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Report on the individual review of the annual submission of Slovenia submitted in 2016*

Note by the expert review team

Summary

Each Party included in Annex I to the Convention must submit an annual greenhouse gas (GHG) inventory covering emissions and removals of GHG emissions for all years from the base year (or period) to two years before the inventory due date (decision 24/CP.19). Parties included in Annex I to the Convention that are Parties to the Kyoto Protocol are also required to report supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol, with the inventory submission due under the Convention. This report presents the results of the individual inventory review of the 2016 annual submission of Slovenia, 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 26 September to 1 October 2016 in Bonn, Germany.

* In the symbol for this document, 2016 refers to the year in which the inventory was submitted, not to the year of publication.

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Contents

I. Introduction[1]

1. This report covers the review of the 2016 annual submission of Slovenia organized by the UNFCCC secretariat, in accordance with the "Guidelines for review under Article 8 of the Kyoto Protocol" (decision 22/CMP.1, as revised by decision 4/CMP.11) (hereinafter referred to as the Article 8 review guidelines). As indicated in the Article 8 review guidelines, this review process also encompasses the review under the Convention, as described in the "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" (hereinafter referred to as the UNFCCC review guidelines) and particularly part III, "UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention". The review took place from 26 September to 1 October 2016 in Bonn, Germany, and was coordinated by Mr. Nalin Srivastava and Mr. Jongikhaya Witi (UNFCCC secretariat). Table 1 provides information on the composition of the expert review team (ERT) that conducted the review of Slovenia.

Table 1
Composition of the expert review team that conducted the review of Slovenia

Area of expertise	*Name*	*Party*
Generalist	Mr. Manfred Ritter	Austria
	Ms. Melissa Weitz	United States of America
Energy	Ms. Kristien Aernouts	Belgium
	Mr. Constantin Harjeu	Romania
	Ms. Lungile Glodine Manzini	South Africa
	Mr. Vishwa Bandhu Pant	India
	Mr. Steve Smyth	Canada
IPPU	Mr. Thapelo Clifford Mohale Letete	South Africa
	Ms. Ingrid Person Rocha e Pinho	Brazil
Agriculture	Mr. Jorge Lam Alvarez	Peru
	Mr. Kingsley Kwako Amoako	Ghana
	Ms. Yue Li	China
LULUCF	Ms. Sekai Ngarize	Zimbabwe
	Mr. Walter Oyhantcabal	Uruguay
	Mr. Atsushi Sato	Japan
Waste	Ms. Fatma Betül Demirok	Turkey

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

Area of expertise	*Name*	*Party*
	Mr. Excellent Hachileka	Zambia
	Mr. Hans Oonk	Netherlands
Lead reviewers	Mr. Vishwa Bandhu Pant	
	Ms. Melissa Weitz	

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

2. This report contains findings based on the assessment by the ERT of the 2016 annual submission against the Article 8 review guidelines. The ERT has made recommendations to resolve those findings related to issues,[2] including issues related to problems.[3] Other findings, and, if applicable, the encouragements of the ERT to resolve them, are also included.

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

4. Annex I shows annual greenhouse gas emissions for Slovenia, including totals excluding and including the land use, land-use change and forestry sector, indirect carbon dioxide emissions and emissions by gas and by sector. Annex I also contains background data related to emissions and removals from activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and additional activities under Article 3, paragraph 4, of the Kyoto Protocol, if elected, by gas, sector and activity for Slovenia.

5. Information to be included in the compilation and accounting database can be found in annex II.

6. The ERT notes that Slovenia's 2015 annual submission was delayed, consistent with decision 6/CMP.9, paragraph 4. As a result, the review of the 2016 annual submission is being held in conjunction with the review of the 2015 annual submission, in accordance with decision 10/CMP.11, paragraph 1. To the extent that identical information is presented in both annual submissions, the ERT has reviewed this information only once and, as appropriate, has replicated the findings below in both the 2015 and the 2016 annual review reports.

II. Summary and general assessment of the 2016 annual submission

7. Table 2 provides the ERT assessment of the annual submission with respect to the tasks undertaken during the review. Further information on the issues identified, as well as additional findings, may be found in tables 3 and 5.

[2] Issues are defined in decision 13/CP.20, annex, paragraph 81.

[3] Problems are defined in decision 22/CMP.1, annex, paragraphs 68 and 69, as revised by decision 4/CMP.11.

Table 2
Summary of review results and general assessment of the inventory of Slovenia

Assessment			*Issue or problem ID#(s) in table 3 and/or 5*[a]
Dates of submission	Original submission: 15 June 2016 (NIR), 15 June 2016, version 2 (CRF tables), 26 May 2016 (SEF tables)		
	The values from the latest submission are used in this report		
Review format	Centralized		
Application of the requirements of the UNFCCC Annex I inventory reporting guidelines and Wetlands Supplement (if applicable),	Have any issues been identified in the following areas:		
	Identification of key categories	No	
	Selection and use of methodologies and assumptions	Yes	L.18, L.20, L.27, L.28
	Development and selection of emission factors	Yes	E.14, L.24, L.27
	Collection and selection of activity data	Yes	I.8, L.5, L.17, W.7, W.13
	Reporting of recalculations	Yes	W.9
	Reporting of a consistent time series	Yes	I.8, L.12, W.9, W.10
	Reporting of uncertainties, including methodologies	Yes	W.7
	QA/QC	QA/QC procedures were assessed in the context of the national system (see below)	
	Missing categories/completeness[b]	Yes	KL.8, KL.13, L.17, L.25, L.26, L.28, L.29, W.13, W.14
	Application of corrections to the inventory	No	
Significance threshold	For categories reported as insignificant, has the Party provided sufficient information showing that the likely level of emissions meets the criteria in paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines?	No	W.13, W.14
Description of trends	Did the ERT conclude that the description in the NIR of the trends for the different gases and sectors is reasonable?	Yes	
Supplementary information under the Kyoto Protocol	Have any issues been identified in the following areas:		
	1. National system:		
	(a) The overall organization of the national system, including the effectiveness and reliability of the institutional, procedural and legal arrangements	No	
	(b) Performance of the national system functions	No	

Assessment			*Issue or problem ID#(s) in table 3 and/or 5*[a]
	2. National registry:		
	(a) Overall functioning of the national registry	No	
	(b) Performance of the functions of the national registry and the technical standards for data exchange	No	
	3. ERUs, CERs, AAUs and RMUs and information on discrepancies reported in accordance with decision 15/CMP.1, annex, chapter I.E, taking into consideration any findings or recommendations contained in the SIAR	No	
	4. Matters related to Article 3, paragraph 14, of the Kyoto Protocol, specifically problems related to the transparency, completeness or timeliness of reporting on the Party's activities related to the priority actions listed in decision 15/CMP.1, annex, paragraph 24, including any changes since the previous annual submission	No	
	5. LULUCF activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol:		
	(a) Reporting in accordance with the requirements of decision 2/CMP.8, annex II, paragraphs 1–5	Yes	KL.2, KL.7, KL.8, KL.9
	(b) The Party has demonstrated methodological consistency between the reference level and reporting on forest management in accordance with decision 2/CMP.7, annex, paragraph 14	Yes	KL.8
	(c) The Party has reported information in accordance with decision 6/CMP.9	Yes	KL.3, KL.7
	(d) Country-specific information has been reported to support provisions for natural disturbances, in accordance with decision 2/CMP.7, annex, paragraphs 33 and 34	NA	
	(e) Other issues	No	
CPR	Was the CPR reported in accordance with the annex to decision 18/CP.7, the annex to decision 11/CMP.1 and decision 1/CMP.8, paragraph 18?	Yes	
Adjustments	Has the ERT applied an adjustment under Article 5, paragraph 2, of the Kyoto Protocol?	No	
	The ERT accepts that the revised estimate submitted by Slovenia in its 2016 submission can replace a previously applied adjustment in the compilation and accounting database	NA	
Response from the Party during the review	Has the Party provided the ERT with responses to the questions raised, including the data and information necessary for the assessment of conformity with the UNFCCC Annex I inventory reporting guidelines and any	Yes	

Assessment			*Issue or problem ID#(s) in table 3 and/or 5*[a]
	further guidance adopted by the Conference of the Parties?		
Recommendation for an exceptional in-country review	On the basis of the issues identified, does the ERT recommend that the next review be conducted as an in-country review?	No	
Questions of implementation	Did the ERT list a question of implementation?	No	

Abbreviations: AAU = assigned amount unit, CER = certified emission reduction unit, CPR = commitment period reserve, CRF = common reporting format, ERT = expert review team, ERU = emission reduction unit, LULUCF = land use, land-use change and forestry, NA = not applicable, NIR = national inventory report, QA/QC = quality assurance/quality control, RMU = removal unit, SEF = standard electronic format, SIAR = standard independent assessment report, UNFCCC Annex I inventory 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 greenhouse gas inventories", Wetlands Supplement = *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*.

[a] The ERT identified additional issues in the energy and agriculture sectors that are not specifically listed in table 2 but are included in table 3 and/or 5.

[b] Missing categories, for which methods are provided in the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*, may affect completeness and are listed in annex III.

III. Status of implementation of issues and/or problems raised in the previous review report

8. Table 3 compiles all the recommendations made in the previous review report. Owing to the unique circumstances of the 2015 annual submission described in paragraph 6 above, the latest available review report was for the review of the 2014 annual submission, published on 6 February 2015. For each issue and/or problem, the ERT specified whether it believes the issue and/or problem has been resolved by the conclusion of the review of the 2016 annual submission and provided the rationale for its determination, taking into consideration the publication date of the previous review report and national circumstances.

Table 3
Status of implementation of issues and/or problems raised in the previous review report of Slovenia

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
General			
G.1	Inventory management (17, 2014) (16, 2013) (27, 2012) (25, 2011) (18, 2010) Accuracy*	Document the QA/QC procedures and on an annual basis the key categories, key category analysis and the identification of planned improvements. Archive and back up data at the Slovenian Environment Agency. Fully implement the system as described in the QA/QC plan and report on the implementation	Resolved. Slovenia demonstrated that progress has been made in implementing the QA/QC plan. Improvements include the appointment of a QA/QC manager, the implementation of all QC activities and tracking of all QC activities via the Emissions Inventory Information System. During the review week, Slovenia submitted a revised QA/QC plan and documentation of the

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
			newly established archiving system together with screenshots of its digital implementation Slovenia is planning to perform a sectoral review of its inventory on an annual basis
G.2	KP-LULUCF supplementary information (87, 2014) Adherence to UNFCCC Annex I inventory reporting guidelines	Provide further explanation on emission trends in future annual submissions in order to enhance the transparency of reporting	No longer relevant. The recommendation was in response to the inter-annual decrease in CO_2 emissions during 2010 and 2012 for the first commitment period. This is outside the scope of the second commitment period
Energy			
E.1	Fuel combustion – reference approach – CO_2 (24, 2014) (25, 2013) Adherence to UNFCCC Annex I inventory reporting guidelines	Make all possible efforts to provide more information in the national energy balance tables (including data on losses and statistical differences) and provide comparisons of these data and emission estimates in the NIR, as a verification procedure	Not resolved. Slovenia explained that, at present, relevant data are not available in the national statistics and this is not included in an improvement plan
E.2	Fuel combustion – reference approach – CO_2 (25, 2014) Adherence to UNFCCC Annex I inventory reporting guidelines	Ensure the consistency of information provided in the CRF tables and the NIR, and enhance QC procedures to ensure that such inconsistencies and errors do not occur. For example, the information provided on lubricants in annex 4, table 3, for 2004 and 2005 is not in line with the information on lubricants provided in table 3.1.10 of the NIR and in CRF table 1.A(d)	Not resolved. Inconsistencies continue in the submissions. See ID#E.17 in table 5 below
E.3	Feedstocks, reductants and other non-energy use of fuels – liquid and gaseous fuels – CO_2 (28, 2014) (28, 2013) Transparency*	Continue to improve the reporting in CRF table 1.A(d) by removing inconsistencies and ensuring transparency	Resolved. Slovenia has now provided a clear picture of fuel used as feedstock
E.4	International bunkers and multilateral operations – liquid fuels – CO_2 (26, 2014) Not an issue	Provide transparent explanations for recalculations in the next annual submission (for example, CO_2 emissions from marine bunkers had not been recalculated for the period 2005–2011 due to a revision of the CO_2 EF for residual fuel oil)	Resolved. Slovenia explained that default values from the 2006 IPCC Guidelines were now being used

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
E.5	International bunkers and multilateral operations – liquid fuels – CO_2 (27, 2014) (27, 2013) Consistency*	Ensure the consistency of the reporting and improve the implementation of QC procedures in order to prevent such errors in subsequent annual submissions	Not resolved. The ERT notes that Slovenia reported emissions for this category of 184 kt CO_2 eq in the CRF table while a figure of 186 kt CO_2 eq is reported in the NIR (p.43)
E.6	1.A. Fuel Combustion-Sectoral Approach – solid fuels – CO_2 (29, 2014) Consistency*	Provide more explanation for the apparent inconsistency in reporting of AD and NCVs for sub-bituminous coal for the period 1986–1994, or provide emission estimates for sub-bituminous coal	Resolved. Slovenia has now provided detailed data on fuel consumption and NCVs for sub-bituminous coal during the period 1986–1994
E.7	1.A.1.a Public electricity and heat production – liquid fuels – CO_2, CH_4 and N_2O (30, 2014) Transparency*	Correct instances where the values reported in the NIR (annex 2) did not match the AD reported in the CRF tables, such as liquid fuel consumption in public electricity and heat production in 1986, and improve the consistency between the NIR and the CRF tables	Resolved. Information on diesel and gasoline reported in the NIR (annex 3) is consistent with information contained in CRF table 1.A.(a)s1
E.8	1.A. Fuel combustion – sectoral approach – all fuels – CO_2 (31, 2014) (29, 2013) (45, 2012) (35, 2011) (33, 2010) Transparency*	Develop country-specific CO_2 EFs for all fuels that have a significant share in the fuel mix for each category	Not resolved. Slovenia has used country-specific CO_2 EFs for coal and natural gas but has not yet developed country-specific CO_2 EFs for heavy fuel oil, extra light fuel oil, gasoline and diesel
E.9	1.A.1.a Public electricity and heat production – biomass fuels – CO_2, CH_4 and N_2O (32, 2014) Transparency*	Provide more information on the NCVs and EFs for each specific fuel in order to enhance transparency	Resolved. The information is included in the NIR (annex 3) and in table 3.2.53 of the NIR
E.10	1.A.2 Manufacturing industries and construction – all fuels – CO_2 (34, 2014) (33, 2013) Transparency*	Provide disaggregated AD and CO_2 emission estimates according to the specific types of industry included under manufacturing industries and construction	Resolved. In the current submission, Slovenia provided detailed AD information for this category in annex 3 to the NIR. Table 3.2.26 presents the classification of 1.A.2 subcategories and all relevant activities according to classification. Table 3.2.23 provides CO_2 eq emission estimates by industry type
E.11	1.A.3.b Road	Continue to improve the characterization of the	Not resolved. Slovenia

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
	transportation – liquid fuels – CO_2 (35, 2014) (34, 2013) Transparency*	physical and chemical properties of gasoline and diesel fuel for road transportation and report on the results achieved	explained in the NIR that it is planning to collect information on characterization of the properties of gasoline and diesel used for road transportation (p.93)
E.12	1.A.4.c Agriculture/forestry/fishing – all fuels – CO_2, CH_4 and N_2O (33, 2014) Transparency*	Update the coefficient used to quantify fuel consumption in this subcategory so that it reflects technological variations in the use of and features of the machinery used for agricultural purposes	Addressing. During the review, Slovenia stated that this issue will be resolved upon completion of an EU project developed by Slovenia's agriculture institute. The details of this study shall be included in its next submission
IPPU			
I.1	2. General (IPPU) (42, 2014) Transparency*	Include a separate chapter in the NIR for category-specific QA/QC for lime production	Resolved. A separate QA/QC chapter for lime production has been included in the NIR
I.2	2.A.4 Other process uses of carbonates – CO_2 (43, 2014) (42, 2013) Completeness*	Make efforts to obtain AD and estimate the emissions from bricks and ceramics production in order to ensure a complete and consistent time series in the next annual submission	Resolved. The Party has estimated the emissions from bricks and ceramics production, and included the estimates in the 2016 submission
I.3	2.B.2 Nitric acid production – N_2O (47, 2014) Transparency*	To improve the accuracy of the emission estimates for this category, investigate the production technology and operating conditions of the single industrial plant that was operating in the period 1997–2005 and, if necessary, adjust the EF accordingly in order to improve the accuracy of the emission estimates. Improve the transparency of the NIR by providing a justification for the choice of EF	Resolved. The Party has updated its inventory using the relevant default EF from the 2006 IPCC Guidelines (7 kg N_2O/t nitric acid)
I.4	2.F.1 Refrigeration and air conditioning – HFCs (45, 2014) Transparency*	Include a justification in the NIR for the use of country-specific values for the lifetime of domestic refrigeration and air-conditioning equipment	Addressing. The Party has used the upper, most conservative, value of 20 years recommended contained in volume 3, chapter 7 (table 7.9), of the 2006 IPCC Guidelines for developing countries. The ERT considers that using this value could potentially result in an overestimation of emissions. In response to a question

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
			raised by the ERT during the review, the Party stated that, for future submissions, it will use the value of 15 years for the 2017 submission, which is closer to the value of 12 years recommended for developed countries
I.5	2.F.6 Other applications (product uses as substitutes for ozone depleting substances) – HFCs (44, 2014) (45, 2013) Transparency*	Update the information in the NIR in order to reflect the inclusion of HFC emissions from the disposal of refrigeration equipment and continue to strengthen QC procedures to avoid such inconsistencies	Resolved. The information on the HFC emissions from the disposal of refrigeration equipment has been included in the NIR (p.160)
I.6	2.G.1 Electrical equipment – SF_6 (46, 2014) (46, 2013) Transparency*	Include information regarding the methodology used for the calculation of the SF_6 emissions from the disposed electrical equipment	Not resolved. The Party did not provide the requested information
Agriculture			
A.1	3.B Manure management – CH_4 and N_2O (51, 2014) (50, 2013) Accuracy*	Make all efforts to include the latest information obtained by SORS on manure management systems applied on cattle farms	Addressing. Census data on farm size and structure from SORS for the years 2010 and 2014 were used to estimate the AWMS matrix for cattle. However, in response to a question raised by the ERT, Slovenia explained that data from a sample survey conducted in 2010 on manure management systems were not applied because of a considerably lower value for liquid systems, and a lack of historical survey data on AWMS. The ERT considers Slovenia to have enough information from the 2010 survey to develop a AWMS matrix for livestock and particularly notes that the previous ERT noted that the 2010 survey results on usage of AWMS differed significantly from the AWMS matrix reported using previous surveys

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
A.2	3.B Manure management – CH_4 and N_2O (51, 2014) Accuracy*	Take into consideration housing technology types (e.g. loose housing or tie stall housing) used in cattle farms when developing/updating the AWMS matrix	Not resolved. The information on housing technology types was not provided in the NIR and not used for the development of the AWMS matrix
A.3	3.B Manure management – N_2O (54, 2014) (52, 2013) (77, 2012) Transparency*	Improve the transparency of the information provided for this sector and provide a description of the development of the average Nex rate for swine	Addressing. Slovenia reported Nex rates for sows and fattening pigs and provided a reference, but did not provide detailed information to demonstrate the appropriateness of these Nex rates to its national circumstances
A.4	3.B.3 Swine – CH_4 and N_2O (52, 2014) Accuracy*	Conduct an investigation and update the AWMS matrix for swine because the practice of organic farming may include deep litter manure management systems or pasture and paddock	Not resolved. The update of the AWMS matrix for swine is based on farm size and structure. In response to a question raised by the ERT during the review, Slovenia indicated that the number of pigs reared on organic farms is less than 1% of the total pig population in Slovenia and therefore it is not practical to perform a nationwide study. The ERT considers that, with the exception of the proportion of pigs reared on organic farms, Slovenia has not presented a quantitative analysis to demonstrate the significance of omitting this category
LULUCF			
L.1	Land representation (60, 2014) (56, 2013) (83, 2012) (73, 2011) Transparency*	Improve the land representation data used to report LULUCF emissions and removals under the Convention by reconciling all data on areas contained in databases and land-use maps, as well as data collected from observations	Resolved. A new system and new data were used for the land representation. AD and land matrices were improved and updated
L.2	4.A.1 Forest land remaining forest land – CO_2 (61, 2014) Consistency*	Collect additional data on merchantable volume in order to improve the estimates using interpolation/extrapolation and provide explanations to support the claim that the interpolation/extrapolation methods are in accordance with the IPCC good practice guidance	Resolved. Additional data were collected from the Slovenian Forest Service database and a time series was constructed by using the overlap method to compare

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
			these data for 2007–2012 against the Forest and Forest Ecosystem Condition Survey (FECS)
L.3	4.A.1 Forest land remaining forest land – CO_2 (61, 2014) Transparency*	Use the notation key "IE" to report "losses" in CRF table 5.A instead of "NA"	Resolved. In the current submission, the notation key "IE" was used to report "losses" for forest land remaining forest land in CRF table 5.A
L.4	4.A.1 Forest land remaining forest land – CO_2 (62, 2014) (59, 2013) Transparency*	Improve the land classification by subtracting young forest (less than 20 years old) and classify this as land converted to forest land	Resolved. During the review, Slovenia clarified that FECS increment data do not contain data on land converted to forest land and the young forests discussed during the last review was natural regeneration of forest stands that occurred after logging. This type of young forest was not subject to land-use change and so not considered as land conversion to forest
L.5	4.A.1 Forest land remaining forest land – CO_2 (63, 2014) Accuracy*	Search for additional data on deadwood stocks collected from observations for some of the years prior to and after 2007 in order to improve the estimates based on interpolation/extrapolation	Addressing. During the review, Slovenia explained that all available data on deadwood were checked. The Slovenian Forest Service has collected data on deadwood since 1998 but, because of the nature of sampling design and non-harmonized methods, data are unsuitable and annual data would be underestimated
L.6	4.B.1 Cropland remaining cropland – CO_2 (67, 2014) (61, 2013) (91, 2012) (78, 2011) (78, 2010) Completeness*	Collect data on land area in perennial cropland and estimate emissions and removals in order to enhance the completeness of the inventory	Resolved. Biomass carbon stock changes in perennial cropland remaining perennial cropland were estimated
L.7	4.B.2 Land converted to cropland – CO_2 (68, 2014) (61, 2013) Transparency*	Determine and use country-specific parameters such as the changes in carbon stocks from one year of cropland growth for perennial and annual croplands in line with the IPCC good practice guidance for LULUCF	Addressing. During the review, in response to a question raised by the ERT, Slovenia explained that some research of re-checking national information on

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
			annual crops has been implemented. However, the ERT also noted that living biomass did not contribute 20–30% of carbon stock change in this category and therefore this category is not considered key
L.8	4.C.2 Land converted to grassland – CO_2 (69, 2014) Transparency*	Determine and use country-specific data on changes in carbon stocks from one year of grassland growth	Addressing. In response to the question raised by the ERT, Slovenia answered that carbon stock data on annual grassland had been collected. According to the land matrices, grassland with woody vegetation, which contains trees below the threshold of the forest definition, occupied almost 20–30% of all grassland areas. The default value of 13.5 tDM./ha/year may not be representative of grassland with woody biomass in Slovenia
L.9	4 (V) Biomass burning – CH_4 and N_2O (71, 2014) (64, 2013) Consistency*	Collect additional data on growing stock (which are used to derive "mass of available fuel") in order to limit the application of interpolation/extrapolation over a long period	Resolved. During the review, Slovenia explained that annual data were reflected in the time series since 2004 but that for the time series before 2004 data were only available once per decade. Slovenia considers that this approach has created the best available time series in the GHG inventory
Waste			
W.1	5. General (waste) (74, 2014) (66, 2013) (98, 2012) (89, 2011) Transparency*	Provide sufficient information on the data sources for waste allocation, the overall waste treatment situation and the assumptions applied when choosing country-specific values for parameters. For example, provide more information on the methodology used to estimate emissions from waste incineration and enhance the transparency of the sector overview	Resolved. See ID#W.8 in table 5 below
W.2	5.A Solid waste disposal on land –	Ensure that the use of multiple sources of data for MSW disposal for different periods is in	Not resolved. See ID#W.9 in table 5 below

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
	CH_4 (75, 2014) (69, 2013) Consistency*	accordance with chapter 7 of the IPCC good practice guidance	
W.3	5.A Solid waste disposal on land – CH_4 (76, 2014) (68, 2013) (103, 2012) Transparency*	Review the method used to derive the MCF values and use the correct definition of MCF, taking into consideration the fraction of waste that decomposes aerobically	Resolved. The Party has provided in its NIR (p.291) a methodology and figures for the MCF values and has taken into account the fraction of waste that decomposes aerobically in determining the values used
W.4	5.D.1 Domestic wastewater – CH_4 (79, 2014) Transparency*	Improve the transparency of the reporting by including clear explanations about the recalculations performed	Addressing. See ID#W.14 in table 5 below
W.5	5.D.1 Domestic wastewater – CH_4 (80, 2014) (73, 2013) Transparency*	Ensure that sufficient transparent explanations are provided, in the NIR, of the assumptions made in deriving country-specific values for parameters	Resolved. The Party has provided sufficient explanations and assumptions made in deriving the country-specific values for MCF, methane recovery and fraction of nitrogen in protein
W.6	5.C.1 Waste incineration – CO_2 and N_2O (83, 2014) Transparency*	Include information in the NIR on how emissions from incineration of sewage sludge are allocated	Resolved
KP-LULUCF			
KL.1	Deforestation – CO_2 and N_2O (87, 2014) Transparency*	Provide in the NIR information explaining the emission trends associated with deforestation	No longer relevant. The recommendation was caused by the inter-annual decrease in CO_2 emissions during 2010 and 2012 for the first commitment period. This is outside the scope of the second commitment period

Abbreviations: AD = activity data, AWMS = animal waste management system, CRF = common reporting format, EF = emission factor, ERT = expert review team, EU = European Union, GHG = greenhouse gas, IE = included elsewhere, IPCC = Intergovernmental Panel on Climate Change, IPCC good practice guidance = *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, IPCC good practice guidance for LULUCF = *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, IPPU = industrial processes and product use, 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, MCF = methane correction factor, MSW = municipal solid waste, NA = not applicable, NCV = net calorific value, Nex = nitrogen excretion, NIR = national inventory report, QA/QC = quality assurance/quality control, SORS = Statistical Office of the Republic of Slovenia, UNFCCC Annex I inventory 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 greenhouse gas inventories", 2006 IPCC Guidelines = *2006 IPCC Guidelines for National Greenhouse Gas Inventories*.

[a] References in parentheses are to the paragraph(s) and the year(s) of the previous review report(s) where the issue was raised. Issues are further classified as defined in decision 13/CP.20, annex, paragraph 81. In the review of the supplementary information reported in accordance with Article 7, paragraph 1 of the Kyoto Protocol, the ERT has applied the classification in decision 22/CMP.1, annex, paragraph 69, in conjunction with decision 4/CMP.11.

[b] An asterisk is included next to each issue type for all issues that are also problems, as defined in decision 22/CMP.1, annex, paragraphs 68 and 69, including those that lead to an adjustment or a question of implementation.

[c] The review of the 2016 annual submission is being held in conjunction with the review of the 2015 annual submission, and, as such, the 2015 annual review report was not available at the time of this review. Therefore, the recommendations reflected in table 3 are from the 2014 annual review report. For the same reason, the year 2015 is excluded from the list of years in which the issue has been identified.

IV. Issues identified in three successive reviews and not addressed by the Party

9. In accordance with paragraph 83 of the UNFCCC review guidelines, the ERT noted that the issues included in table 4 have been identified in three successive reviews, including the review of the 2016 annual submission of Slovenia, and have not been addressed by the Party.

Table 4
Issues identified in three successive reviews and not addressed by Slovenia

ID#[a]	*Previous recommendation for the issue identified*	*Number of successive reviews issue not addressed*[b]
General		
	No such general issues were identified	
Energy		
E.8*	Develop country-specific CO_2 EFs for all fuels that have a significant share in the fuel mix for each category	6 (2010–2015/2016)
IPPU		
	No such issues for the IPPU sector were identified	
Agriculture		
A.3	Improve the transparency and provide a description of the development of the average Nex rate for swine	4 (2012–2015/2016)
LULUCF		
	No such issues for the LULUCF sector were identified	
Waste		
	No such issues for the waste sector were identified	
	No such issues for the KP-LULUCF sector were identified	

Abbreviations: EF = emission factor, IPPU = industrial processes and product use, 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, Nex = nitrogen excretion.

[a] An asterisk is included after any issue ID# where the underlying issue is related to accuracy or completeness of a key category, a missing category or a potential key category, as indicated in decision 13/CP.20, annex, paragraph 83.

[b] The review of the 2016 annual submission is being held in conjunction with the review of the 2015 annual submission. As the reviews of the 2015 and 2016 annual submissions are not successive reviews, but are rather being held in conjunction, for the purpose of counting successive years in table 4, 2015/2016 is considered as one year. The ERT noted that this table 4 is the same as that in the 2015 annual review report for Slovenia, modified to reflect the combined 2015/2016 review.

V. Additional findings made during the 2016 technical review

10. Table 5 contains findings made by the ERT during the technical review of the 2016 annual submission of Slovenia that are additional to those identified in table 3.

Table 5
Additional findings made during the 2016 technical review of the annual submission of Slovenia

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
General			
G.3	QA/QC and verification	From the NIR, it was not clear whether the 2006 IPCC Guidelines had been fully implemented into the QA/QC plan for the current submission. In response to a question raised by the ERT, Slovenia clarified that the QA/QC plan and the manual of procedures have been updated in accordance with the 2006 IPCC Guidelines and that all categories presented in its internal QA/QC manual have been updated accordingly. However, Slovenia also stated that some categories are still missing from the manual (mainly for waste and F-gases) for capacity reasons, but that these have nevertheless been calculated and reported in the NIR The ERT encourages Slovenia to include all categories in its manual and to report on progress in fully implementing the 2006 IPCC Guidelines in its next submission	Not an issue
G.4	QA/QC and verification	In accordance with decision 24/CP.19, paragraph 19, Annex I Parties should apply category-specific QC procedures for key categories and for those individual categories in which significant methodological changes and/or data revisions have occurred, in accordance with the 2006 IPCC Guidelines Slovenia's NIR states that category-specific QC procedures were not performed for a number of key categories (e.g. 1.A.4, 2.A.3) but that these sectors were only quality checked according to its general procedures During the review, in response to a question raised by the ERT, Slovenia clarified that its approach to applying category-specific QA/QC for key categories has been to follow the 2006 IPCC Guidelines and chapter 8 of the Slovenian QA/QC plan. The latter report states that category-specific QA/QC has to be performed for all key categories However, Slovenia further explained that category-specific QA/QC has sometimes not been performed owing to absence of relevant data for comparison and that this fact has been taken into account when assigning the uncertainty The ERT encourages Slovenia to take further action in order to make sure that category-specific QA/QC is done for the key categories and to report on progress in its next submission	Not an issue
Energy			
E.13	Comparison with	The ERT noted that crude oil exports are reported in the CRF tables for 1990 to 1992, but not to IEA.	Not an issue

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
	international data – liquid fuels – CO_2	The ERT noted that this leads to a divergence between the respective 1990 and 2014 growth rates in total apparent consumption. Similarly, natural gas liquid (NGL) imports are reported to IEA for 1999 and 2000, but this is not reflected in the CRF tables. In response to a question raised during the review week, Slovenia confirmed that NGL was indeed imported in 1999 and 2000 and that the total amount for these two years was used in the year 2000 only in a refinery within Slovenia and that this will be corrected in the next submission	
		The ERT encourages Slovenia to continue its efforts to ensure that uniform energy data are reported in the CRF tables and to IEA	
E.14	1.A. Fuel combustion – sectoral approach – gaseous fuels –CO_2	The ERT noted that, for the period 1996–2014, Slovenia used a single country-specific CO_2 EF for natural gas for the entire time series based on a study conducted in 1998. The NIR further explains that Slovenia plans to obtain information on the chemical composition of natural gas for the period after 1996 and to recalculate CO_2 EF values for 1997 onwards. The ERT notes that the use of a constant CO_2 EF for natural gas in not in accordance with the 2006 IPCC Guidelines because the chemical composition of natural gas is likely to change over time	Yes. Accuracy*
		The ERT recommends that Slovenia make all possible efforts to obtain the missing composition data for natural gas and recalculate the emissions	
E.15	1.A. Fuel combustion – sectoral approach – liquid fuels – CO_2	Slovenia has used constant NCVs for liquid fuels for most of the time series (1986–2013). The ERT noted that the use of constant NCVs is not in accordance with the 2006 IPCC Guidelines because the chemical composition of liquid fuels is likely to change over time. In response to a question raised by the ERT during the review, Slovenia indicated that it is aware of this problem and discussions with SORS are under way to resolve this issue	Yes. Transparency*
		The ERT welcomes the efforts by Slovenia to address this issue and recommends that Slovenia include the results of this exercise in the next submission. The ERT further recommends that Slovenia report in its next submission how it intends to periodically monitor NCVs for liquid fuels	
E.16	1.B.2.b Natural gas – CH_4 and CO_2	The ERT noted that natural gas production (1.B.2.b2) occurs within Slovenia along with estimated fugitive emissions for this category, but emissions from natural gas processing (1.B.2.b3) are identified as "NO" in CRF table 1.B.2. In response to these observations, the ERT asked Slovenia if the natural gas produced is processed within the country. Slovenia responded that no natural gas processing plants are located in Slovenia and that it is unclear how the natural gas produced is used. Up until 2010 natural gas was used for methanol production, which has since ceased. Slovenia indicated that it will obtain more information regarding this subject for the next submission	Yes. Transparency*
		The ERT recommends that Slovenia determine how the natural gas produced within the country is used	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
		and/or processed to better understand all emission pathways associated with this gas production, and document the results of this investigation in the NIR	
E.17	1.B.2.b Natural gas – CH_4	The ERT was unable to replicate the emission estimates for natural gas transmission and storage (1.B.2.b4) using the AD, EFs and methodology presented in the NIR and the CRF tables. In response to a question raised by the ERT, Slovenia explained that the percentage shares of pipelines built in different time periods presented in table 3.3.13 of the NIR were incorrect. Slovenia provided the correct table, which enabled the ERT to confirm that the emissions reported in the CRF tables were correct The ERT recommends that Slovenia correct table 3.3.13 in the NIR and improve its QA/QC procedures to avoid such mistakes in future submissions	Yes. Transparency*
IPPU			
I.7	2.A.4 Other process uses of carbonates – CO_2	The Party reported in its NIR that it estimates consumption of soda ash by calculating the difference between the import quantities of soda ash and export quantities, and then subtracting the known quantities of soda ash used in glass production. However, the statistics of exports, imports and soda ash used in glass production are not included in the NIR, making it impossible for the ERT to assess the accuracy of the calculations. At the request of the ERT, Slovenia provided this information during the review week The ERT recommends that Slovenia include in the NIR of its next submission data on soda ash imports, soda ash exports and soda ash used in glass production in order to enhance transparency	Yes. Transparency*
I.8	2.A.4 Other process uses of carbonates – CO_2	Following the recommendation made in the previous review report, the Party estimated, for the first time, emissions from bricks and ceramics production for the period 1986–2004. However, Slovenia was able to obtain AD for the period 1995–2004 only and none for the preceding years. Instead, the Party reported the emission estimates for all the preceding years (1986–1994) using the 1995 data The ERT considers that this approach (to simply apply the emission estimates of one year (1995) to multiple years (1986–1994) where there is a gap) is not consistent with the 2006 IPCC Guidelines, which recommend (vol. 3, p.2.38, section 2.5.1.5) that "if data are only available for certain years, the intervening years may be estimated by interpolation or extrapolation of the trend lines" However, the trend line for this category is not uniform and straightforward. The emissions increased from 1986 until 2006 when they reached a peak, after which they declined. In response to a question raised by the ERT, Slovenia stated that the country's construction reached a peak in 2006 but started declining thereafter because of the 2008 economic crisis The ERT recommends that the Party estimate the emission levels for 1990–1994 using a robust	Yes. Consistency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
		extrapolation method relevant to the country's circumstances, taking into account factors such as the peaking of the country's construction industry in 2006 and the 2008 economic crisis, and include the estimates in its next annual submission	
I.9	2.F.1 Refrigeration and air conditioning – HFCs	In the NIR, under domestic refrigeration, the Party states that "emission factors are presented in the Table 4.14.2". This same table is referred to under commercial and industrial refrigeration and under residential and commercial air conditioning and heat pumps; however, there is no table 4.14.2 in the NIR. In response to a question raised by the ERT, the Party stated that the references actually refer to NIR table 4.6.2	Yes. Transparency*
		The ERT recommends that the Party update the references to the table of EFs in this category and strengthen its QA/QC procedures to ensure internal consistency of the NIR and transparency	
I.10	2.G Other product manufacture and use – SF_6	In the NIR, the Party has not included the following category-specific sections for electrical equipment: (1a) uncertainty and time-series consistency; (2b) QA/QC and verification; (3c) recalculations; and (4d) planned improvements. This is not consistent with the UNFCCC Annex I inventory reporting guidelines	Yes. Consistency*
		In response to a question raised by the ERT, the Party stated that the NIR sections 4.7.2.3–4.7.2.6 that relate to SF_6 and PFCs from other product use actually apply to electrical equipment as well. The Party further stated that the numbering is wrong in the NIR, and the Party will rectify this mistake in the next submission	
		The ERT recommends that Slovenia correctly include category-specific sections for electrical equipment as well as for SF_6 and PFC emissions from other product use, including uncertainty and time-series consistency, QA/QC and verification, recalculations and planned improvements in its next submission. The ERT further recommends that Slovenia strengthen its QA/QC procedures to ensure the accuracy of the information in the NIR	
Agriculture			
A.5	3.A Enteric fermentation – CH_4	The ERT noted that, in the NIR, dairy cows, other cows and non-dairy cattle represent 35.2%, 13.1% and 43.3% of total CH_4 emissions from enteric fermentation, respectively. The aggregated contribution of cattle to total CH_4 emissions from enteric fermentation is 91.6% (chapter 5, p.172). However, using the values contained in CRF table 3.A s1, the ERT calculated the contributions from dairy cows, other cows and non-dairy cattle to the total CH_4 emissions from enteric fermentation to be 36.2%, 14.4% and 45.0%, respectively. The aggregated contribution of cattle to total CH_4 emissions from enteric fermentation is 95.6%. There are inconsistencies in the share of emission contributions from dairy cows, other cows and non-dairy cattle to the total CH_4 emissions from enteric fermentation between the	Not an issue

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
		information contained in chapter 5 of the NIR and that derived from data contained in the CRF tables. During the review, Slovenia indicated that there is an error in the NIR, and the data contained in the CRF tables are correct	
		The ERT encourages Slovenia to include the information and corrections submitted during the review in its next submission	
A.6	3.A Enteric fermentation – CH_4	CH_4 emissions from enteric fermentation is a key category, and most of the emissions are from cattle. However, the ERT noted that the Party did not report cattle performance data, such as milk production, feeding situation, milk production, work hours, pregnancy rate and digestibility. Due to the error in the CRF software, these performance data and gross energy intake were not included in CRF table 3.A.s2. It was therefore not possible for the ERT to assess the accuracy of the calculations. In response to a request by the ERT, Slovenia provided cattle performance data during the review week	Yes. Transparency*
		The ERT recommends that Slovenia include animal performance data in its NIR to enhance transparency	
A.7	3.B Manure management – CH_4 and N_2O	Slovenia used farm census data on the size and structure of cattle farms to develop a country-specific AWMS matrix. In 2010, data for a sample survey on agricultural production methods were collected by SORS for the first time along with the agriculture census. The survey results on usage of AWMS of cattle differed markedly from the AWMS matrix, which had been estimated based on the size and structure of cattle farms. As there are no historical data on agricultural production methods, Slovenia decided to use the AWMS matrix estimated based on the size and structure of farms rather than that based on the sample survey	Yes. Transparency*
		In response to the recommendation made in the previous review report, Slovenia indicated that, regarding the direct information on manure management systems collected by SORS as part of the production methods survey, it had decided to reconsider the need to modify the methodology when the results of the next survey are available	
		The ERT recommends that Slovenia make all efforts to include the latest information obtained by SORS on manure management systems applied on cattle farms and taking into consideration housing technology types (e.g. loose housing or tie stall housing) used in cattle farms when developing/updating the AWMS matrix	
A.8	3.B Manure management – CH_4 and N_2O	In the NIR, Slovenia reported that 0.36% of cattle manure is treated under anaerobic digesters. However, in CRF table 3.B.(a).s2 "IE" is reported under the column "digesters". The ERT noted that the reporting of the allocation of manure management systems does not follow the CRF template. During the review, in response to a question raised by the ERT, Slovenia clarified that the percentage of cattle manure treated under anaerobic digesters was included under the column for liquid systems.	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
		Slovenia also clarified that the estimations of CH_4 emissions from each type of manure management system have been calculated separately	
		The ERT recommends that Slovenia report the usage percentage data under the digester column to follow the CRF template and improve transparency	
A.9	3.B Manure management – CH_4 and N_2O	The ERT noted that average swine weight increased from 66.19 kg in 1986 to 74.04 kg in 2014, an increase of 11.9%, while nitrogen excretion (Nex) rate decreased from 13.14 kg N/head/year to 12.13 kg N/head/year, a decrease of 7.7% over the same time; and VS decreased slightly from 0.316 kg VS/day in 1986 to 0.312 kg VS/day in 2014, a 1.2% decrease. The trend of VS and N ex is not consistent with swine weight, and the decrease in the Nex rate is much higher than that of VS	Not an issue
		In response to a question raised by the ERT, Slovenia indicated that swine weights are not used in the calculation. Default VS values from the 2006 IPCC Guidelines are applied for the whole time series, namely 0.46 kg VS/day for breeding pigs and 0.30 kg VS/day for fattening pigs (including piglets). In addition, the Party used default Nex values from the core inventory of air emissions (EMEP/CORINAIR), namely a Nex for breeding pigs of 36 N kg/year while for fattening pigs 14 N/kg/year. The decrease of VS and Nex is due to the relative increase in the fattening pig population	
		The ERT encourages Slovenia to use country-specific values for VS and Nex to maintain the consistency in trend of weights, VS and Nex, even though the CH_4 and N_2O emissions from manure management are not significant	
A.10	3.B Manure management – CH_4	Slovenia presented CH_4 IEFs for manure management in pig production in the NIR, table 5.3.2. The ERT noted that the IEFs are not consistent with those contained in CRF table 3.B(a)s1 for the whole time series. In response to a question raised by the ERT during the review, Slovenia acknowledged that the values in the NIR were incorrect. Slovenia provided the correct table, which is consistent with CRF table 3.B(a)s1	Not an issue
		The ERT encourages Slovenia to enhance the implementation of its QA/QC procedures to avoid such mistakes and correct NIR table 5.3.2 in its next submission	
A.11	3.B Manure management – N_2O	Slovenia, in its NIR, described the calculation of Nex rates for dairy cows, which is based on milk production. Nex rates for other livestock were also provided in the NIR, with references. However, the ERT noted that no information is provided to demonstrate the appropriateness to national circumstances. In response to the question raised by the ERT during the review, Slovenia indicated that it has limited data for Nex rates, mainly from experimental conditions, which may not reflect the situation in practice. The Nex rates for other livestock are from similar countries with the emphasis on the similarity of animal categories used by SORS. Slovenia also indicated that it has made efforts to	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
		adopt the latest information from official guidebooks where possible. The Party also stated that the values for sheep, goats and horses, based on EMEP/CORINAIR 2002, will be replaced by EMEP/EEA 2013 values for the next submission	
		The ERT reiterates the recommendation made in the 2014 review report that Slovenia provide additional information in its NIR on Nex rates for livestock other than dairy cattle and demonstrate that those parameters are appropriate in the specific national circumstances and more accurate than the default data provided in the 2006 IPCC Guidelines	
A.12	3.B Manure management – N_2O	The ERT noted that the values of Nex rates for dairy cows in the NIR (table 5.4.1) for 1995–2003 and 2013 cannot be reproduced using the equation and the milk production data in table 5.2.2 of the NIR. In response to the question raised by the ERT during the review, Slovenia acknowledged that there were problems with the milk production data in the table and a mistake in the value for Nex for 2013. Slovenia provided a table with the correct values for milk production for the period 1995–2003 and Nex rates for 2013 during the review week	Not an issue
		The ERT encourages Slovenia to correct the values in NIR table 5.2.2 and table 5.4.1	
A.13	3.B Manure management – N_2O	The ERT noted that the calculation of direct N_2O emissions under manure management systems (liquid system and solid system) is wrong. The conversion factor of N_2O-N to N_2O (44:28) is missing. The ERT also noted that the total N_2O emissions calculated based on different manure management systems is not equal to the total N_2O emissions from different livestock. In response to the question raised by the ERT during the review, Slovenia stated that these errors happened because of the new calculation model in the CRF Reporter. The discrepancies have no influence on the reported emissions for each animal category. In addition, Slovenia provided corrected calculation results	Not an issue
		The ERT encourages Slovenia to document problems related to the application of the CRF Reporter software in its next submission	
A.14	3.B Manure management – N_2O	The ERT noted that indirect N_2O emissions from leaching and run-off were not estimated for the liquid system and solid system manure management systems. There was no explanation in the NIR for this omission. In response to the question raised by the ERT during the review, Slovenia indicated that storage of animal manures is regulated by a decree on the protection of waters against pollution caused by nitrates from agricultural sources. The capacities of watertight stores are prescribed for liquid and solid manures, and storage of farmyard manure in field heaps is prohibited. The implementation of the decree is under review and therefore the Party decided to exclude this source from its reporting	Yes. Transparency*
		The ERT recommends that the Party provide an explanation for the omission of indirect N_2O emissions from manure management systems in its next submission in order to improve the transparency	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
A.15	3.G Liming – CO_2	The ERT noted that the amount of lime applied to agricultural soils is 100 000 t/year in the period 1986–1996 and 1 500 t/year in 2012. Values for the periods 1996–2012 and 2012–2013 were derived based on interpolation and extrapolation, respectively. However, no detailed information was provided in the NIR on the values used for the period 1986–1996 or for 2012. The Party did not clarify in the NIR how it derived the values for this period and also did not specify the basis for the values based on expert judgment for 2012. During the review, in response to a question raised by the ERT, Slovenia provided some information on the expert judgment used for deriving the amount of lime application in 2012. Slovenia further clarified that the amounts of lime production for the base year and the period 1990–2002 are about 300 000 and 140 000 t/year, respectively. However, Slovenia acknowledged that it was unrealistic to assume that a third of the amount produced in the base year and about 70% of that produced in 1996 could have been applied to agricultural soils. One Slovenian expert even expressed the view that a lime amount of 100 000 t has never been applied in agriculture in Slovenia for the purpose of liming In response to the list of potential problems raised by the ERT during the review week, Slovenia sent more than 90 questionnaires to agricultural cooperatives, farmers located in areas of strong acidic soil, and large producers or sellers of limestone to obtain the information on limestone use in agriculture. Unfortunately, only a few questionnaires were returned. In responding to this potential problem, Slovenia opted to justify the AD it has used to estimate CO_2 emissions from lime application to agricultural soils. Slovenia indicated that information on how expert judgment was used to derive the amount of lime applied to agricultural soils would be included in the next annual submission and that it plans to update the estimation methodology within the next few years. Slovenia also indicated that it would try to collect other relevant proxy data to obtain more accurate information on AD related to lime application. Considering the time needed for obtaining the information on limestone use in agriculture, the ERT strongly recommends that the Party make every effort to justify the AD used to estimate emissions from lime application to agricultural soils and recalculate emissions for the period 1992–2013 for the 2017 submission	Yes, Transparency*
LULUCF			
L.10	4. General (LULUCF) – CO_2	Slovenia estimated carbon stock changes in soil relating to all land-use conversions based on a tier 2 methodology for mineral soil and regarded all converted areas as mineral soil. The area and emissions from organic soil were reported as "NO" in the CRF tables The ERT recommends that Slovenia provide additional information explaining why it considers that land-use changes do not occur on organic soil areas in Slovenia. The ERT also encourages Slovenia, when it implements additional soil sampling surveys in the future, to take into account the method used to compare the same soil type data in each different land-use category and to derive an updated carbon	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
		loss/gain ratio by land-use change within the same soil type, if applicable	
L.11	4. General (LULUCF) – CO_2	Slovenia did not provide uncertainty assessments for some carbon pools, such as dead organic matter and soil for certain land-use categories. In accordance with decision 24/CP.19, annex I, paragraph 15, Slovenia, as an Annex I Party, "shall quantitatively estimate the uncertainty of the data used for all source and sink categories using at least approach 1, as provided in the 2006 IPCC Guidelines, and report uncertainties for at least the base year and the latest inventory year and the trend uncertainty between these two years"	Yes. Transparency*
		The ERT recommends that Slovenia make efforts to complete the uncertainty assessment of all carbon pools and gases in the LULUCF sector	
L.12	4.A.1 Forest land remaining forest land – CO_2	The trend of net removals in forest land remaining forest land shows relatively huge jumps between the years 1995–1996, 2000–2001 and 2006–2007. In response to a question raised by the ERT, Slovenia explained that this trend was caused by the methodological approach and data used rather than by activities in nature, and that there are at least two main reasons. The first is that the methods of assessing growing stocks in 1995 and 2000 were not exactly the same as those used in 2007 and 2012. The second reason is that using different source data for the year 1990 and the overlap method applied to obtain time-series data resulted in different removal factors for particular years, which caused some variation of net removals in the trend. Slovenia also explained that the latter reason will be revised in its next submission	Yes. Consistency
		The ERT recommends that Slovenia make efforts to improve the estimation of net removals in forest land and eliminate trend gaps caused by methodologies as much as possible	
L.13	4.A.1 Forest land remaining forest land – CO_2	The NIR includes an explanation that the Forest and Forest Ecosystem Condition Survey (FECS) increment data include increment owing to abandonment of managed land and loss owing to land conversion from forest. In response to a question raised by the ERT during the review, Slovenia explained that the FECS inventory does not include afforested or deforested lands	Yes. Transparency*
		The ERT recommends that Slovenia revise the explanation of the scope of increment data covered by the FECS survey and confirm that the estimated removals from forest land remaining forest land are not double counted with removals that occur on land converted to forest land or in emissions that occur on land converted from forest land	
L.14	4.A.2.5 Other land converted to forest land – CO_2	The ERT noted that a small amount of land-use conversion of "other land converted to forest land" occurred during the period 2006–2012; however, no explanation was provided in the NIR. In response to a question raised by the ERT during the review, Slovenia explained the change detected as this land-	Yes. Transparency*

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue[a] and/or a problem[b]? If yes, classify by type
		use conversion and provided the soil carbon stock value used in the estimation of soil carbon stock change for this land-use change The ERT recommends that Slovenia update its explanation of land converted to forest land in the NIR by including the information provided by the Party during the review	
L.15	4.B.1 Cropland remaining cropland – CO_2	In the estimation of living biomass carbon stock change associated with land conversion from perennial cropland, Slovenia used the value of 63 t C/ha, which is the default carbon stock of perennial woody biomass at harvest for a temperate climate region. However, the ERT noted that, according to the estimation method applied by Slovenia to orchard and vineyard in perennial cropland remaining perennial cropland, 3.3% of this land is assumed to have carbon stock of 63 t C/ha whereas the average carbon stock in orchard and vineyard is considered by Slovenia to be 31.5 t C/ha (half of 63 t C/ha) The ERT recommends that Slovenia revise the carbon stock value in orchard and vineyard that it used for the estimation of land conversion from perennial cropland	Yes. Accuracy Transparency*
L.16	4.B.2 Land converted to cropland – CO_2	Slovenia explained in its NIR that there is no good information on perennial cropland other than orchard and vineyard (other perennial cropland) and so it did not estimate carbon stock changes for the subcategory perennial cropland. However, land-use conversion from other perennial cropland may occur The ERT recommends that Slovenia provide information on the assumption used for the amount of living biomass carbon stock in other perennial cropland for estimation of land conversion from perennial cropland	Yes. Transparency*
L.17	4.B.2 Land converted to cropland – CO_2	According to the NIR, only carbon gains that occurred in the first year after conversion were estimated and reported under the categories of annual cropland converted to perennial cropland (4.B.1) and land converted to perennial cropland (4.B.2). However, according to the methodology provided in the 2006 IPCC Guidelines, gains that occurred after two years and onwards should also be estimated and reported. The ERT noted that the AD used by Slovenia for carbon stock changes in orchard and vineyard in perennial cropland remaining perennial cropland were the total area including both remaining and converted areas; therefore gains that occurred in land conversion to orchard and vineyard were already included in this estimation. This suggests that land conversion to other perennial cropland occurred, but the carbon gains that occurred after two years and onwards were not estimated The ERT recommends that Slovenia make efforts to improve the completeness of its reporting of carbon stock changes in land conversions to other perennial cropland for carbon gains that occurred after two years or more. The ERT also recommends that Slovenia eliminate double counting as far as possible in the estimation of carbon stock changes of living biomass in perennial cropland	Yes. Completeness*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
L.18	4.C Grassland – CO_2	Grassland in Slovenia has two broad subcategories: annual grassland and woody grassland. However, the ERT noted that Slovenia applied the methodologies for annual grassland in the 2006 IPCC Guidelines to all grassland As woody grassland accounted for around 20–40% of the grassland area in Slovenia during the period 1986–2012 (based on the land matrices in the NIR), the ERT recommends that Slovenia apply methodologies for woody grassland for the woody grassland subcategory In addition to the recommendation under issue L.7 (see table 3 above) on development of country-specific parameters for annual grassland, the ERT further recommends that Slovenia improve the methodologies used for estimating woody grassland by including the removal factor applied to biomass growth after conversion to woody grassland and the biomass carbon stock of woody grassland used to estimate land-use conversion	Yes. Accuracy*
L.19	4.D Wetlands – CO_2	Land included in wetlands is considered as flooded land based on the information on the land-use class provided in the NIR The ERT recommends that Slovenia update the explanation in section 6.6.4.1 in the NIR, which refers to peatland, and report emissions/removals using the subcategory flooded land instead of other wetlands in CRF table 4.D	Yes. Adherence to UNFCCC Annex I inventory reporting guidelines
L.20	4.D Wetlands – CO_2	The Wetlands Supplement was not applied. In response to the question raised by the ERT, Slovenia explained that the application of the Wetlands Supplement, especially the methodologies contained in its chapter 2, is under consideration The ERT recommends that the Party continue its efforts to use the Wetlands Supplement in preparing its annual inventories in future annual submissions	Yes. Adherence to UNFCCC Annex I inventory reporting guidelines
L.21	4.E Settlements – CO_2	Carbon stock change in living biomass in settlements remaining settlements was provided for the first time by using a country-specific removal factor associated with the area of settlements under the Slovenian national land classification system. However, information on this methodology was not fully provided in the NIR. In response to a question raised by the ERT, Slovenia provided and explained the methods and data used in this estimation, including the information that the removal factor was 0.51 m^3/ha/year, the crown cover ratio was 11.1%, the carbon fraction was 0.5, the target research area was ID#3000 and 3001, and the actual growing period was not applied. The removal factor and the crown cover ratio were taken from research provided by Slovenia during the review week The ERT recommends that Slovenia provide in the NIR information on the methodology used for estimating carbon stock change in living biomass in settlements remaining settlements, taking into consideration whether carbon stock in the settlements area is increasing or expected to be maturing in	Yes. Transparency*

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue[a] and/or a problem[b]? If yes, classify by type
		the future, and examine the application of actual growing period if necessary	
L.22	4.E Settlements – CO_2	The NIR does not provide information on the methodologies used for estimating carbon stock changes in dead organic matter and in soil under settlements remaining settlements as well as land converted to settlements. In response to questions raised by the ERT, Slovenia clarified that it used a tier 1 method for settlements remaining settlements and a tier 2 method for land converted to settlements	Yes. Transparency*
		The ERT recommends that Slovenia provide in the NIR all necessary information to explain the methodologies applied for dead organic matter and soil in settlements	
L.23	4.E. Other land – CO_2	The NIR does not provide information on the methodologies used for estimating carbon stock changes in living biomass, dead organic matter and soil in land converted to other land	Yes. Transparency*
		The ERT recommends that Slovenia provide in the NIR all necessary information to explain the methodologies and assumptions applied for land converted to other land, including the information provided by Slovenia during the review	
L.24	4 (III) Direct N_2O emissions from N mineralization/ immobilization – N_2O	Slovenia applied the default EF (EF_1 0.0125 kg N_2O-N/kg N provided in the IPCC good practice guidance for LULUCF) to estimate direct N_2O emissions from N mineralization associated with loss of soil carbon resulting from land-use change	Yes. Adherence to UNFCCC Annex I inventory reporting guidelines
		The ERT recommends that Slovenia use the default EF from the 2006 IPCC Guidelines (EF_1 0.01 kg N_2O-N/kg N), if there is no specific reason that the Revised 1996 IPCC Guidelines EF_1 is considered more appropriate	
L.25	4 (III) Direct N_2O emissions from N mineralization/ immobilization – N_2O	Slovenia estimated direct N_2O emissions from N mineralization associated with loss of soil carbon resulting from land-use change to cropland, which is in line with the scope described in the IPCC good practice guidance for LULUCF. However, the ERT noted that, in the 2006 IPCC Guidelines, the scope of land covered by this estimation is expanded and includes other land-use changes or management change of mineral soil	Yes. Completeness*
		The ERT recommends that Slovenia estimate direct N_2O emissions from N mineralization that occurred in all land uses, including land converted to cropland	
L.26	4 (IV).2 Nitrogen leaching and run-off – N_2O	Slovenia reported indirect N_2O emissions from the LULUCF sector as "NO" in CRF table 4 (IV). However, the ERT noted that, because Slovenia estimated direct N_2O emissions from N mineralization in category 4 (III), indirect N_2O emissions from leaching/run-off should also be estimated	Yes. Completeness*
		The ERT recommends that Slovenia estimate indirect N_2O emissions from leaching/run-off in relation to N mineralization and provide in the NIR appropriate information on the methodology applied	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
L.27	4 (V) Biomass burning – CO_2, CH_4 and N_2O	Slovenia applied the default EFs for biomass burning provided in the IPCC good practice guidance for LULUCF. During the review, in response to a question raised by the ERT, Slovenia explained that there was no specific reason necessitating the use of the EFs contained in the IPCC good practice guidance for LULUCF for its national circumstances	Yes. Adherence to UNFCCC Annex I inventory reporting guidelines
		The ERT recommends that, if a tier 1 method is applied, Slovenia use the default EFs for "extra tropical forest" from the 2006 IPCC Guidelines (vol. 4, chapter 2, table 2.5) for the estimation of biomass burning	
L.28	4 (V) Biomass burning – CO_2, CH_4 and N_2O	To estimate emissions relating to wildfires in forest land, Slovenia used country-specific data for "mass of fuel available for combustion" (M_B) calculated using its average growing stock of biomass in the part of country where wildfires occur. However, under the tier 2 method for estimating GHG emissions from biomass burning in the 2006 IPCC Guidelines, M_B should include biomass, ground litter and dead wood	Yes. Completeness*
		The ERT recommends that Slovenia further examine whether, where forest wildfires occur in Slovenia, these affect the dead organic matter pool and, if appropriate, add the dead organic matter pool to M_B	
L.29	4 (V) Biomass burning – CO_2, CH_4 and N_2O	Slovenia reported GHG emissions from wild fires in 1986, 1987, 1993 and 1994 as "NE", because no information was available on burned area for those years. In response to a question raised by the ERT during the review, Slovenia explained that it intends to implement a survey of older forest documents to obtain the missing data	Yes. Completeness*
		The ERT recommends that Slovenia make efforts to estimate emissions for the missing years	
L.30	4.G Harvested wood products – CO_2[g]	The information on HWP in the NIR (section 6.9) was prepared from the description contained in the forest management reference level (FMRL) submission of Slovenia in 2011.[c] However, the explanation of AD was insufficient and the description did not give enough information about the methodologies and assumption used. In response to questions raised by the ERT, Slovenia provided information on the methodologies and assumption applied to the estimation for HWP, including AD and data sources as well as treatment of HWP in solid waste disposal sites. The ERT considered that the reported estimation of HWP was properly prepared based on the assumption and methods described in the 2006 IPCC Guidelines. Slovenia also mentioned that it has a plan to revise the estimation methods for future submissions	Yes. Transparency*
		The ERT recommends that Slovenia fully revise the NIR (section 6.9) in its next submission based on the latest methodologies applied and provide all necessary information on AD, parameters and equations applied	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
L.31	4.G Harvested wood products – CO_2	The ERT noted that the half-life parameters applied for sawn wood and wood-based panels were different in the NIR and the CRF tables. In response to a question raised by the ERT, Slovenia clarified that the values mentioned in the NIR were the correct ones	Yes. Transparency*
		The ERT recommends that Slovenia report the correct half-life parameters in CRF table 4.Gs1	
L.32	4.G Harvested wood products – CO_2	Although product-specific parameters for wood-based panels were mentioned in the CRF tables, the carbon stock change for wood-based panels was reported in conjunction with sawn wood in CRF table 4.Gs1. In response to a question raised by the ERT, Slovenia clarified that the estimation for wood-based panels was implemented separately and it is possible to provide independent values for wood-based panels	Not an issue
		The ERT encourages Slovenia to report the estimation of wood-based panels separately in CRF table 4.Gs1 in order to increase transparency	
L.33	4.G Harvested wood products – CO_2	The ERT noted that the NIR does not specify the starting year for HWP AD. In response to a question raised by the ERT, Slovenia explained that a time series of AD for HWP was constructed from 1900 in line with the methodology in the 2006 IPCC Guidelines using historical records, official statistics and independent studies	Yes. Transparency*
		The ERT recommends that Slovenia provide in its NIR adequate information on data and the methods used to construct the time series for the years when historical data are not available, especially for the years before 1946	
Waste			
W.7	5. General (waste) – CO_2, CH_4 and N_2O	The ERT noted that the uncertainty estimates used for AD and the values for parameters are based on expert judgment without any documentation to justify the values used	Not an issue
		The ERT encourages Slovenia to include in its NIR information documenting how expert judgment was solicited and used to quantify uncertainty estimates for the entire waste sector to improve the estimates of emissions	
W.8	5.A Solid waste disposal on land – CH_4	Slovenia reports that almost 4.7 million tonnes of solid waste were generated in 2014. Most of the waste is categorized as construction and demolition waste (24%), followed by waste from thermal processes (17%), waste from waste management facilities (15%), municipal waste (14%), waste from wood processing and from metal processing (7% each) and waste from packaging (5%). According to the NIR, an average of 433 kg of municipal waste, or almost 1.2 kg of municipal waste per day/person was generated, but only 23% of all generated municipal waste was landfilled. There is also insufficient	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
		information on the categorization of 18% of the total waste generated	
		The ERT recommends that Slovenia enhance the transparency of the sector overview, especially regarding the categorization to different treatment and management practices	
W.9	5.A.1 Managed waste disposal sites – CH_4	The ERT noted that Slovenia still uses AD for MSW disposal from different data sources for three time periods in the NIR (i.e. the periods 1964–1994, 1995–2000 and 2001–2014). MSW for the first period (1964–1994) was calculated based on population data and waste generation rate; for the second period (1995–2000) it was based on actual data on waste disposal amount from SORS; and for the third period (2001– 2014) it was based on actual data on waste disposal amount from the Slovenian Environment Agency	Yes. Consistency*
		The ERT strongly recommends that Slovenia recalculate the population data and waste generation rate used for the period 1964–1994 to ensure consistency with actual data for the period 1995–2014	
W.10	5.A.1 Managed waste disposal sites – CH_4	The ERT noted that the composition of waste was deemed constant through the time series but no explanation is provided in the NIR for this assumption which is unusual since waste composition is likely to change over time in line with consumption and economic development patterns. The ERT also noted that the waste generated per person is 470 kg/year, it is constant through the time series 1964–1994, and it is higher than the values for neighbouring countries because of the addition of biodegradable industrial waste; however, no explanation is made on the proportion of biodegradable industrial waste per person	Not an issue
		The ERT encourages Slovenia to provide clear explanations and the key assumptions that informed the choice of AD. The ERT further encourages Slovenia to categorize industrial waste separately from MSW to improve its emission estimates and transparency	
W.11	5.A.1 Managed waste disposal sites – CH_4	The ERT noted that Slovenia is not following the 2006 IPCC Guidelines regarding MCF values; the Party is using MCF values from the IPCC good practice guidance, table 5.1, instead of using MCF values from the 2006 IPCC Guidelines, table 3.1. The ERT also noted that the default MCF values between the IPCC good practice guidance and the 2006 IPCC Guidelines are similar for uncategorized SWDS (0.6) and managed anaerobic SWDS (1.0)	Yes. Transparency*
		Noting the similarities in default MCF values for uncategorized and managed anaerobic SWDS between the IPCC good practice guidance and the 2006 IPCC Guidelines, the ERT recommends that Slovenia use the 2006 IPCC Guidelines as a reference from which to source the correct MCF values and that it recalculate the CH_4 emissions if necessary	
W.12	5.A Solid waste disposal on land –	The ERT noted that the NIR states that emissions of CH_4 for 2013 have been recalculated owing to the improved results of the screening analyses for mixed MSW. However, the details of the improvement	Yes. Transparency*

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue[a] and/or a problem[b]? If yes, classify by type
	CH_4	in the screening and the results of the recalculation on the AD have not been explained in the NIR. Also, there is no explanation of the impact of the recalculation on the category emissions although total emissions have been estimated and provided	
		The ERT recommends that Slovenia include the details of the improvement in the screening and results of the AD in the NIR, and include an explanation for the impact of the recalculation on the category emissions and the total emissions that have resulted from the recalculation	
W.13	5.B.1 Composting – CH_4 and N_2O	The ERT notes that Slovenia reported CH_4 and N_2O emissions from biological treatment of solid waste for the entire period for the first time, and that these emissions have been calculated using the methodology and default EFs from the 2006 IPCC Guidelines. However, the ERT noted that no AD are provided in the NIR	Yes. Completeness*
		The ERT recommends that the Party provide AD for the category to improve transparency. The ERT also notes that Slovenia does not report on the amount of waste composted in homes and assumes that the amount is very small. The ERT recommends that Slovenia undertake a survey to estimate the average amount of waste composted in homes and include the emission estimates to improve completeness	
W.14	5.D.1 Domestic wastewater – N_2O	The ERT noted that indirect N_2O emissions from this category are not estimated or reported. The ERT believes that this issue should be considered further in future reviews to confirm that emissions have not been underestimated	Yes. Completeness*
		The ERT recommends that Slovenia report these emissions or provide in its NIR quantitative estimates of these emissions for this category, so that the ERT can assess whether the sum of all emissions in this category is below 0.1% of the national total GHG emissions and therefore whether these emissions are significant or insignificant in line with the UNFCCC Annex I inventory reporting guidelines	
KP-LULUCF			
KL.2	General (KP-LULUCF)	Chapter 11 of the NIR (information on KP-LULUCF) was not prepared in accordance with the reporting guidance provided in annex II to decision 2/CMP.8	Yes. Adherence to UNFCCC Annex I inventory reporting guidelines
		The ERT recommends that Slovenia update chapter 11 of the NIR so that it is entirely in line with the elements specified in annex II to decision 2/CMP.8, including the update of descriptions about the methodologies and the underlying assumptions used	
KL.3	General (KP-LULUCF)	The ERT noted that Slovenia did not complete some of the information in the CRF tables	Yes. Transparency*
		The ERT recommends that Slovenia complete the CRF tables, including filling the information in CRF	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
		table NIR-3, providing the correct notation keys in cells relating to natural disturbance provision and carbon equivalent forest provision in the accounting table and providing a value for forest management cap in the accounting table	
KL.4	General (KP-LULUCF)	Slovenia used reporting method 1 using the national border as the geographical boundary to identify the geographical location. However, the ERT noted that, according to the Kyoto Protocol Supplement, using more than one geographical area is good practice in order to reduce heterogeneity, increase accuracy, maintain transparency and reduce uncertainty, unless the country is relatively small The ERT recommends that Slovenia provide additional information on its use of a single national boundary to clarify that it does not lead to an increase in uncertainty or reduce heterogeneity of the forest status in Slovenia	Yes. Transparency*
KL.5	Deforestation – CO_2	Slovenia explained in the NIR that some types of land conversion from forest land occurred by natural disturbances and are considered as not human-induced land conversion, and therefore were excluded from the deforestation area under KP-LULUCF because the activity deforestation is defined as "direct human-induced conversion from forest land to non-forest land". The ERT notes that the Kyoto Protocol Supplement (section 2.6.2) requests a Party to take special consideration of "direct human-induced" in relation to deforestation Therefore the ERT recommends that Slovenia assess whether the natural disturbance area of forest land in Slovenia satisfies the guidance regarding direct human-induced deforestation taking into account the relevant guidance in the Kyoto Protocol Supplement, revise the data for deforestation area where applicable, and provide additional information on the result of this assessment in its next submission	Yes. Transparency*
KL.6	Deforestation – CO_2	The ERT noted that the reported emissions from deforestation in the CRF tables and that reported in the NIR (chapter 11) were not the same. In response to a question raised during the review, Slovenia explained that this difference in emissions is caused by natural disturbance emissions, which are excluded from deforestation emissions in the NIR Total deforestation emissions in the CRF tables were incorrect because the wrong data had been inserted in CRF table 4(KP-I)A.2. The ERT recommends that Slovenia ensure that it reports consistent deforestation emissions between the NIR and the CRF tables	Yes. Consistency*
KL.7	Forest management – CO_2	The ERT noted that, according to decision 2/CMP.7, annex, paragraph 5, decision 2/CMP.8, annex II, paragraph 5(d), and the CRF tables attached to decision 6/CMP.9, Parties are requested to report all emissions arising from the conversion of natural forests to planted forests in the annual inventory report and in CRF table NIR 2-1. However, Slovenia did not provide any information on this matter in the NIR and reported "NE" in the relevant cell in CRF table NIR 2-1. In response to a question raised by	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
		the ERT, Slovenia explained that all forests are subject to forest management plans and the conversion of natural forests to planted forest does not occur in Slovenia, so the correct notation key in the CRF table is "NO"	
		The ERT recommends that Slovenia include the above-mentioned information in the NIR and correct the notation key in CRF table NIR 2-1	
KL.8	Forest management – CO_2	In the initial report for the second commitment period, Slovenia explained that information on the technical correction of the FMRL will be provided after the completion of ongoing and planned improvements. In response to a question raised by the ERT, Slovenia explained that owing to the ongoing improvements, at the time of reporting, it was difficult to provide details of the impact of the technical correction based on the current methodologies and methodological improvements so far since the submission of the FMRL in 2011.[d] However, the ERT notes that, according to decision 2/CMP.7, annex, paragraph 14, information on technical corrections and methodological consistency shall be reported as part of the annual greenhouse gas inventories and inventory reports, in accordance with relevant decisions under Articles 5 and 7 of the Kyoto Protocol, and reviewed as part of the review of the annual greenhouse gas inventory review in accordance with relevant decisions under Article 8 of the Kyoto Protocol	Yes. Completeness*
		Chapter 11 of the NIR did not contain information of the technical correction; therefore, the ERT recommends that Slovenia provide in the NIR information on the technical correction and methodological consistency relating to the FMRL in accordance with the reporting requirements specified in decision 2/CMP.8, annex II, paragraph 5(e) and (f)	
		In order to improve transparency, the ERT encourages Slovenia to include information on methodological or data changes that have occurred since the submission of the FMRL and future plans/ongoing actions for technical correction as part of the above-mentioned information	
KL.9	Harvested wood products – CO_2	Slovenia did not include in the NIR any of the information specified in decision 2/CMP.8, annex II, paragraph 2(g). In response to a question raised by the ERT, Slovenia provided information on each element in relation to decision 2/CMP.8, annex II, paragraph 2(g)(i–vii)	Yes. Transparency*
		As part of the action in relation to issue ID#KL.2 above, the ERT recommends that Slovenia create a new section in chapter 11 of the NIR and include all the necessary information on the reporting of HWP in accordance with decision 2/CMP.8, annex II, paragraph 2(g)(i–vii)	
KL.10	Harvested wood products – CO_2	In accordance with decision 2/CMP.7, annex, paragraph 16, emissions from HWP already accounted for during the first commitment period on the basis of instantaneous oxidation shall be excluded from the accounting for the second commitment period. Slovenia elected forest management during the first commitment period, so this provision must be achieved in Slovenia. In response to a question raised by	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[a] and/or a problem[b]? If yes, classify by type*
		the ERT, Slovenia explained that emissions relating to HWP are already accounted during the first commitment period but these emissions were not excluded in the 2016 submission, and that it will adopt the system allowing exclusion of the related emissions in its next submission	
		The ERT recommends that Slovenia exclude HWP already accounted as emissions during the first commitment period from the HWP estimation under KP-LULUCF	
KL.11	Harvested wood products – CO_2	In accordance with decision 2/CMP.7, annex, paragraph 31, HWP resulting from deforestation shall be accounted for on the basis of instantaneous oxidation. In response to a question raised by the ERT, Slovenia explained that it had been in the process of obtaining data on HWP resulting from deforestation at the time of the 2016 inventory submission and so this category was not estimated on the basis of instantaneous oxidation. Slovenia further clarified that the estimated volume of HWP resulting from deforestation in 2013 was almost 1% of total volume, and the estimation will be revised in its next submission	Yes. Accuracy*
		The ERT recommends that Slovenia estimate the volume of HWP resulting from deforestation on the basis of instantaneous oxidation under KP-LULUCF	
KL.12	Harvested wood products – CO_2	Slovenia did not report harvest amounts from afforestation/reforestation, deforestation and forest management, and did not correctly report the half-life parameters and initial stock of HWP in each HWP type correctly in CRF table 4(KP-I)	Yes. Transparency*
		The ERT recommends that Slovenia report appropriate data in CRF table 4(KP-I)	
KL.13	N_2O emissions from N mineralization/ immobilization due to carbon loss/gain associated with land-use conversions and management change in mineral soils – N_2O	The ERT noted that Slovenia did not estimate indirect N_2O emissions from nitrogen leaching/run-off associated with nitrogen mineralization due to carbon loss associated with deforestation	Yes. Completeness*
		The ERT recommends that Slovenia estimate this source of emissions and report these emissions under deforestation	

Abbreviations: AD = activity data, AWMS = animal waste management system, CPR = commitment period reserve, CRF = common reporting format, EEA = European Economic Area, EF = emission factor, EMEP = European Monitoring and Evaluation Programme, ERT = expert review team, F-gases = fluorinated gases, GHG = greenhouse gas, HWP = harvested wood products, IE = included elsewhere, IEA = International Energy Agency, IEF = implied emission factor,

IPCC = Intergovernmental Panel on Climate Change, IPCC good practice guidance = *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, IPCC good practice guidance for LULUCF = *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, IPPU = industrial processes and product use, KP-LULUCF = LULUCF emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, Kyoto Protocol Supplement = *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*, LULUCF = land use, land-use change and forestry, MCF = methane correction factor, MSW = municipal solid waste, N = nitrogen, NCV = net calorific value, NE = not estimated, NIR = national inventory report, NO = not occurring, QA/QC = quality assurance/quality control, Revised 1996 IPCC Guidelines = *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, SORS = Statistical Office of the Republic of Slovenia, SWDS = solid waste disposal sites, UNFCCC Annex I inventory 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 greenhouse gas inventories", VS = volatile solids, Wetlands Supplement = *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*, 2006 IPCC Guidelines = *2006 IPCC Guidelines for National Greenhouse Gas Inventories*.

[a] Recommendations are related to issues as defined in decision 13/CP.20, annex, paragraph 81, or problems as identified in decision 22/CMP.1, annex, paragraph 69, identified by the ERT during the review. Encouragements are made to the Party to address all findings not related to such issues.

[b] An asterisk is included next to each issue type that is also a problem, as defined in decision 22/CMP.1, annex, paragraphs 68 and 69, including those that lead to an adjustment or a question of implementation.

[c] Ministry of Agriculture, Forestry and Food, Slovenian Forestry Institute and Slovenia Forest Service. 2011. *Submission of Information on Forest management Reference Levels by Slovenia*. Available at <http://unfccc.int/files/meetings/ad_hoc_working_groups/kp/application/pdf/awgkp_slovenia_2011.pdf>.

[d] Milicic V and Udovc A. 2012. *Spatial data utilization of the agricultural sector for the purposes of agricultural land use change in the case of selected nature protection area in Slovenia*. Geodetski vestnik. 56: pp.83–104. Available at <http://www.geodetski-vestnik.com/56/1/gv56-1_083-104.pdf>.

VI. Application of adjustments

11. The ERT has not identified the need to apply any adjustments to the 2016 annual submission of Slovenia.

VII. Accounting quantities for activities under Article 3, paragraph 3, and, if any, activities under Article 3, paragraph 4, of the Kyoto Protocol

12. Slovenia has elected commitment period accounting and therefore the issuance and cancellation of units for activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol are not applicable for the 2016 review.

VIII. Questions of implementation

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

Annex I

Overview of greenhouse gas emissions and removals for Slovenia for submission year 2016 and data and information on activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol

1. Tables 6–9 provide an overview of total greenhouse gas emissions and removals, as submitted by Slovenia.

Table 6
Total greenhouse gas emissions for Slovenia, base year[a]–2014[b]
(kt CO_2 eq)

Year	*Total GHG emissions excluding indirect CO_2 emissions*		*Total GHG emissions including indirect CO_2 emissions[c]*		*Land-use change (Article 3.7 bis as contained in the Doha Amendment)[d]*	*KP-LULUCF activities (Article 3.3 of the Kyoto Protocol)[e]*	*KP-LULUCF activities (Article 3.4 of the Kyoto Protocol)*	
	Total including LULUCF	*Total excluding LULUCF*	*Total including LULUCF*	*Total excluding LULUCF*			*CM, GM, RV, WDR*	*FM*
FMRL								–3 171.00
Base year	15 769.67	20 394.44	15 769.67	20 394.44	NA		NA	
1990	14 392.64	18 616.45	14 392.64	18 616.45				
1995	13 879.66	18 761.02	13 879.66	18 761.02				
2000	11 141.98	19 126.23	11 141.98	19 126.23				
2010	12 395.67	19 618.76	12 395.67	19 618.76				
2011	12 542.56	19 626.46	12 542.56	19 626.46				
2012	12 069.53	19 035.42	12 069.53	19 035.42				
2013	11 418.93	18 313.78	11 418.93	18 313.78		510.65	NA	–5 968.15
2014	9 675.91	16 582.31	9 675.91	16 582.31		519.15	NA	–6 150.14

Abbreviations: CM = cropland management, FM = forest management, FMRL = forest management reference level, GHG = greenhouse gas, GM = grazing land management, 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, RV = revegetation, WDR = wetland drainage and rewetting.

[a] Base year refers to the base year under the Kyoto Protocol, which is 1986 for CO_2, CH_4 and N_2O and 1995 for HFCs, PFCs, SF_6 and NF_3. Slovenia has not elected any activities under Article 3, paragraph 4, of the Kyoto Protocol. 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 6) are not included in total GHG emissions.

[c] The Party has not reported indirect carbon dioxide emissions in common reporting format table 6.

[d] The value reported in this column refers to 1990.

[e] Activities under Article 3, paragraph 3, of the Kyoto Protocol, namely afforestation and reforestation, and deforestation.

Table 7
Greenhouse gas emissions by gas for Slovenia, excluding land use, land-use change and forestry, 1986–2014[a]
(kt CO_2 eq)

	CO_2[b]	*CH_4*	*N_2O*	*HFCs*	*PFCs*	*Unspecified mix of HFCs and PFCs*	*SF_6*	*NF_3*
1986	16 662.77	2 556.13	932.58	NO	233.19	NO	9.77	NO
1990	15 088.31	2 471.36	839.36	NO	207.59	NO	9.83	NO
1995	15 277.74	2 378.69	928.48	35.83	128.14	NO	12.13	NO
2000	15 460.15	2 459.13	1 012.15	50.04	129.75	NO	15.01	NO
2010	16 363.43	2 187.90	775.92	263.91	9.64	NO	17.97	NO
2011	16 348.24	2 182.15	779.05	278.73	20.16	NO	18.14	NO
2012	15 800.19	2 127.71	781.00	291.48	18.11	NO	16.94	NO
2013	15 148.73	2 080.23	751.64	301.92	15.31	NO	15.95	NO
2014	13 489.98	1 978.92	758.84	323.82	15.22	NO	15.52	NO
Per cent change 1986–2014	**–19.0**	**–22.6**	**–18.6**	**NA**	**–93.5**	**NA**	**58.9**	**NA**

Abbreviations: NA = not applicable, NO = not occurring.
[a] Emissions/removals reported in the sector other (sector 6) are not included in total greenhouse gas emissions.
[b] Slovenia did not report indirect carbon dioxide emissions in common reporting format table 6.

Table 8
Greenhouse gas emissions by sector for Slovenia, 1986–2014[a, b]
(kt CO_2 eq)

	Energy	*IPPU*	*Agriculture*	*LULUCF*	*Waste*	*Other*
1986	16 383.23	1 405.34	2 013.52	–4 624.78	592.36	NO
1990	14 650.56	1 390.41	1 931.24	–4 223.81	644.24	NO
1995	15 146.00	1 086.48	1 850.46	–4 881.36	678.08	NO
2000	15 300.82	1 168.46	1 890.20	–7 984.25	766.74	NO
2010	16 330.95	1 018.48	1 715.30	–7 223.10	554.04	NO
2011	16 333.41	1 038.89	1 690.59	–7 083.90	563.58	NO
2012	15 776.51	1 042.56	1 669.53	–6 965.89	546.82	NO
2013	15 037.01	1 095.57	1 652.70	–6 894.85	528.50	NO
2014	13 254.13	1 135.31	1 698.98	–6 906.40	493.89	NO
Per cent change 1986–2014	**–19.1**	**–19.2**	**–15.6**	**49.3**	**–16.6**	**NA**

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

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

[b] Slovenia did not report indirect carbon dioxide emissions in common reporting format table 6.

Table 9

Greenhouse gas emissions/removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol by activity, base year[a, b]–2014, for Slovenia

(kt CO_2 eq)

	Article 3.7 bis as contained in the Doha Amendment[c]	*Article 3.3 of the Kyoto Protocol*		*Forest management and elected Article 3.4 activities of the Kyoto Protocol*				
	Land-use change	*Afforestation and reforestation*	*Deforestation*	*Forest management*	*Cropland management*	*Grazing land management*	*Revegetation*	*Wetland drainage and rewetting*
FMRL				–3 171.00				
Technical correction				NE				
Base year					NA	NA	NA	NA
2013		NA, NO	510.65	–5 968.15	NA	NA	NA	NA
2014		NA, NO	519.15	–6 150.14	NA	NA	NA	NA
Per cent change Base year–2014					**NA**	**NA**	**NA**	**NA**

Abbreviations: FMRL = forest management reference level, NA = not applicable, NE = not estimated, NO = not occurring.

[a] Base year refers to the base year under the Kyoto Protocol, which is 1986 for CO_2, CH_4 and N_2O and 1995 for HFCs, PFCs, SF_6 and NF_3. Slovenia has not elected any activities under Article 3, paragraph 4, of the Kyoto Protocol. 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] Values in this table include emissions on lands subject to natural disturbances, if applicable.

[c] The value reported in this column refers to1990.

2. Table 10 provides an overview of relevant key data for Slovenia's reporting under Article 3, paragraphs 3 and 4, of the Kyoto Protocol.

Table 10
Key relevant data for Slovenia under Article 3, paragraphs 3 and 4, of the Kyoto Protocol

Key parameters	*Values*
Periodicity of accounting	(a) Afforestation/reforestation: commitment period accounting
	(b) Deforestation: commitment period accounting
	(c) Forest management: commitment period accounting
	(d) Cropland management: not elected
	(e) Grazing land management: not elected
	(f) Revegetation: not elected
	(g) Wetland drainage and rewetting: not elected
Election of activities under Article 3, paragraph 4	None
Election of application of provisions for natural disturbances	No
3.5% of total base-year GHG emissions, excluding LULUCF and including indirect CO_2 emissions	0, 711 kt CO_2 eq (5 688 kt CO_2 eq for the duration of the commitment period)
Cancellation of AAUs, ERUs, CERs and/or issuance of RMUs in the national registry for:	
1. Afforestation and reforestation in 2014	NA
2. Deforestation in 2014	NA
3. Forest management in 2014	NA
4. Cropland management in 2014	NA
5. Grazing land management in 2014	NA
6. Revegetation in 2014	NA
7. Wetland drainage and rewetting in 2014	NA

Abbreviations: AAU = assigned amount unit, CER = certified emission reduction unit, ERU = emission reduction unit, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry, NA = not applicable, RMU = removal unit.

Annex II

Information to be included in the compilation and accounting database

Tables 11 and 12 include the information to be included in the compilation and accounting database for Slovenia. Data shown are from the original annual submission of the Party, including the latest revised estimates submitted, adjustments (if applicable), as well as the final data to be included in the compilation and accounting database.

Table 11
Information to be included in the compilation and accounting database for 2014, including the commitment period reserve, for Slovenia
(t CO_2 eq)

	Original submission	*Revised estimates*	*Adjustment*[a]	*Final*[b]
Commitment period reserve	89 483 204			89 483 204
Annex A emissions for 2014				
CO_2	6 579 428			6 579 428
CH_4	1 979 048			1 979 048
N_2O	762 866			762 866
HFCs	323 824			323 824
PFCs	15 221			15 221
Unspecified mix of HFCs and PFCs	NO			NO
SF_6	15 521			15 521
NF_3	NO			NO
Total Annex A sources	**9 675 908**			**9 675 908**
Activities under Article 3, paragraph 3, of the Kyoto Protocol for 2014				
3.3 Afforestation and reforestation	NA, NO			NA, NO
3.3 Deforestation	519 154			519 154
Forest management and elected activities under Article 3, paragraph 4, of the Kyoto Protocol for 2014				
3.4 Forest management for 2014	–6 150 144			–6 150 144

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

[a] "Adjustment" is relevant only for Parties for which the expert review team has calculated one or more adjustments.

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

Table 12
Information to be included in the compilation and accounting database for 2013, for Slovenia
(t CO_2 eq)

	Original submission	*Revised estimates*	*Adjustment*[a]	*Final*[b]
Annex A emissions for 2013				
CO_2	8 249 326			8 249 326
CH_4	2 080 686			2 080 686
N_2O	7 557 731			7 557 731
HFCs	301 923			301 923
PFCs	15 315			15 315
Unspecified mix of HFCs and PFCs	NO			NO
SF_6	16 951			16 951
NF_3	NO			NO
Total Annex A sources	**11 418 931**			**11 418 931**
Activities under Article 3, paragraph 3, of the Kyoto Protocol for 2013				
3.3 Afforestation and reforestation	NA, NO			NA, NO
3.3 Deforestation	510.654			510.654
Forest management and elected activities under Article 3, paragraph 4, of the Kyoto Protocol for 2013				
3.4 Forest management for 2013	–5 968 154			–5 968 154

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

[a] "Adjustment" is relevant only for Parties for which the expert review team has calculated one or more adjustments.

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

Annex III

Additional information to support findings in table 2

Missing categories that may affect completeness

The categories for which methods are included in the Intergovernmental Panel on Climate Change (IPCC) *2006 IPCC Guidelines for National Greenhouse Gas Inventories* that were reported as "NE" (not estimated) or for which the expert review team otherwise determined that there may be an issue with the completeness of reporting in the Party's inventory are the following:

(a) 4.B.2 Land converted to cropland – Carbon Dioxide (CO_2) (see table 5, ID#L.17);

(b) 4 (III) Direct N_2O emissions from N mineralization/immobilization – Nitrous Oxide (N_2O) (see table 5, ID#L.25);

(c) 4 (IV).2 Nitrogen leaching and run-off – N_2O (see table 5, ID#L.26);

(d) 4 (V) Biomass burning – CO_2, Methane (CH_4) and N_2O (see table 5, ID#L.28);

(e) 4 (V) Biomass burning – CO_2, CH_4 and N_2O (see table 5, ID#L.29);

(f) 5.A.1 Managed waste disposal sites – N_2O (see table 5, ID#W.9);

(g) 5.B.1 Composting – CH_4 and N_2O (see table 5, ID#W.13);

(h) 5.D Wastewater treatment and discharge – N_2O (see table 5, ID#W.14);

(i) Forest management – CO_2 (see table 5, ID#KL.8);

(j) N_2O emissions from N mineralization/ immobilization due to carbon loss/gain associated with land-use conversions and management change in mineral soils – N_2O (see table 5, ID#KL.13).

Annex IV

Documents and information used during the review

A. Reference documents

Aggregate information on greenhouse gas emissions by sources and removals by sinks for Parties included in Annex I to the Convention. Note by the secretariat. Available at <http://unfccc.int/resource/webdocs/agi/2015.pdf>.

Status report of the annual inventory of Slovenia for 2016. Available at <http://unfccc.int/resource/docs/2016/asr/SVN.pdf>.

FCCC/ARR/2014/SVN. Report on the individual review of the annual submission of Slovenia submitted in 2014. Available at <http://unfccc.int/resource/docs/2015/arr/SVN.pdf>.

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

"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 to decision 24/CP.19. Available at <http://unfccc.int/resource/docs/2013/cop19/eng/10a03.pdf#page=4>.

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

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

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

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

Intergovernmental Panel on Climate Change. 2000. *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. 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. Available at <www.ipcc-nggip.iges.or.jp/public/2006gl/index.html>.

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

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

Standard independent assessment report, part 1, for Slovenia for 2016. Available at <http://unfccc.int/files/kyoto_mechanisms/application/pdf/siar_2016_svn_1_2.pdf>.

Standard independent assessment report, part 2, for Slovenia for 2016. Available at <http://unfccc.int/files/kyoto_mechanisms/application/pdf/siar_2016_svn_2_2.pdf>.

B. Additional information provided by the Party

Responses to questions during the review were received from Ms. Tajda Mekinda Majaron (Ministry of the Environment and Spatial Planning), including additional material on the methodology and assumptions used. The following documents[1] were also provided by Slovenia:

KMETIJSKI INŠTITUT SLOVENIJE. 2015. *Results of Dairy and Beef Recording*. Available at: <https://www.govedo.si/files/cpzgss/knjiznica/porocila/kontrola_porocila/REZULTATI_KONTROLE_2015.pdf>.

Tajda Mekinda Majaron. 2016. *Improvement plan 2016*. Unpublished Internal Excel Document

Tajda Mekinda Majaron. 2016. Slovenian Greenhouse Gas Inventory, *Manual of Procedures – Based on the Methodology Described in the 2006 Guidelines for National Greenhouse Gas Inventories, September 2016*. Unpublished Internal PDF Document

Tajda Mekinda Majaron. 2014. *Slovenian Greenhouse Gas Inventory, QA/QC Manual - Version 2.2*. Unpublished Internal PDF Document

Rudi Drigo, Živan Veselič. 2006. *WISDOM – Slovenia*. FAO 2006

[1] Reproduced as received from the Party.

Annex V

Acronyms and abbreviations

AAU	assigned amount unit
AD	activity data
Annex A sources	sources included in Annex A to the Kyoto Protocol
AWMS	animal waste management system
CER	certified emission reduction unit
CH_4	methane
CM	cropland management
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CORINAIR	core inventory of air emissions
CPR	commitment period reserve
CRF	common reporting format
EEA	European Economic Area
EF	emission factor
EMEP	European Monitoring and Evaluation Programme
ERT	expert review team
ERU	emission removal unit
EU	European Union
F-gases	fluorinated gases
FECS	Forest and Forest Ecosystem Condition Survey
FM	forest management
FMRL	forest management reference level
GHG	greenhouse gas
GM	grazing land management
HWP	harvested wood products
IE	included elsewhere
IEA	International Energy Agency
IEF	implied emission factor
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
KP-LULUCF	LULUCF emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol
kt	kilotonne
LULUCF	land use, land-use change and forestry
MCF	methane correction factor
MSW	municipal solid waste
N	nitrogen
NA	not applicable
NCV	net calorific value
NE	not estimated
Nex	nitrogen excretion
NGL	natural gas liquid
NIR	national inventory report
NO	not occurring
QA/QC	quality assurance/quality control
RMU	removal unit
RV	revegetation

SEF	standard electronic format
SIAR	standard independent assessment report
SORS	Statistical Office of the Republic of Slovenia
SWDS	solid waste disposal site
UNFCCC	United Nations Framework Convention on Climate Change
VS	volatile solids
WDR	wetland drainage and rewetting