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COMPLIANCE COMMITTEE

CC/ERT/IRR/2017/7  
28 March 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 Norway**

**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 Norway was published on 28 March 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/NOR, 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 Norway**

**Note by the expert review team**

### *Summary*

According to decision 2/CMP.8, each Party with a quantified emission limitation and 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. Introduction<sup>1</sup>

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 Norway was organized by the UNFCCC secretariat, in accordance with the “Guidelines for review under Article 8 of the Kyoto Protocol”.<sup>2</sup> 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 Norway.

2. A draft version of this report was communicated to the Government of Norway, 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 Norway

<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 Veronica Fraser	New Zealand
	Mr. Doru Leonard Irimie	Romania
	Mr. Stanley John Wapot	Vanuatu
Waste	Ms. Violeta Hristova	Bulgaria
	Mr. Igor Ristovski	The former Yugoslav

<sup>1</sup> At the time of publication of this report, Norway had submitted its instrument of ratification of the Doha Amendment; however, the Amendment has not yet entered into force. The implementation of the provisions of the Doha Amendment is therefore considered in this report in the context of paragraph 6 of decision 1/CMP.8 pending its entry into force.

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

<i>Area of expertise</i>	<i>Name</i>	<i>Party</i>
		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.

## 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 Norway 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 Norway in its report to facilitate the calculation of the assigned amount

<i>Item</i>	<i>Comment</i>	
<i>General Party information</i>		
Date of submission		Original submission: 15 April 2016
Are there any missing categories or issues related to completeness <sup>a</sup> 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/NOR
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 <sub>3</sub> ?	Yes	See annex I, table 4
<i>Information related to the assigned amount and the commitment period reserve</i>		
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 contained in the Doha Amendment, and decision 13/CMP.1 in conjunction with decision 3/CMP.11?	Yes	See annex I, table 4. For further information, see ID# 1 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?	No	See annex I, table 4. For further information, see ID# 6 in table 3
Has the Party indicated in the original submission the approach <sup>b</sup> used to calculate average annual emissions for the first three years of the first commitment period?	No	See annex I, table 4. For further information, see ID# 5 in table 3

<i>Item</i>	<i>Comment</i>	
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 decision 13/CMP.1, paragraph 8 quinquies, and decision 1/CMP.8, paragraph 18?	Yes	See annex I, table 4. For further information, see ID# 2 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, paragraphs 6–8?	Yes	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?	Yes	See annex I, table 4
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. For further information, see ID# 4 in table 3
Has the Party reported the quantity amounting to 3.5% of the base-year GHG emissions, excluding LULUCF, in the original submission?	No	See annex I, table 4. For further information, see ID# 3 in table 3
Did the Party indicate whether it intends to apply the 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?	Yes	See annex I, table 4

<i>Item</i>	<i>Comment</i>	
<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.

<sup>a</sup> Issues related to missing categories and completeness are only for those categories for which methods are available in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

<sup>b</sup> 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 Norway has been undertaken together with the review of the inventory submission for the first year of the second commitment period.<sup>3</sup> 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, paragraphs 3 and 4, of the Kyoto Protocol; calculation of the commitment period reserve; and the national system and national registry.

<sup>3</sup> The annual review report on the 2016 inventory submission of Norway is available at <<http://unfccc.int/resource/docs/2017/arr/nor.pdf>>, while the annual review report on the 2015 inventory submission of Norway is available at <<http://unfccc.int/resource/docs/2016/arr/nor.pdf>>.

Table 3

**Additional findings of the expert review team, if any, related to Norway'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.	Calculation of the assigned amount	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. In response to the list of potential problems and further questions raised by the ERT (see FCCC/ARR/2016/NOR), the Party submitted revised estimates, which affected the base-year emissions and the calculation of the assigned amount. The revised calculation for the assigned amount for Norway is equal to 348 914 303 t CO <sub>2</sub> eq	Not a problem
2.	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. In response to the list of potential problems and further questions raised by the ERT (see FCCC/ARR/2016/NOR, table 5, ID#s E.26, E.28, E.34, E.35, E.36 and A.8), the Party submitted revised estimates, which affected the calculation of the assigned amount and therefore the calculation of the commitment period reserve. The revised calculation for the commitment period reserve for Norway is equal to 314 022 874 t CO <sub>2</sub> eq	Not a problem
3.	Accounting of activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol	The Party did not include in its report to facilitate the calculation of the assigned amount the quantity amounting to 3.5% of the base-year GHG emissions, excluding LULUCF, multiplied by eight. During the review week, Norway reported that 3.5% of the base year is equal to 1 816 950 t CO <sub>2</sub> eq. This value multiplied by eight is 14 535 604 t CO <sub>2</sub> eq. In response to the list of potential problems and further questions raised by the ERT, Norway submitted revised estimates, including for the base year, which resulted in a revision to the forest management cap. The final value for the forest management cap, equal to 3.5% of the base-year GHG emissions is 1 817.262 kt CO <sub>2</sub> eq, which is equal to a forest management cap of 14 538.096 kt CO <sub>2</sub> eq for the duration of the second commitment period	Not a problem
4.	Accounting of activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol	Although Norway did not report a specific value for the technical correction in the original submission of its report to facilitate the calculation of the assigned amount, a technical correction could be inferred because Norway indicated that the FMRL as contained in the annex to decision 2/CMP.7 is –11.4 Mt CO <sub>2</sub> eq and the corrected FMRL is –13.0 Mt CO <sub>2</sub> eq. Norway referred to chapter 11.5.5 of the 2016 NIR for further information. The ERT noted that the technical correction was calculated against an FMRL of –11 370 kt CO <sub>2</sub> eq; however, the FRML, as contained in the annex to decision 2/CMP.7, is –11 400 kt CO <sub>2</sub> eq. To be compatible with the original FMRL as inscribed in the appendix to the annex to decision 2/CMP.7 and the corrected values as described in table 11.7 of the 2016 NIR (–13 011.04 kt CO <sub>2</sub> eq), the technical correction should be 1 611.04 kt CO <sub>2</sub> eq (see FCCC/ARR/2016/NOR, table 5, ID#s KL.1 and KL.2)	Not a problem
5.	Reporting pursuant to	The Party did not indicate in its report to facilitate the calculation of the assigned amount the approach used to calculate average annual emissions	Not a problem



<i>ID#</i>	<i>Finding classification</i>	<i>Description of the finding</i>	<i>Classification of problem</i>
	Article 3.7 ter of the Doha Amendment	for the first three years of the first commitment period. During the review, Norway reported that the approach is to use the same GHGs, sectors and source categories as those used to calculate the assigned amount for the second commitment period	
6.	Reporting pursuant to Article 3.7 ter of the Doha Amendment	<p>The ERT noted that the Party did not provide in its report to facilitate the calculation of the assigned amount information in accordance with Article 3, paragraph 7 ter, of the Doha Amendment; specifically, the Party did not report the difference between the assigned amount for the second commitment period and average annual emissions for the first three years of the preceding commitment period, multiplied by eight. During the review, the Party provided this difference together with the approach used to calculate such average, which was agreed by the ERT</p> <p>In response to the list of potential problems and further questions raised by the ERT, the Party submitted revised estimates, which affected the assigned amount. Based on the Party's submission of revised estimates, the ERT and the Party agree that the difference between the assigned amount for the second commitment period and average annual emissions for the first three years of the preceding commitment period, multiplied by eight is negative and is equal to -86 925 501 t CO<sub>2</sub> eq. Cancellation according to Article 3, paragraph 7 ter, of the Doha Amendment is not relevant for Norway</p>	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 Norway in its report to facilitate the calculation of the assigned amount	Not a problem

*Abbreviations:* ERT = expert review team, FMRL = forest management reference level, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry, NIR = national inventory report.

#### IV. Questions of implementation

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

## Annex I

### Key relevant data for Norway

1. Table 4 provides key data and parameters for, and elections by, Norway, 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 Norway<sup>a</sup>

<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
Norway's QELRC in the second commitment period	84% of the base year
Has the Party reached an agreement under Article 4 of the Kyoto Protocol to fulfil its commitments jointly with other Parties?	No
Base year	1990
Base year for HFCs, PFCs and SF <sub>6</sub>	1990
Base year for NF <sub>3</sub>	2000
Base-year emissions, as reported by the Party	51 912 870 t CO <sub>2</sub> eq
Base-year emissions, final	51 921 771 t CO <sub>2</sub> eq
<i>Information related to the calculation of the assigned amount and the commitment period reserve</i>	
Assigned amount, as reported by the Party	348 854 484 t CO <sub>2</sub> eq
Assigned amount, final	348 914 303 t CO <sub>2</sub> eq
Approach used to calculate the average annual emissions for the first three years of the first commitment period	The GHGs, sectors and source categories as used to calculate the assigned amount for the second commitment period
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 by the Party	Not reported in the original submission
Difference between the assigned amount for the second commitment period and average annual emissions for the first three years of the first	-86 925 501 t CO <sub>2</sub> eq

<i>Key information or parameter provided</i>	<i>Comment</i>
commitment period, multiplied by eight, final value	
Commitment period reserve, as reported by the Party	313 969 036 t CO <sub>2</sub> eq
Commitment period reserve, final value	314 022 874 t CO <sub>2</sub> 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: 5.0 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 for the first commitment period, but elected for the second commitment period. Commitment period accounting
(e) Grazing land management	Not elected for the first commitment period, but elected for the second commitment period. Commitment period accounting
(f) Revegetation	Not elected
(g) Wetland drainage and rewetting	Not elected
FMRL	-11.400 Mt CO <sub>2</sub> eq/year
Technical corrections to the FMRL as reported in the original submission and agreed by the ERT	Norway did not report a specific technical correction in the original submission, but indicated in its report to facilitate the calculation of the assigned amount that the corrected FMRL is -13.0 Mt CO <sub>2</sub> eq
Technical corrections to the FMRL, final value as calculated by the ERT	-1.611 Mt CO <sub>2</sub> eq/year*. For further information, see ID# 4 in table 3
3.5% of total base-year GHG emissions, excluding LULUCF and including indirect CO <sub>2</sub> emissions, as reported by the Party	Not reported in the original submission
3.5% of total base-year GHG emissions, excluding LULUCF and including indirect CO <sub>2</sub> emissions, final value	1 817.262 kt CO <sub>2</sub> eq
3.5% of total base-year GHG emissions, excluding LULUCF and including indirect CO <sub>2</sub> emissions, multiplied by eight, as reported by the Party	Not reported in the original submission

<i>Key information or parameter provided</i>	<i>Comment</i>
3.5% of total base-year GHG emissions, excluding LULUCF and including indirect CO <sub>2</sub> emissions, multiplied by eight, final value	14 538.096 kt CO <sub>2</sub> eq
Will the Party exclude emissions from natural disturbances in accounting for:	
(a) Afforestation and reforestation	No
(b) Forest management	No

*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.

<sup>a</sup> 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 the Party. 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 Norway, base year<sup>a</sup>–2014<sup>b</sup>**  
(kt CO<sub>2</sub> eq)

<i>Year</i>	<i>Total GHG emissions excluding indirect CO<sub>2</sub> emissions</i>		<i>Total GHG emissions including indirect CO<sub>2</sub> emissions<sup>c</sup></i>		<i>Land-use change (Article 3.7 bis as contained in the Doha Amendment)<sup>d</sup></i>
	<i>Total including LULUCF</i>	<i>Total excluding LULUCF</i>	<i>Total including LULUCF</i>	<i>Total excluding LULUCF</i>	
Base year	41 451.11	51 921.77	41 451.11	51 921.77	NA
1990	41 451.11	51 921.77	41 451.11	51 921.77	
1995	37 779.51	51 411.15	37 779.51	51 411.15	
2000	31 311.06	54 883.38	31 311.06	54 883.38	
2010	29 428.47	55 299.10	29 428.47	55 299.10	
2011	26 973.52	54 308.64	26 973.52	54 308.64	
2012	27 813.13	53 872.31	27 813.13	53 872.31	
2013	27 243.06	53 585.63	27 243.06	53 585.63	
2014	27 750.28	53 190.61	27 750.28	53 190.61	

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

<sup>a</sup> “Base year” refers to the base year under the Kyoto Protocol, which is 1990 for all gases except NF<sub>3</sub>, for which the base year is 2000.

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

<sup>c</sup> The Party has not reported indirect carbon dioxide emissions in common reporting format table 6. The Party included indirect carbon dioxide emissions in its inventory and these are reported in table 8.2 of the national inventory report.

<sup>d</sup> The value reported in this column refers to 1990.

Table 6  
**Greenhouse gas emissions by gas for Norway, excluding land use, land-use change and forestry, 1990–2014<sup>a</sup>**  
 (kt CO<sub>2</sub> eq)

	<i>CO<sub>2</sub><sup>b</sup></i>	<i>CH<sub>4</sub></i>	<i>N<sub>2</sub>O</i>	<i>HFCs</i>	<i>PFCs</i>	<i>Unspecified mix of HFCs and PFCs</i>	<i>SF<sub>6</sub></i>	<i>NF<sub>3</sub></i>
1990	35 694.82	6 032.68	4 200.89	0.04	3 894.80	NA, NO	2 098.54	NA, NO
1995	38 464.91	6 147.24	3 812.83	92.30	2 314.05	NA, NO	579.82	NA, NO
2000	42 194.62	5 966.44	3 928.86	383.59	1 518.45	NA, NO	891.41	NA, NO
2010	45 833.89	5 522.61	2 567.69	1 064.60	238.39	NA, NO	71.91	NA, NO
2011	44 946.87	5 377.99	2 557.33	1 105.89	262.64	NA, NO	57.92	NA, NO
2012	44 553.97	5 344.42	2 574.90	1 140.97	200.51	NA, NO	57.55	NA, NO
2013	44 309.06	5 341.83	2 537.99	1 155.10	181.04	NA, NO	60.62	NA, NO
2014	43 869.45	5 369.15	2 530.79	1 187.55	178.92	NA, NO	54.74	NA, NO
<b>Per cent change 1990–2014</b>	<b>22.9</b>	<b>-11.0</b>	<b>-39.8</b>	<b>2 705 217.4</b>	<b>-95.4</b>	<b>NA</b>	<b>-97.4</b>	<b>NA</b>

*Abbreviations:* NA = not applicable, NO = not occurring.

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

<sup>b</sup> Norway did not report indirect carbon dioxide emissions in common reporting format table 6. The Party included indirect carbon dioxide emissions in its inventory and these are reported in table 8.2 of the national inventory report.

Table 7  
**Greenhouse gas emissions by sector for Norway, 1990–2014<sup>a, b</sup>**  
 (kt CO<sub>2</sub> eq)

	<i>Energy</i>	<i>IPPU</i>	<i>Agriculture</i>	<i>LULUCF</i>	<i>Waste</i>	<i>Other<sup>c</sup></i>
1990	30 166.71	14 494.44	4 963.12	–10 470.66	2 297.50	–
1995	32 741.26	11 600.82	4 888.51	–13 631.64	2 180.56	–
2000	36 122.07	12 081.56	4 807.05	–23 572.31	1 872.70	–
2010	41 120.40	8 200.70	4 408.10	–25 870.63	1 569.90	–
2011	40 167.22	8 194.77	4 393.12	–27 335.12	1 553.53	–
2012	39 721.76	8 197.04	4 402.84	–26 059.18	1 550.67	–
2013	39 356.61	8 277.28	4 431.84	–26 342.57	1 519.90	–
2014	38 934.46	8 381.22	4 388.28	–25 440.33	1 486.64	–
<b>Per cent change 1990–2014</b>	<b>29.1</b>	<b>–42.2</b>	<b>–11.6</b>	<b>143.0</b>	<b>–35.3</b>	

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

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

<sup>b</sup> Norway did not report indirect carbon dioxide emissions in common reporting format table 6. The Party included indirect carbon dioxide emissions in its inventory and these are reported in table 8.2 of the national inventory report.

<sup>c</sup> These cells were blank in the 2015 and 2016 submissions, possibly owing to a problem with the CRF Reporter. In previous annual submissions, this sector was reported as “NA” (not applicable).

## 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>.

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**B. Additional information provided by the Party**

Responses to questions during the review were received from Ms. Catrin Robertsen (Norwegian Environment Agency), including additional material on the methodology and assumptions used.



## Annex III

### Acronyms and abbreviations

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

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