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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 Spain**

**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, 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 12 to 17 September 2016 in Bonn, Germany.

GE.17-10390(E)



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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 Spain 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 12 to 17 September 2016 in Bonn, Germany, and was coordinated by Ms. Claudia do Valle and Mr. Roman Payo (UNFCCC secretariat). Table 1 provides information on the composition of the expert review team (ERT) that conducted the review of Spain.

2. A draft version of this report was communicated to the Government of Spain, which provided no comments.

Table 1

### Composition of the expert review team that conducted the review of Spain

<i>Area of expertise</i>	<i>Name</i>	<i>Party</i>
Generalist	Mr. Newton Paciornik	Brazil
	Ms. Daniela Romano	Italy
Energy	Mr. Alexey Cherednichenko	Kazakhstan
	Mr. Hiroshi Ito	Japan
	Mr. Ole-Kenneth Nielsen	Denmark
	Mr. Shengmin Yu	China
IPPU	Ms. Niculina Mihaela Balanescu	Romania
	Mr. Julien Jabot	Norway
	Ms. Eva Krtkova	Czechia
Agriculture	Mr. Paul Duffy	Ireland
	Mr. Tomas Paulaitis	Lithuania
	Mr. Braulio Pikman	Brazil
LULUCF	Ms. Tracy Johns	United States of America
	Mr. Mattias Lundblad	Sweden
	Ms. Marina Shvangiradze	Georgia
Waste	Ms. Sumaia Elsayed	Sudan
	Ms. Katja Pazdernik	Austria
Lead reviewers	Mr. Ole-Kenneth Nielsen	

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

<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>
	Mr. Newton Paciornik	

*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 Spain 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 Spain 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: 13 June 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?	No	For further information, see document FCCC/ARR/2016/ESP
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 agreement by the Party under Article 4 of the Kyoto Protocol to implement commitments jointly</i>		
Has complete information been reported in accordance with decision 3/CMP.11, paragraph 11, by the Party in fulfilment of its agreement under Article 4 of the Kyoto Protocol, in relation to the following:		
(a) Application of decision 1/CMP.8, paragraphs 23–26, related to carry-over and the previous period surplus reserve account	Yes	For further information, see ID#7 in table 3
(b) Calculation of base-year emissions	Yes	See annex I, table 4. For further information, see ID#2 in table 3
(c) Calculation of the assigned amount	Yes	See annex I, table 4. For further information, see ID#1 and ID#2 in table 3
(d) Calculation of the commitment period reserve	Yes	See annex I, table 4. For further information, see

<i>Item</i>		<i>Comment</i>
		ID#3 in table 3
(e) Application and calculation pursuant to decision 2/CMP.7, annex, paragraph 13	Yes	
<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 8?	Yes	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?	Yes	See annex I, table 4. For further information, see ID#6 in table 3
Did land-use change and forestry constitute a net source of GHG emissions in the base year, and therefore did the Party include emissions from deforestation in the calculation of the assigned amount?	No	
Was the commitment period reserve in the original submission calculated in accordance with the annex to decision 18/CP.7, the annex to decision 11/CMP.1, the annex to 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#3 in table 3
<i>Information related to activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol</i>		
If the Party identified activities elected under Article 3, paragraph 4, of the Kyoto Protocol, are these elections in accordance with decision 2/CMP.7, annex, paragraphs 6–8?	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	Yes	See annex I, table 4

<i>Item</i>		<i>Comment</i>
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?		
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#4 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>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 Spain 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.

Table 3

**Additional findings of the expert review team, if any, related to Spain'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	<p>The assigned amount submitted by the Party in its report to facilitate the calculation of the assigned amount was calculated in accordance with Article 3, paragraphs 7 bis, 8 and 8 bis, of the Kyoto Protocol, the annex to decision 13/CMP.1 and annex I to decision 3/CMP.11</p> <p>The ERT notes that the European Union, its member States and Iceland stated that they will fulfil their reduction targets under the second commitment period jointly.<sup>a</sup> The joint assigned amount for the European Union, its member States and Iceland is calculated pursuant to the quantified emission limitation and reduction commitment listed in the third column of the table contained in Annex B to the Kyoto Protocol, while the assigned amount of each member State is determined in accordance with the terms of the joint fulfilment agreement. Specifically, the assigned amount for Spain is fixed, based on annex II to European Commission decision 2013/162/EU and as adjusted by Commission implementing decision 2013/634/EU<sup>b</sup></p> <p>The ERT concludes that the assigned amount reported by Spain is in accordance with the joint fulfilment agreement by the European Union, its member States and Iceland</p>	Not a problem
2.	Calculation of the assigned amount	<p>In response to a list of potential problems and further questions raised by the ERT (see FCCC/ARR/2016/ESP), Spain officially submitted revised CRF tables on 26 November 2016. The Party also provided revised base-year emissions, amounting to 283 361 698 t CO<sub>2</sub> eq (previous submission was 288 694 596 t CO<sub>2</sub> eq). The ERT agreed with the revised base-year estimate</p> <p>The revised estimates for the base-year emissions do not affect the assigned amount for Spain referred to in table 4 below because the assigned amount is determined based on the allocations in the European Union decisions referenced above, and is not calculated using the base-year emission estimates for Spain. The ERT invites Spain to communicate the revised base-year emissions to the European Union with a view to be considered in the calculation of the joint assigned amount of the European Union, its</p>	Not a problem

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

ID#	Finding classification	Description of the finding	Classification of problem
		member States and Iceland	
3.	Calculation of the commitment period reserve	The commitment period reserve was calculated in accordance with the annex to decision 18/CP.7, the annex to decision 11/CMP.1 and decision 1/CMP.8, paragraph 18	Not a problem
4.	Accounting of activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol	The forest management cap is calculated as 3.5% of the base-year emissions, multiplied by the duration of the commitment period (8 years). Spain has not reported its forest management cap in the report to facilitate the calculation of the assigned amount, but in CRF table "Accounting" the Party reported the forest management cap as being 80 061.46 kt CO <sub>2</sub> eq both in the original submission and in the revised estimates provided to the ERT on 26 November 2016 (see ID#2). However, this value was calculated in relation to the Convention base year (1990) and not related to the base year as indicated in decision 2/CMP.8, annex I, paragraph 1(b), that is, 1990 for CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O and 1995 for HFCs, PFCs, SF <sub>6</sub> and NF <sub>3</sub> (in the case of Spain). Based on the submission of revised estimates, the ERT calculated the revised forest management cap as equal to 79 341.27 kt CO <sub>2</sub> eq (see table 4)	Not a problem
5.	Accounting of activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol	Spain reported the technical correction in CRF table "Accounting" as "NO". The Party provided a technical assessment report (as annex to the initial report to facilitate the calculation of the assigned amount) and in accordance with decisions 2/CMP.6, paragraphs 4 and 5 (page 8 of the initial report). In this technical assessment, no recommendations for technical corrections were made and therefore the Party has not presented such a value in the first year of the second commitment period	Not a problem
6.	Reporting pursuant to Article 3.7 ter of the Doha Amendment	In line with the terms of the joint fulfilment of the European Union, its member States and Iceland under Article 3 of the Kyoto Protocol, and as described in the report to facilitate the calculation of the assigned amount of the European Union, Article 3, paragraph 7 ter, of the Kyoto Protocol is applied to the joint assigned amount of the European Union, its member States and Iceland for the second commitment period. In its report, the European Union includes the value for the difference between the joint assigned amount for the second commitment period and average annual emissions for the first three years of the first commitment period for the member States and Iceland, multiplied by 8. The report of the European Union also clarifies that the approach used to calculate average annual emissions for the first three years of the first commitment period is including the gases and sources listed in Annex A to the Kyoto Protocol	Not a problem
7.	National registry	In the national inventory report, the Party did not provide information on the establishment of a PPSR account in its national registry. The ERT notes that the 2016 standard independent assessment report for Spain indicates that the PPSR account was not yet established and will be established as soon as technically possible	Not a problem
8.	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 Spain in its report to facilitate the calculation of the assigned amount	Not a problem



*Abbreviations:* CRF = common reporting format, ERT = expert review team, NO = not occurring, PPSR = previous period surplus reserve.

<sup>a</sup> The report to facilitate the calculation of the assigned amount for the European Union is available at <[http://unfccc.int/national\\_reports/initial\\_reports\\_under\\_the\\_kyoto\\_protocol/second\\_commitment\\_period\\_2013-2020/items/9499.php](http://unfccc.int/national_reports/initial_reports_under_the_kyoto_protocol/second_commitment_period_2013-2020/items/9499.php)>.

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

#### **IV. Questions of implementation**

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

## Annex I

### Key relevant data for Spain

1. Table 4 provides key data and parameters for, and elections by, Spain, 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 Spain<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
Spain's QELRC in the second commitment period	Spain will implement its reduction target under the second commitment period jointly with the European Union, its member States and Iceland as described in ID#1 in table 3. The QELRC for the European Union, its member States and Iceland is 80% of the base-year emissions
Has the Party reached an agreement under Article 4 of the Kyoto Protocol to fulfil its commitments jointly with other Parties?	Yes
Base year	1990
Base year for HFCs, PFCs and SF <sub>6</sub>	1995
Base year for NF <sub>3</sub>	1995
Base-year emissions, as reported by the Party	Not reported in the original submission
Base-year emissions, final, as calculated by the ERT and agreed by the Party	283 361 698 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 and agreed by the ERT	1 766 877 232 t CO <sub>2</sub> eq
Approach used to calculate the average annual emissions for the first three years of the first commitment period	This difference is calculated on the basis of the joint assigned amount of the European Union, its member States and Iceland and is based on the gases and sources listed in Annex A to the Kyoto Protocol
Difference between the assigned amount for the second commitment period and average annual emissions for the	This difference is calculated on the basis of the joint assigned amount of

<i>Key information or parameter provided</i>	<i>Comment</i>
first three years of the first commitment period, multiplied by 8, as reported by the Party and agreed by the ERT	the European Union, its member States and Iceland and is based on the gases and sources listed in Annex A to the Kyoto Protocol
Commitment period reserve, as reported by the Party and agreed by the ERT	1 590 189 509 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: 20% Minimum land area: 1 ha Minimum tree height: 3 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	Commitment period accounting
(e) Grazing land management	Not elected
(f) Revegetation	Not elected
(g) Wetland drainage and rewetting	Not elected
FMRL	-23.100 Mt CO <sub>2</sub> eq/year
Technical corrections to the FMRL as reported in the original submission	Technical corrections not applied (see ID#5 in table 3)
Technical corrections to the FMRL, final value	NA
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, as calculated by the ERT	9 917.659 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 8, as reported by the Party in the original submission	80 061.456 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 8, final value as calculated by the ERT	79 341.275 kt CO <sub>2</sub> eq
Will the Party exclude emissions from natural disturbances in accounting for:	

<i>Key information or parameter provided</i>	<i>Comment</i>
(a) Afforestation and reforestation	Yes
(b) Forest management	Yes

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

<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 Spain. 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 Spain, 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	257 995.60	283 361.70	257 995.60	283 361.70	NA
1990	255 234.78	280 600.88	255 234.78	280 600.88	
1995	294 485.29	320 181.56	294 485.29	320 181.56	
2000	343 983.81	378 646.32	343 983.81	378 646.32	
2010	320 375.33	353 724.69	320 375.33	353 724.69	
2011	321 823.09	353 872.24	321 823.09	353 872.24	
2012	318 757.06	348 556.43	318 757.06	348 556.43	
2013	288 012.95	320 122.04	288 012.95	320 122.04	
2014	290 243.41	321 744.07	290 243.41	321 744.07	

*Abbreviations:* GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

<sup>a</sup> Base year refers to the base year under the Kyoto Protocol, which is 1990 for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O, and 1995 for HFCs, PFCs, SF<sub>6</sub> and NF<sub>3</sub>.

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

<sup>c</sup> Spain has not reported indirect CO<sub>2</sub> emissions in common reporting format table 6.

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

Table 6

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

<i>Year</i>	<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	230 154.96	29 575.35	16 602.66	3 039.92	1 164.38	NA, NO	63.61	NA, NO
1995	265 725.35	31 370.41	16 057.08	5 872.42	1 055.37	NA, NO	100.93	NA, NO
2000	311 599.72	35 247.71	19 684.73	11 430.35	496.12	NA, NO	187.68	NA, NO
2010	283 581.40	35 291.21	16 311.83	18 197.09	108.26	NA, NO	234.90	NE, NA, NO
2011	283 918.68	35 615.14	15 482.33	18 523.61	93.33	NA, NO	239.15	NE, NA, NO
2012	279 830.31	34 614.99	15 039.61	18 793.61	57.91	NA, NO	220.01	NE, NA, NO
2013	252 259.69	34 043.96	15 629.73	17 904.06	70.75	NA, NO	213.86	NA, NO
2014	253 466.92	34 450.65	16 499.63	17 053.32	66.11	NA, NO	207.44	NA, NO
<b>Per cent change 1990–2014</b>	<b>10.1</b>	<b>16.5</b>	<b>–0.6</b>	<b>461.0</b>	<b>–94.3</b>	<b>NA</b>	<b>226.1</b>	<b>NA</b>

*Abbreviations:* NA = not applicable, NE = not estimated, 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> Spain did not report indirect CO<sub>2</sub> emissions in common reporting format table 6.

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

<i>Year</i>	<i>Energy</i>	<i>IPPU</i>	<i>Agriculture</i>	<i>LULUCF</i>	<i>Waste</i>	<i>Other</i>
1990	211 604.43	30 495.31	30 558.32	–25 366.10	7 942.81	NA
1995	248 222.18	32 565.03	29 995.17	–25 696.27	9 399.18	NA
2000	289 825.47	42 171.52	35 193.18	–34 662.51	11 456.14	NA
2010	265 545.50	42 427.71	31 958.12	–33 349.36	13 793.36	NA
2011	267 886.76	40 384.41	31 263.15	–32 049.15	14 337.93	NA
2012	265 634.14	38 652.15	29 991.55	–29 799.37	14 278.60	NA
2013	239 232.25	36 386.83	30 673.15	–32 109.08	13 829.81	NA
2014	238 091.85	37 742.38	32 133.99	–31 500.65	13 775.84	NA
<b>Per cent change 1990–2014</b>	<b>12.5</b>	<b>23.8</b>	<b>5.2</b>	<b>24.2</b>	<b>73.4</b>	<b>NA</b>

*Abbreviations:* IPPU = industrial processes and product use, LULUCF = land use, land-use change and forestry, NA = not applicable.

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

<sup>b</sup> Spain did not report indirect CO<sub>2</sub> emissions in common reporting format table 6.

## Annex II

### Documents and information used during the review

#### A. Reference documents

“Guidelines for national systems for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, paragraph 1, of the Kyoto Protocol”. Annex to decision 19/CMP.1. Available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf#page=15>.

“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#page=56>.

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

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

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

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

Responses to questions during the review were received from Mr. Martin Fernandez Diez-Picazo (Inventory Unit, Spanish Ministry for Agriculture, Food and Environment), 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
IPPU	industrial processes and product use
kt	kilotonne
LULUCF	land use, land-use change and forestry
m	metre
Mt	megatonne
NA	not applicable
NE	not estimated
NF <sub>3</sub>	nitrogen trifluoride
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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