i>Sector</i>	<i>Category/cross-cutting issue</i>	<i>Recommendation</i>	<i>Reiteration of previous recommendation?</i>	<i>Paragraph cross references</i>
Cross-cutting	Inventory management	The ERT recommends that the Netherlands include additional information regarding its quality management system in future NIRs	No	14
Energy	QA/QC	Improve the QC procedures to ensure that all the information provided in the CRF tables and the NIR is consistent	Yes	19
		Provide a clearer indication of the origin of the EFs used in the NIR	No	20
		Provide information on the verification process performed using EU ETS data		21
		Correct the notation key in the fuel consumption row from “IE” to “NO”	No	22
	Stationary combustion: liquid fuels – CO ₂	Provide a more transparent description of the verification of AD and EFs using EU ETS data	No	27
	Oil and natural gas: gaseous	Report on the progress made to derive a revised	No	29

<i>Sector</i>	<i>Category/cross-cutting issue</i>	<i>Recommendation</i>	<i>Reiteration of previous recommendation?</i>	<i>Paragraph cross references</i>
	fuels – CO ₂	time series		
Industrial processes and solvent and other product use	Consumption of halocarbons and SF ₆ – HFCs	Change the notation keys “NA”, “NE” and “NO” to “C” in the reporting of the AD and IEFs	No	32
		Ensure consistency in the reporting of the notation keys	No	33
		Improve the consistency of the information reported in the NIR and the CRF tables	No	34
	Other production – CO ₂	Change the notation key “NA” to “C”	No	35
	Consumption of halocarbons and SF ₆ – SF ₆	In cooperation with relevant stakeholders, obtain sufficient data to ensure a consistent time series, focusing on the period 1990–1999	No	36
Agriculture	Enteric fermentation – CH ₄	Include information on the key parameters (weight, milk production, feed intake, diet composition) in the NIR and in CRF table 4.A	Yes	39
	Manure management – CH ₄ and N ₂ O	Correct the notation key to “NO”		40
		Continue and enhance efforts to improve the consistency between the CH ₄ and N ₂ O emission estimates, and report correct values for the fractions of the different manure management systems in the NIR and the CRF tables	No	41
	Agricultural soils – N ₂ O	Improve the transparency of the reporting of the use of country-specific parameters	No	42
LULUCF	General	Obtain the data and report the estimates for all categories currently reported as “NE” for which methodologies and EFs are available in the IPCC good practice guidance for LULUCF	Yes	Table 3
	Grassland remaining grassland – CO ₂	Estimate emissions for the carbon pools reported as “NE” and for which methods and EFs are available in the IPCC good practice guidance for LULUCF	Yes	45
Waste	General	Enhance the QC procedures to prevent inconsistencies and typographical errors	No	51
	Solid waste disposal on land – CH ₄	Include important AD, such as the amount and composition of disposed waste, in the NIR	No	52
	Wastewater handling – CH ₄	Ensure the consistency of the information on the EFs used for the calculations and reported in the	No	54

<i>Sector</i>	<i>Category/cross-cutting issue</i>	<i>Recommendation</i>	<i>Reiteration of previous recommendation?</i>	<i>Paragraph cross references</i>
		NIR (or in the Monitoring Protocol)		
		Provide an estimate of the recovered methane in anaerobic industrial wastewater treatment plants	No	55
	Other (waste) – CH ₄ , N ₂ O	Report a complete time series of AD	No	56
Standard electronic format and reports from the national registry		Include in the annual submission missing information required to be reported	No	67

Abbreviations: AD = activity data, C = confidential, CRF = common reporting format, EF = emission factor, ERT = expert review team, EU ETS = European Union Emissions Trading System, IE = included elsewhere, IEF = implied emission factor, IPCC = Intergovernmental Panel on Climate Change, IPCC good practice guidance for LULUCF = IPCC *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, LULUCF = land use, land-use change and forestry, NIR = national inventory report, NA = not applicable, NE = not estimated, NO = not occurring, QA/QC = quality assurance/quality control.

IV. Questions of implementation

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

Annex I

Information to be included in the compilation and accounting database

Table 10

Information to be included in the compilation and accounting database in t CO₂ eq for 2012, including the commitment period reserve

	<i>As reported</i>	<i>Revised estimates</i>	<i>Adjustment^a</i>	<i>Final^b</i>
Commitment period reserve	901 135 927			901 135 927
Annex A emissions for 2012				
CO ₂	165 261 720			165 261 720
CH ₄	14 944 648			14 944 648
N ₂ O	9 060 805			9 060 805
HFCs	2 054 522			2 054 522
PFCs	150 952			150 952
SF ₆	196 052			196 052
Total Annex A sources^c	191 668 698			191 668 698
Activities under Article 3, paragraph 3, for 2012				
3.3 Afforestation and reforestation on non-harvested land for 2012	-656 213			-656 213
3.3 Afforestation and reforestation on harvested land for 2012	NA, NE, NO			NA, NE, NO
3.3 Deforestation for 2012	1 066 066			1 066 066
Activities under Article 3, paragraph 4, for 2012^d				
3.4 Forest management for 2012				
3.4 Cropland management for 2012				
3.4 Cropland management for the base year				
3.4 Grazing land management for 2012				
3.4 Grazing land management for the base year				
3.4 Revegetation for 2012				
3.4 Revegetation for the base year				

Abbreviations: Annex A sources = source categories included in Annex A to the Kyoto Protocol, NA = not applicable, NE = not estimated, NO = not occurring.

^a "Adjustment" is relevant only for Parties for which the expert review team has calculated one or more adjustment(s).

^b "Final" includes revised estimates, if any, and/or adjustments, if any.

^c The values for “Total Annex A sources” in the columns “As reported”, “Revised estimates” and “Final” may not equal the sum of the values for the gases in those columns owing to rounding.

^d Activities under Article 3, paragraph 4, are relevant only for Parties that elected one or more such activities.

Table 11

Information to be included in the compilation and accounting database in t CO₂ eq for 2011

	<i>As reported</i>	<i>Revised estimates</i>	<i>Adjustment^a</i>	<i>Final^b</i>
Annex A emissions for 2011				
CO ₂	168 058 338			168 058 338
CH ₄	15 262 332			15 262 332
N ₂ O	9 281 208			9 281 208
HFCs	2 132 155			2 132 155
PFCs	182 854			182 854
SF ₆	146 627			146 627
Total Annex A sources^c	195 063 513			195 063 513
Activities under Article 3, paragraph 3, for 2011				
3.3 Afforestation and reforestation on non-harvested land for 2011	–644 862			–644 862
3.3 Afforestation and reforestation on harvested land for 2011	NA, NE, NO			NA, NE, NO
3.3 Deforestation for 2011	1 035 966			1 035 966
Activities under Article 3, paragraph 4, for 2011^d				
3.4 Forest management for 2011				
3.4 Cropland management for 2011				
3.4 Cropland management for the base year				
3.4 Grazing land management for 2011				
3.4 Grazing land management for the base year				
3.4 Revegetation for 2011				
3.4 Revegetation for the base year				

Abbreviations: Annex A sources = source categories included in Annex A to the Kyoto Protocol, NA = not applicable, NE = not estimated, NO = not occurring.

^a “Adjustment” is relevant only for Parties for which the expert review team has calculated one or more adjustment(s).

^b “Final” includes revised estimates, if any, and/or adjustments, if any.

^c The values for “Total Annex A sources” in the columns “As reported”, “Revised estimates” and “Final” may not equal the sum of the values for the gases in those columns owing to rounding.

^d Activities under Article 3, paragraph 4, are relevant only for Parties that elected one or more such activities.

Table 12

Information to be included in the compilation and accounting database in t CO₂ eq for 2010

	<i>As reported</i>	<i>Revised estimates</i>	<i>Adjustment^a</i>	<i>Final^b</i>
Annex A emissions for 2010				
CO ₂	181 350 840			181 350 840
CH ₄	15 940 150			15 940 150
N ₂ O	9 345 674			9 345 674
HFCs	2 256 809			2 256 809
PFCs	208 856			208 856
SF ₆	184 102			184 102
Total Annex A sources^c	209 286 430			209 286 430
Activities under Article 3, paragraph 3, for 2010				
3.3 Afforestation and reforestation on non-harvested land for 2010	–633 144			–633 144
3.3 Afforestation and reforestation on harvested land for 2010	NA, NE, NO			NA, NE, NO
3.3 Deforestation for 2010	1 005 730			1 005 730
Activities under Article 3, paragraph 4, for 2010^d				
3.4 Forest management for 2010				
3.4 Cropland management for 2010				
3.4 Cropland management for the base year				
3.4 Grazing land management for 2010				
3.4 Grazing land management for the base year				
3.4 Revegetation for 2010				
3.4 Revegetation for the base year				

Abbreviations: Annex A sources = source categories included in Annex A to the Kyoto Protocol, NA = not applicable, NE = not estimated, NO = not occurring.

^a “Adjustment” is relevant only for Parties for which the expert review team has calculated one or more adjustment(s).

^b “Final” includes revised estimates, if any, and/or adjustments, if any.

^c The values for “Total Annex A sources” in the columns “As reported”, “Revised estimates” and “Final” may not equal the sum of the values for the gases in those columns owing to rounding.

^d Activities under Article 3, paragraph 4, are relevant only for Parties that elected one or more such activities.

Table 13

Information to be included in the compilation and accounting database in t CO₂ eq for 2009

	<i>As reported</i>	<i>Revised estimates</i>	<i>Adjustment^a</i>	<i>Final^b</i>
Annex A emissions for 2009				
CO ₂	169 902 779			169 902 779
CH ₄	16 022 780			16 022 780
N ₂ O	9 453 121			9 453 121
HFCs	2 070 063			2 070 063
PFCs	167 974			167 974
SF ₆	170 383			170 383
Total Annex A sources^c	197 787 100			197 787 100
Activities under Article 3, paragraph 3, for 2009				
3.3 Afforestation and reforestation on non-harvested land for 2009	–434 830			–434 830
3.3 Afforestation and reforestation on harvested land for 2009	NA, NE, NO			NA, NE, NO
3.3 Deforestation for 2009	983 068			983 068
Activities under Article 3, paragraph 4, for 2009^d				
3.4 Forest management for 2009				
3.4 Cropland management for 2009				
3.4 Cropland management for the base year				
3.4 Grazing land management for 2009				
3.4 Grazing land management for the base year				
3.4 Revegetation for 2009				
3.4 Revegetation for the base year				

Abbreviations: Annex A sources = source categories included in Annex A to the Kyoto Protocol, NA = not applicable, NE = not estimated, NO = not occurring.

^a “Adjustment” is relevant only for Parties for which the expert review team has calculated one or more adjustment(s).

^b “Final” includes revised estimates, if any, and/or adjustments, if any.

^c The values for “Total Annex A sources” in the columns “As reported”, “Revised estimates” and “Final” may not equal the sum of the values for the gases in those columns owing to rounding.

^d Activities under Article 3, paragraph 4, are relevant only for Parties that elected one or more such activities.

Table 14

Information to be included in the compilation and accounting database in t CO₂ eq for 2008

	<i>As reported</i>	<i>Revised estimates</i>	<i>Adjustment^a</i>	<i>Final^b</i>
Annex A emissions for 2008				
CO ₂	175 171 745			175 171 745
CH ₄	16 075 712			16 075 712
N ₂ O	9 702 211			9 702 211
HFCs	1 928 996			1 928 996
PFCs	251 071			251 071
SF ₆	183 791			183 791
Total Annex A sources^c	203 313 526			203 313 526
Activities under Article 3, paragraph 3, for 2008				
3.3 Afforestation and reforestation on non-harvested land for 2008	–413 648			–413 648
3.3 Afforestation and reforestation on harvested land for 2008	NA, NE, NO			NA, NE, NO
3.3 Deforestation for 2008	759 905			759 905
Activities under Article 3, paragraph 4, for 2008^d				
3.4 Forest management for 2008				
3.4 Cropland management for 2008				
3.4 Cropland management for the base year				
3.4 Grazing land management for 2008				
3.4 Grazing land management for the base year				
3.4 Revegetation for 2008				
3.4 Revegetation for the base year				

Abbreviations: Annex A sources = source categories included in Annex A to the Kyoto Protocol, NA = not applicable, NE = not estimated, NO = not occurring.

^a “Adjustment” is relevant only for Parties for which the expert review team has calculated one or more adjustment(s).

^b “Final” includes revised estimates, if any, and/or adjustments, if any.

^c The values for “Total Annex A sources” in the columns “As reported”, “Revised estimates” and “Final” may not equal the sum of the values for the gases in those columns owing to rounding.

^d Activities under Article 3, paragraph 4, are relevant only for Parties that elected one or more such activities.

Annex II

Documents and information used during the review

A. Reference documents

Intergovernmental Panel on Climate Change. *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. *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*. Available at
<<http://www.ipcc-nggip.iges.or.jp/public/gl/invs1.htm>>.

Intergovernmental Panel on Climate Change. *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*. Available at
<<http://www.ipcc-nggip.iges.or.jp/public/gp/english/>>.

Intergovernmental Panel on Climate Change. *Good Practice Guidance for Land Use, Land-Use Change and Forestry*. Available at
<<http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf.htm>>.

“Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories”. FCCC/SBSTA/2006/9. Available at
<<http://unfccc.int/resource/docs/2006/sbsta/eng/09.pdf>>.

“Guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention”. FCCC/CP/2002/8. Available at
<<http://unfccc.int/resource/docs/cop8/08.pdf>>.

“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”. 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”. Decision 15/CMP.1. Available at
<<http://unfccc.int/resource/docs/2005/cmp1/eng/08a02.pdf#page=54>>.

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

Status report of the Netherlands 2014. Available at
<<http://unfccc.int/resource/docs/2014/asr/nld.pdf>>.

Synthesis and assessment report on the greenhouse gas inventories submitted in 2014. Available at <<http://unfccc.int/resource/webdocs/sai/2014.pdf>>.

FCCC/ARR/2013/NLD. Report of the individual review of the annual submission of the Netherlands submitted in 2013. Available at
<<http://unfccc.int/resource/docs/2014/arr/nld.pdf>>.

Standard independent assessment report template, parts 1 and 2. Available at
<http://unfccc.int/kyoto_protocol/registry_systems/independent_assessment_reports/items/4061.php>.

B. Additional information provided by the Party

Responses to questions during the review were received from Mr. Harry Vreuls and Mr. Peter Zijlema (Netherlands Enterprise Agency), including additional material on the methodology and assumptions used. The following documents¹ were also provided by the Netherlands:

Arets, E.J.M.M., G.M. Hengeveld, J.-P. Lesschen, H. Kramer, P.J. Kuikman & J.W.H. van der Kolk. 2014. *Greenhouse gas reporting of the LULUCF sector for the UNFCCC and Kyoto Protocol. Background to the Dutch NIR 2014*. Wageningen: Statutory Research Tasks Unit for Nature & the Environment. WOT Technical report (final draft). 102 pp.

¹ Reproduced as received from the Party.

Annex III

Acronyms and abbreviations

AD	activity data
BOD	biological oxygen demand
C	confidential
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
COD	chemical oxygen demand
CRF	common reporting format
DOM	dead organic matter
EF	emission factor
ERT	expert review team
EU ETS	European Union Emissions Trading System
FAD	“Forests According to the Kyoto Protocol”
Frac _{GRAZ}	fraction of livestock nitrogen excreted and deposited onto soil during grazing
GHG	greenhouse gas; unless indicated otherwise, GHG emissions are the sum of CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs and SF ₆ without GHG emissions and removals from LULUCF
ha	hectare
HFCs	hydrofluorocarbons
IE	included elsewhere
IEF	implied emission factor
IPCC	Intergovernmental Panel on Climate Change
ITL	international transaction log
kg	kilogram (1 kg = 1,000 grams)
KP-LULUCF	land use, land-use change and forestry emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol
LULUCF	land use, land-use change and forestry
N	nitrogen
N ₂ O	nitrous oxide
NA	not applicable
NE	not estimated
NIR	national inventory report
NO	not occurring
PFCs	perfluorocarbons
PJ	petajoule (1 PJ = 10 ¹⁵ joule)
QA/QC	quality assurance/quality control
RMU	removal unit
SEF	standard electronic format
SF ₆	sulphur hexafluoride
SIAR	standard independent assessment report
t	tonne
Tg	teragram (1 Tg = 1 million tonnes)
TOF	“Trees Outside Forests”
UNFCCC	United Nations Framework Convention on Climate Change