



United Nations

FCCC/IDR.6/CZE

Framework Convention on
Climate ChangeDistr.: General
30 November 2014

English only

Report of the technical review of the sixth national communication of the Czech Republic

Parties included in Annex I to the Convention are requested, in accordance with decision 9/CP.16, to submit a sixth national communication to the secretariat by 1 January 2014. In accordance with decision 7/CMP.8, Parties included in Annex I to the Convention that are also Parties to the Kyoto Protocol shall include in their sixth national communication supplementary information under Article 7, paragraph 2, of the Kyoto Protocol. In accordance with decision 15/CMP.1, these Parties shall start reporting the information under Article 7, paragraph 1, of the Kyoto Protocol with the inventory submission due under the Convention for the first year of the commitment period. This includes supplementary information on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol.

This report presents the results of the technical review of the sixth national communication and supplementary information under the Kyoto Protocol of the Czech Republic conducted by an expert review team in accordance with 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” and the “Guidelines for review under Article 8 of the Kyoto Protocol”.

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I. Introduction and summary

A. Introduction

1. For the Czech Republic the Convention entered into force on 21 March 1994 and the Kyoto Protocol on 16 February 2005. Under the Convention, the Czech Republic made a commitment to contribute to the European Union (EU) joint economy-wide emission reduction target of 20 per cent below the 1990 level by 2020.¹ Under the Kyoto Protocol, the Czech Republic committed itself to reducing its greenhouse gas (GHG) emissions by 8 per cent compared with the base year level² during the first commitment period, from 2008 to 2012. For the second commitment period of the Kyoto Protocol, from 2013 to 2020, the Czech Republic committed to contributing to the joint EU target of reducing its GHG emissions by 20 per cent below the base year level.

2. This report covers the in-country technical review of the sixth national communication (NC6) of the Czech Republic, coordinated by the secretariat, in accordance with 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” (decision 23/CP.19) and the “Guidelines for review under Article 8 of the Kyoto Protocol” (decision 22/CMP.1).

3. The review took place from 7 to 12 April 2014 in Prague, the Czech Republic, and was conducted by the following team of nominated experts from the UNFCCC roster of experts: Mr. Ture Hammar (Denmark), Mr. Bernard Hyde (Ireland), Ms. Carmen Meneses Lopez (Bolivarian Republic of Venezuela) and Mr. Bhawan Singh (Trinidad and Tobago). Mr. Hammar and Mr. Singh were the lead reviewers. The review was coordinated by Mr. Daniel Hooper (secretariat).

4. During the review, the expert review team (ERT) reviewed each section of the NC6. The ERT also reviewed the supplementary information provided by the Czech Republic as a part of the NC6 in accordance with Article 7, paragraph 2, of the Kyoto Protocol. In addition, the ERT reviewed the information on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol, which was provided by the Czech Republic in its 2013 annual submission and previous submissions under Article 7, paragraph 1, of the Kyoto Protocol.

5. In accordance with decisions 23/CP.19 and 22/CMP.1, a draft version of this report was communicated to the Government of the Czech Republic, which provided comments that were considered and incorporated with revisions into this final version of the report.

¹ Please note that the target under the Convention applies to the EU and its 28 member States (EU-28), while the target under the Kyoto Protocol for its second commitment period applies to the EU-28 and Iceland. A political statement on the fulfilment of the target under the Kyoto Protocol for the second commitment period by the EU-28 jointly with Iceland is contained in document FCCC/KP/CMP/2012/13, paragraph 45.

² “Base year” refers to the base year under the Kyoto Protocol, which is 1990 for carbon dioxide, methane and nitrous oxide, and 1995 for perfluorocarbons, hydrofluorocarbons and sulphur hexafluoride (as selected by the Czech Republic). The base year emissions include emissions from sectors/source categories listed in Annex A to the Kyoto Protocol.

B. Summary

6. The ERT conducted a technical review of the information reported in the NC6 of the Czech Republic in accordance with the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications” (hereinafter referred to as the UNFCCC reporting guidelines on NCs). Some of the supplementary information required by decision 15/CMP.1 under Article 7, paragraph 2, of the Kyoto Protocol³ is not provided in the NC6 (see para. 109 below). The supplementary information on the minimization of adverse impacts referred to in paragraph 4 above is complete and transparent.

7. The Czech Republic has considered some of the recommendations provided in the report of the in-depth review of its fifth national communication (NC5).⁴ During the review, the Party provided further relevant information as follows:

(a) The missing supplementary information required under Article 7, paragraph 2, of the Kyoto Protocol (see para. 6 above);

(b) Information on its target under the Kyoto Protocol for the second commitment period and its contribution to the EU joint quantified economy-wide emission reduction target under the Convention;

(c) Emission projections in an aggregated format for each sector;

(d) Estimates of the individual and aggregated effects of its policies and measures (PaMs);

(e) Information on the Second National Energy Efficiency Action Plan (2nd NEEAP);

(f) Information on its participation in international research and systematic observation activities;

(g) Information on its emissions trading registry;

(h) Information on its domestic and institutional arrangements.

1. Completeness and transparency of reporting

8. Gaps and issues related to the reported information identified by the ERT are presented in table 1 below.

2. Timeliness

9. The NC6 was submitted on 31 January 2014, after the deadline of 1 January 2014 mandated by decision 9/CP.16. The Czech Republic informed the secretariat about its difficulties with the timeliness of its NC6 on 16 December 2014 in accordance with paragraph 79 of the annex to decision 23/CP.19 and paragraph 139 of the annex to decision 22/CMP.1. The ERT noted with concern the delay in the submission of the NC6.

10. The Czech Republic submitted a revised NC6 and first biennial report (BR1) on 23 April 2014 in response to questions raised by the ERT during the review.

3. Adherence to the reporting guidelines

11. The information reported by the Czech Republic in its NC6 is mostly in adherence to the UNFCCC reporting guidelines on NCs as per decision 4/CP.5 (see table 1).

³ Decision 15/CMP.1, annex, chapter II.

⁴ FCCC/IDR.5/CZE.

Table 1

Assessment of completeness and transparency issues of reported information in the sixth national communication of the Czech Republic^a

<i>Sections of national communication</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to paragraphs</i>	<i>Supplementary information under the Kyoto Protocol</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to paragraphs</i>
Executive summary	Complete	Transparent		National system	Mostly complete	Transparent	20
National circumstances	Complete	Transparent		National registry	Mostly complete	Transparent	24
Greenhouse gas inventory	Complete	Transparent		Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	Complete	Transparent	
Policies and measures (PaMs)	Mostly complete	Mostly transparent	34 and 35	PaMs in accordance with Article 2	Complete	Transparent	
Projections and total effect of PaMs	Mostly complete	Mostly transparent	72, 73 and 85	Domestic and regional programmes and/or arrangements and procedures	Mostly complete	Mostly transparent	26 and 27
Vulnerability assessment, climate change impacts and adaptation measures	Complete	Mostly transparent	95	Information under Article 10 ^b	NA	NA	
Financial resources and transfer of technology ^c	NA	NA		Financial resources ^c	NA	NA	
Research and systematic observation	Complete	Mostly transparent	103	Minimization of adverse impacts in accordance with Article 3, paragraph 14	Complete	Transparent	
Education, training and public awareness	Complete	Transparent					

Abbreviation: NA = not applicable.

^a A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in the chapter on conclusions and recommendations.

^b For the purposes of reporting information in this table, this assessment refers to information provided by the Party on the provisions contained in Article 4, paragraphs 3, 5 and 7, of the Convention reported under Article 10 of the Kyoto Protocol, which is relevant for developed country Parties and other developed Parties included in Annex II to the Convention only. Assessment of the information provided by the Party on the other provisions of Article 10 of the Kyoto Protocol is provided under the relevant substantive headings under the Convention, for example research and systematic observation.

^c Reporting on financial resources under the Kyoto Protocol is relevant to developed country Parties and other developed Parties that are included in Annex II to the Convention (Annex II Parties). As the Czech Republic is not an Annex II Party, it does not have an obligation to provide information on financial resources under Article 11 of the Kyoto Protocol, including on “new and additional” resources.

II. Technical review of the reported information in the national communication and supplementary information under the Kyoto Protocol

A. Information on greenhouse gas emissions and national circumstances relevant to greenhouse gas emissions and removals, including other elements related to the Kyoto Protocol

1. Information on relevant national circumstances

12. In its NC6, the Czech Republic has provided a detailed description of the national circumstances and elaborated on the framework legislation and key policy documents on climate change. Further information on the review of the institutional and legislative arrangements for the coordination and implementation of PaMs is provided in chapter II.B below.

13. The description included in the NC6 covers the structure of the state administration, international activities, population, geographical conditions, protection of the environment, climate, economy, energy and the energy intensity of the economy, resource management, transport, industrial production, waste, agriculture and forestry. However, the NC6 does not include information on building stock and urban structure, which is recommended by the UNFCCC reporting guidelines on NCs. During the review, the Czech Republic provided additional information from the Czech Statistical Office on the structure of houses and flats and on settlement structures, including the total number of municipalities, population distribution and the number of residential buildings and apartments. In order to improve the completeness of the description of its national circumstances, the ERT encourages the Czech Republic to include this information in its next national communication (NC).

14. The ERT noted that during the period 1990–2011 the population and gross domestic product (GDP) of the Czech Republic increased by 1.4 per cent and 49.6 per cent, respectively, while GHG emissions per GDP unit and GHG emissions per capita decreased by 54.3 per cent and 32.5 per cent, respectively. In addition, as discussed during the review, the consumption of energy per GDP unit has been steadily falling in the Czech Republic, with an overall decrease of 23.6 per cent from 2000 to 2011. Table 2 illustrates the national circumstances of the Czech Republic by providing some indicators relevant to GHG emissions and removals.

Table 2

Indicators relevant to greenhouse gas emissions and removals for the Czech Republic

	1990	2000	2005	2010	2011	Change 1990–2011 (%)	Change 2010–2011 (%)
Population (million)	10.36	10.27	10.23	10.52	10.50	1.4	–0.2
GDP (2005 USD billion using PPP)	169.06	178.13	217.66	248.47	252.99	49.6	1.8
TPES (Mtoe)	49.57	40.99	44.94	44.04	43.43	–12.4	–1.4
GHG emissions without LULUCF (kt CO ₂ eq)	196 189.40	145 859.23	145 389.00	137 745.64	134 345.79	–31.5	–2.5
GHG emissions with	192 571.46	138 334.99	138 703.50	132 257.19	126 386.58	–34.4	–4.4

	1990	2000	2005	2010	2011	Change 1990–2011 (%)	Change 2010–2011 (%)
LULUCF (kt CO₂ eq)							
GDP per capita (2005 USD thousand using PPP)	16.32	17.34	21.28	23.62	24.09	47.6	2.0
TPES per capita (toe)	4.78	3.99	4.39	4.19	4.14	-13.4	-1.2
GHG emissions per capita (t CO ₂ eq)	18.94	14.20	14.21	13.09	12.79	-32.5	-2.3
GHG emissions per GDP unit (kg CO ₂ eq per 2005 USD using PPP)	1.16	0.82	0.67	0.55	0.53	-54.3	-3.6

Sources: (1) GHG emission data: the Czech Republic's 2013 GHG inventory submission, version 2.1; (2) Population, GDP and TPES data: International Energy Agency.

Note: The ratios per capita and per GDP unit are calculated relative to GHG emissions without LULUCF; the ratios are calculated using the exact (not rounded) values and may therefore differ from a ratio calculated with the rounded numbers provided in the table.

Abbreviations: GDP = gross domestic product, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry, PPP = purchasing power parity, TPES = total primary energy supply.

2. Information on the greenhouse gas inventory, emissions and trends

15. In its NC6, the Czech Republic has provided a summary of information on GHG emission trends for the period 1990–2011, which is based on the Party's original 2013 annual inventory data submitted in April 2013. Summary tables, including trend tables for emissions in carbon dioxide equivalent (CO₂ eq) (given in the common tabular format tables), are provided in an annex to the NC6. The information is not fully in accordance with the latest 2013 national GHG inventory submission, as the Czech Republic resubmitted its 2013 annual inventory data on 23 October 2013 (version 2.1). To reflect the most recently available data, version 2.1 of the Party's 2013 annual inventory data has been used as the basis for discussion in this report.

16. Total GHG emissions⁵ excluding emissions and removals from land use, land-use change and forestry (LULUCF) decreased by 31.5 per cent between 1990 and 2011, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 34.4 per cent over the same period. The reduction can be attributed mainly to carbon dioxide (CO₂) emissions, which decreased by 30.7 per cent (excluding LULUCF). The largest proportion of the emission decrease (17.6 per cent) occurred from 1990 to 1993 as a result of a decrease in production and the transition to a market-driven economy, which was triggered by the change in the political system. In particular, the decrease in GHG emissions can be attributed to the winding down and restructuring of certain industrial sectors, as well as to the implementation of new industrial technologies.

17. Total methane (CH₄) emissions decreased by 42.6 per cent between 1990 and 2011 (including a 19.5 per cent decrease between 1990 and 1993) owing to the decreases in coal mining and livestock numbers. Total nitrous oxide (N₂O) emissions decreased by 41.8 per cent between 1990 and 2011 (including by 31.4 per cent between 1990 and 1993) owing primarily to a reduction in the use of mineral fertilizer in agriculture and the decrease in

⁵ In this report, the term "total GHG emissions" refers to the aggregated national GHG emissions expressed in terms of CO₂ eq excluding LULUCF, unless otherwise specified.

livestock numbers, compounded by the use of new technologies for removing N₂O emissions during the production of nitric acid. Fluorinated gases (F-gases) accounted for 0.01 per cent of the Party's total GHG emissions in 1995, which is the Party's base year for F-gases. In 2011, F-gases accounted for 0.9 per cent of the Party's total GHG emissions, resulting from replacing chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) (ozone-depleting substances) in cooling, as well as extending the application of F-gases in modern technologies, especially in cooling equipment (hydrofluorocarbons (HFCs)), electronics (sulphur hexafluoride (SF₆)) and some specialized manufacturing processes (low-energy windows, fire extinguishers, propellants for aerosols and expanding agents). An analysis of the drivers for GHG emission trends in each sector is provided in chapter II.B below. Table 3 provides an overview of GHG emissions by sector from 1990 to 2011.

Table 3
Greenhouse gas emissions by sector in the Czech Republic, 1990–2011

Sector	GHG emissions (kt CO ₂ eq)				Change (%)		Shares ^a by sector (%)	
	1990	2000	2010	2011	1990–2011	2010–2011	1990	2011
	1. Energy	156 764.91	119 603.41	113 328.33	109 514.58	–30.1	–3.4	79.9
A1. Energy industries	57 966.86	59 570.24	58 905.00	58 423.89	0.8	–0.8	29.5	43.5
A2. Manufacturing industries and construction	46 753.89	27 285.26	19 438.43	17 942.69	–61.6	–7.7	23.8	13.4
A3. Transport	7 755.89	12 364.26	17 424.40	17 255.39	122.5	–1.0	4.0	12.8
A4.–A5. Other	35 329.91	15 217.31	13 305.46	11 675.40	–67.0	–12.3	18.0	8.7
B. Fugitive emissions	8 958.36	5 166.33	4 255.03	4 217.21	–52.9	–0.9	4.6	3.1
2. Industrial processes	19 602.83	13 471.65	12 277.97	12 570.12	–35.9	2.4	10.0	9.4
3. Solvent and other product use	764.83	568.56	492.05	469.42	–38.6	–4.6	0.4	0.3
4. Agriculture	16 233.28	9 094.86	7 964.57	8 064.84	–50.3	1.3	8.3	6.0
5. LULUCF	–3 617.94	–7 524.24	–5 488.45	–7 959.22	120.0	45.0	NA	NA
6. Waste	2 823.55	3 120.76	3 682.72	3 726.82	32.0	1.2	1.4	2.8
7. Other	NA	NA	NA	NA	–	–	–	–
GHG total with LULUCF	192 571.46	138 334.99	132 257.19	126 386.58	–34.4	–4.4	NA	NA
GHG total without LULUCF	196 189.40	145 859.23	137 745.64	134 345.79	–31.5	–2.5	100.0	100.0

Source: The Czech Republic's 2013 annual inventory submission, version 2.1 (for GHG emission data).

Note: The changes in emissions and the shares by sector are calculated using the exact (not rounded) values and may therefore differ from values calculated with the rounded numbers provided in the table.

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

^a The shares of sectors are calculated relative to GHG emissions without LULUCF; for the LULUCF sector, the negative values indicate the share of GHG emissions that was offset by GHG removals through LULUCF.

3. National system

18. In its original NC6 submission, the Czech Republic provided a description of how its national system is performing the general and specific functions defined in the

guidelines for national systems under Article 5, paragraph 1, of the Kyoto Protocol (decision 19/CMP.1). The description included most of the elements required by decision 15/CMP.1. The ERT took note of the review of the changes to the national system as reflected in the report of the individual review of the GHG inventory of the Czech Republic submitted in 2013.

19. The ERT noted that the original NC6 submission did not include the following elements: the roles and responsibilities of various agencies and entities in relation to the inventory development process, as well as the institutional, legal and procedural arrangements made to prepare the inventory; a description of the process for collecting activity data, for selecting emission factors and methods, and for the development of emission estimates; a description of the quality assurance and quality control plan, its implementation and the quality objectives established, and information on internal and external evaluation and review processes and their results in accordance with the guidelines for national systems; a description of the process for the recalculation of previously submitted inventory data; and a description of the procedures for the official consideration and approval of the inventory. During the review, the Czech Republic provided additional information on the national system and addressed all of the above-listed reporting elements, in particular elaborating on procedures relating to the data validation process conducted by the various institutions with responsibilities in the process of preparation of the annual GHG inventory.

20. In the revised NC6 submitted by the Czech Republic, the 2013 national inventory report (NIR) was referenced regarding descriptions of the process for the recalculation of previously submitted inventory data and of the quality assurance and quality control plan. The revised information relating to two out of the five missing reporting elements was complete and transparent. Therefore, in order to improve the completeness of the description of its national system, the ERT recommends that the Czech Republic include the remaining required reporting information on the national system, or reference relevant documentation that contains such information, in its next NC, including:

(a) The roles and responsibilities of various agencies and entities in relation to the inventory development process, as well as the institutional, legal and procedural arrangements made to prepare the inventory;

(b) A description of the process for collecting activity data, for selecting emission factors and methods, and for the development of emission estimates;

(c) A description of the procedures for the official consideration and approval of the inventory.

4. National registry

21. In its original NC6 submission, the Czech Republic provided some information on the national registry in accordance with the annex to decision 13/CMP.1 and the annex to decision 5/CMP.1. The ERT took note of the review of the changes to the national registry as reflected in the report of the individual review of the GHG inventory of the Czech Republic submitted in 2013.

22. The Czech Republic provided a brief description of the changes to the national registry, which specifically result from the consolidation of the European Union Emissions Trading System (EU ETS) operations into a single EU registry operated by the European Commission and called the Consolidated System of European Union Registries (CSEUR). The CSEUR implements the national registries in a consolidated manner and was developed together with the new EU registry.

23. The ERT noted that some information required by the UNFCCC reporting guidelines on NCs was not included in the original NC6 submission, including: a description of the database structure and capacity of the national registry; a description of how the national registry conforms to the technical standards for data exchange between registry systems; a description of the procedures employed in the national registry to minimize discrepancies and the steps taken to terminate transactions where a discrepancy is notified and to correct problems in the event of a failure to terminate transactions; an overview of the security measures employed in the national registry; a list of the information publicly accessible by means of the user interface to the national registry; and a description of measures taken to safeguard, maintain and recover data in order to ensure the integrity of data storage and the recovery of registry services in the event of a disaster. During the review, the Czech Republic provided this information to the ERT and made reference to its 2013 NIR regarding details on the changes to the national registry.

24. In the revised NC6 submitted by the Czech Republic, chapter 14.2 of the 2013 NIR was referenced regarding the provision of an overview of security measures, a list of publicly accessible information and a description of the disaster recovery plan. The revised information was complete and transparent. Therefore, in order to improve the completeness of the description of its national registry, the ERT recommends that the Czech Republic include the remaining required reporting information on the national registry, or reference relevant documentation that contains such information, in its next NC, including:

- (a) A description of the database structure and capacity of the national registry;
- (b) A description of how the national registry conforms to the technical standards for data exchange between registry systems;
- (c) A description of the procedures employed in the national registry to minimize discrepancies and the steps taken to terminate transactions where a discrepancy is notified and to correct problems in the event of a failure to terminate transactions.

5. Domestic and regional programmes and/or legislative arrangements and procedures related to the Kyoto Protocol

25. The Czech Republic has reported in its NC6 information on domestic and regional programmes and/or legislative arrangements and procedures related to the Kyoto Protocol. The NC6 does not include some information required by the UNFCCC reporting guidelines on NCs, including: a description of procedures for addressing cases of non-compliance under domestic law; a description of any provisions to make publicly accessible the information on legislative arrangements and enforcement and administrative procedures (e.g. rules on enforcement and administrative procedures, and action taken); and a description of national legislative arrangements and administrative procedures that seek to ensure that the implementation of activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contributes to the conservation of biodiversity and the sustainable use of natural resources. In addition, while the NC6 includes information on the Czech Republic's Green Investment Scheme (GIS) programme under Article 17 of the Kyoto Protocol, it is not transparently linked to the overall institutional arrangements and decision-making procedures that the Czech Republic has in place to coordinate activities related to participation in the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol, including the participation of legal entities. During the review, the Czech Republic provided this information to the ERT.

26. In the revised NC6 submitted by the Czech Republic, a description of national legislative arrangements and administrative procedures that seek to ensure that the implementation of activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contributes to the conservation of

biodiversity and the sustainable use of natural resources was included in a complete and transparent manner. Therefore, in order to improve the completeness of the information provided on its domestic and regional programmes, the ERT recommends that the Czech Republic include information that meets all the reporting requirements, including those listed in para. 25 above in its next NC, including:

(a) A description of procedures for addressing cases of non-compliance under domestic law;

(b) A description of any provisions to make information on legislative arrangements and enforcement and administrative procedures (e.g. rules on enforcement and administrative procedures, and action taken) publicly accessible.

27. In order to improve the transparency of the information provided on its domestic and regional programmes, the ERT recommends that the Czech Republic include a description of the overall institutional arrangements and decision-making procedures that it has in place to coordinate activities related to participation in the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol, including the participation of legal entities.

28. The Ministry of the Environment is responsible for coordinating the compliance with the UNFCCC and the Kyoto Protocol in the Czech Republic. It is also the supreme state administration body regarding environmental protection. Climate change issues are addressed primarily within the Department of Energy and Climate Protection, which also includes the national focal point for the UNFCCC and the Kyoto Protocol. Owing to the cross-sectoral nature of climate change issues, the Ministry of the Environment is responsible primarily for the drafting of national policies in the areas of mitigation and adaptation. Individual state departments (ministries), such as the Ministry of the Environment, the Ministry of Industry and Trade, the Ministry of Transport, the Ministry of Agriculture and the Ministry of Regional Development, are then responsible for the drafting and implementation of sector-specific PaMs aiming to reduce GHG emissions and adapt to climate change impacts, as appropriate.

29. The implementation of the Kyoto Protocol is underpinned by the National Programme to Abate the Climate Change Impacts in the Czech Republic (hereinafter referred to as the National Programme) adopted in 2004, which is an update of the Strategy of Protection of the Climate System of the Earth in the Czech Republic. The National Programme provides a platform for the coordination of sectoral and cross-sectoral policies at the national level. In particular, it acknowledges the requirements defined in the European Climate Change Programme (ECCP), which became a binding document for the Czech Republic upon its accession to the EU in 2004. Individual ministries implement the National Programme according to their competences.

30. The National Programme, drafted in line with the requirements set out by the European Council decision 99/296/EC, outlines specific measures for the reduction (mitigation) of GHG emissions as well as adaptation measures allowing society and ecosystems to adapt to climate change. The National Programme emphasizes that actions to deliver emission reductions will generally build on respective international treaties with regard to sustainable development in the Czech Republic. A new document entitled "Climate Protection Policy" is currently being drafted to replace the National Programme, which will include the implementation of the EU climate and energy package and associated targets covering both the Kyoto Protocol and the Convention.

31. The revised NC6 states that the Principles of State Forest Policy (Decree No. 854 of 21 November 2012), the Forest Act (Act No. 289/1995 Coll. on Forests, as amended) and the National Forest Programme II ensure that the implementation of activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contribute to the conservation of biodiversity and the sustainable use of natural

resources. Specifically, the Principles of State Forest Policy includes the enhancement of biodiversity in forest ecosystems, their integrity and ecological stability as one of the main principles. The provisions of the Forest Act regulate carbon stocks and the reduction of GHG emissions indirectly by determining conditions for the preservation, tending and regeneration of forests as national riches to enable the fulfilment of all of their functions and to support sustainable forestry. The National Forest Programme II, approved by Government Resolution No. 1221/2008, should lead to a draft forestry bill that will contain specific measures for preventing climate change and promoting adaptation to climate change in the forestry sector. The aim of its key action 6, which is itself based on 12 specific measures, is to reduce the impacts of anticipated global climate change and extreme meteorological events. The 12 measures are generally focused on creating more resilient forest ecosystems by supporting diversified growth with the highest possible use of natural processes, diverse wood plant composition, natural capacity for restoration and variability of afforestation methods.

B. Policies and measures, including those in accordance with Article 2 of the Kyoto Protocol

32. The Czech Republic has provided in its NC6 comprehensive information on its package of PaMs implemented, adopted and planned in order to fulfil its commitments under the Convention and its Kyoto Protocol.

1. Policies and measures related to implementation of commitments under the Convention

33. In its NC6, the Czech Republic reported on its PaMs adopted, implemented and planned in achieving its commitments under the Convention. It also provided information on how it believes its PaMs are modifying longer-term trends in anthropogenic GHG emissions and removals, as well as providing a description of the principal PaMs, consistent with the objective of the Convention. The NC6 contains, with a few exceptions, a similar set of PaMs to those reported in the NC5, as the majority of them are ongoing or have been updated to reflect consistency in the Czech Republic's climate policy. The Party reported on its policy context and on some national and EU targets and objectives set in order to implement its commitments under the Convention.

34. The Czech Republic did not provide information on PaMs by sector and by gas; instead, PaMs were presented by legislative instrument and programme. In order to improve transparency, the ERT recommends that the Czech Republic provide information on PaMs by sector and by gas in its next NC. In addition, for the PaMs listed, information was not consistently provided under all of the subject headings required by the UNFCCC reporting guidelines on NCs (i.e. name and short description, objectives, GHG affected, type of PaM, status of implementation and implementing entities). Furthermore, each sector did not have its own textual description of the principal PaMs.

35. During the review, the Czech Republic provided a complete list of all of its PaMs, including information from the document entitled "Reporting of Policies and Measures Under Article 3(2) of Decision 280/2004/EC Concerning Projections and Assessment of Policies and Measures", which was submitted to the European Commission in March 2013. This information allowed the ERT to identify which sectors correlated to each of the PaMs and provided additional descriptions of the PaMs. In order to improve the completeness of the information provided on its PaMs, the ERT recommends that the Czech Republic include information under all of the subject headings required by the UNFCCC reporting guidelines on NCs and include textual descriptions of the principal PaMs in its next NC.

36. In its NC6, the Czech Republic gave priority to the PaMs adopted, implemented and planned that provide the most significant contribution to its emission reduction efforts, including PaMs adopted and implemented at the national, state, provincial, regional and local levels. However, during the review, the Party provided more information regarding regional PaMs, such as the use of renewable energy sources (RES). In order to improve transparency, the ERT encourages the Czech Republic to provide more information regarding its regional and local PaMs in its next NC.

37. In its NC6, the Czech Republic provided a description of the way in which progress with PaMs to mitigate GHG emissions is monitored and evaluated over time for some of its PaMs, such as the GIS programme. However, a description of monitoring and evaluation for all PaMs, including institutional arrangements, was not included in the NC6. During the review, the Czech Republic provided additional information regarding how its PaMs are monitored and evaluated, particularly in relation to requirements for compliance with various EU decisions, such as EU decision 280/2004/EC.⁶ In order to improve transparency, the ERT encourages the Party to include that information in its next NC.

38. In its NC6/BR1, the Czech Republic provided a quantitative estimate of the impacts of some individual PaMs. However, the impacts of prominent PaMs, such as the National Renewable Energy Action Plan, Act No. 406/2000 Coll. on Energy Management and the 2nd NEEAP, were not quantified. In addition, the Party did not provide a quantification of the effect of PaMs in aggregate for complementary measures in a particular sector or affecting a particular gas. During the review, the Czech Republic presented the ERT with additional estimates of emission reductions, particularly for measures associated with the 2nd NEEAP. In order to increase transparency, the ERT encourages the Czech Republic to include quantitative estimates of the impacts of all available PaMs individually and aggregated, as applicable, in its next NC.

2. Policy framework and cross-sectoral measures

39. Since 2000, the Czech Republic has been creating an integrated system of climate policy frameworks and cross-sectoral measures to address its international climate change commitments as well as EU policies and legislation. The frameworks and measures also outline institutional responsibilities for the coordination and implementation of various programmes and impose obligations for their regular evaluation.

40. As highlighted in the NC6, the most important strategic documents with a direct or demonstrable indirect effect on GHG emissions are:

(a) The National Programme, as discussed in paragraph 29;

(b) The Climate Protection Policy, which is in preparation and will replace the National Programme, includes the implementation of the EU climate and energy package adopted in 2009. As such, the Climate Protection Policy of the Czech Republic will include the adoption of the new reduction targets under the Convention and Kyoto Protocol for 2020 as well as medium- and long-term targets for 2030 and 2050. The overarching cross-sectoral PaMs within the EU climate and energy package are the EU ETS and the EU effort-sharing decision (ESD) (decision 406/2009/EC), as described below:

(i) In operation since 2005, the EU ETS is a cap-and-trade system that covers all significant energy-intensive installations, which produce 40–45 per cent of the GHG emissions of the EU. The third phase of the EU ETS started in 2013 and now covers aircraft operations (2012) as well as N₂O emissions from chemical industries,

⁶ Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol.

perfluorocarbon (PFC) emissions from aluminium production and CO₂ emissions from industrial processes (2013). The aim of the EU ETS is to decrease GHG emissions from the covered sectors (ETS sectors) by 21 per cent below the 2005 level by 2020. In the Czech Republic, approximately 350 facilities participated in the EU ETS in 2013, representing approximately 60 per cent of the Party's total GHG emissions in 2011;

(ii) The ESD became operational in 2013 and covers sectors not covered by the EU ETS (non-ETS sectors), including transport (excluding aviation and international maritime transport), residential and commercial buildings, agriculture, waste and other sectors, together accounting for 55–60 per cent of the GHG emissions of the EU. The aim of ESD is to decrease GHG emissions from the non-ETS sectors by 10 per cent below the 2005 level by 2020 and it includes annual binding targets for 2013–2020, which are underpinned by the national policies and actions of the EU member States;

(c) The State Environmental Policy 2012–2020, which defines the main priorities for the protection of the environment for 2012–2020, taking into account the condition and development of the environment. The policy focuses on four key areas, namely the protection and sustainable use of resources, climate protection and improvement of air quality, protection of nature and the landscape, and safe environment;

(d) The National Emission Reduction Programme, which aims to achieve emission ceiling levels and a reduction of atmospheric discharge, as well as to ensure corresponding air quality in relation to sulphur dioxide (SO₂), nitrous oxides (NO_x), volatile organic compounds (VOCs), ammonia (NH₃) and particulate matter up to 2.5 micrometres in size (PM_{2.5});

(e) The Strategy on Adaptation to Climate Change in the Czech Republic, which is in preparation and will provide complex groundwork for the quantification of vulnerability estimates and define individual measures for relevant sectors. The objective is to reduce anticipated climate change impacts, adapt to those impacts, maintain good living conditions and develop economic potential for future generations;

(f) The Update of the State Energy Policy, which is in preparation and is a strategic document with a 30-year outlook identifying objectives in the area of energy management in line with the requirements of sustainable development.

41. The regional authorities in the Czech Republic remain responsible, pursuant to Sections 1 and 14 of Act No. 129/2000 Coll. on Regions, as amended, for the overall development of their territories and for addressing the needs of its population in general terms. This is the foundation for the regional roles of responsible authorities in the creation of regional development concepts and plans, including water management plans for river basins and flood prevention measures, and principles of territorial development, including the use of RES. Regional authorities are also involved in the implementation of energy-saving programmes and the use of RES, the restoration of housing fund (central heating supply systems and revitalization of housing estates), and the improvement of transportation infrastructure. Regions also play a large role in the preparation of waste management plans and in actual waste management (operation of landfills, composting facilities, facilities involved in energy and material recovery of waste, etc.).

42. Table 4 provides a summary of the reported information on the PaMs of the Czech Republic.

Table 4
Summary of information on policies and measures reported by the Czech Republic

<i>Sectors affected</i>	<i>List of key policies and measures</i>	<i>Estimate of mitigation impact (kt CO₂ eq)</i>
<i>Policy framework and cross-sectoral measures</i>		
	The National Programme to Abate the Climate Change Impacts in the Czech Republic	NA
	Climate Protection Policy	NA
	European Union Emissions Trading System	3 230.00
	State Environmental Policy 2012–2020	NA
	National Emission Reduction Programme	NA
	Strategy on Adaptation to Climate Change in the Czech Republic	NA
<i>Energy</i>	Act No. 406/2000 Coll. on Energy Management	NA
Energy supply	Update of the State Energy Policy	NA
Renewable energy	Preferential feed-in tariffs for electricity produced from renewable energy sources	2 872.50
	National Renewable Energy Action Plan	NA
Energy efficiency	State Programme to Promote Energy Savings and the Use of Renewable Sources of Energy	115.00
	Energy labelling of household electrical appliances	952.00
	Second National Energy Efficiency Action Plan (2 nd NEEAP)	NA
Residential and commercial sectors	Green Investment Scheme	860.00
	Directive on energy performance of buildings	538.00
<i>Transport</i>	Operational Programme Transport	NA
<i>Industrial sectors</i>	Integrated pollution prevention and control	2 600.00
<i>Agriculture</i>	Action Plan for Development of Organic Farming	250.00
	Rural Development Programme	325.00
<i>Forestry</i>	The Forest Act	NA
	National Forest Programme II	NA
<i>Waste management</i>	Waste Management Plan	536.00

Note: The greenhouse gas reduction estimates given for some measures are reductions in CO₂ or CO₂ eq for 2020.

Abbreviation: NA = not applicable.

3. Policies and measures in the energy sector

43. Between 1990 and 2011, GHG emissions from the energy sector decreased by 30.1 per cent (47,250.33 kt CO₂ eq), mainly owing to structural changes in the economy in the 1990s, the use of technologies that are less energy intensive, the insulation of buildings and savings achieved by households. When compared internationally, however, the Czech Republic remains one of the EU member States with high energy intensity per GDP unit. The trend in GHG emissions from fuel combustion for transport shows a notable increase

(122.5 per cent or 9,499.50 kt CO₂ eq), driven mainly by the doubling of motor vehicles over the last 20 years.

44. In the Czech Republic, Act No. 406/2000 Coll. on Energy Management, as amended, transposes relevant EU legislation regarding measures for improved energy management and related obligations of persons in the energy management area, rules for the development of the State Energy Policy, territorial energy policies and the State Programme to Promote Energy Savings and the Use of Renewable Sources of Energy, requirements for the eco-design of products, requirements for providing information on energy consumption on energy labels, and requirements for information and education in the area of energy savings and the use of RES. In addition to the EU ETS, which is a principle measures in the energy sector covering 350 installations (see para. 40), this act serves as the basis for the majority of the energy-related PaMs in the Czech Republic as well as for compliance with EU legislation.

45. **Energy supply.** The Czech Republic generates electricity predominantly using coal, which accounted for 50.3 per cent of total electricity generation in 2012. However, the share of coal-based electricity generation has declined substantially from 78.3 per cent in 2000, owing primarily to greater production of nuclear power and the use of RES. In 2012, nuclear power accounted for 34.6 per cent of electricity generation, followed by renewables with 9.2 per cent, and the remaining comprising of natural gas/other gases. From 2000 to 2012, electricity generation in the Czech Republic increased by 19.0 per cent, owing mainly to an increase in electricity exports. In 2011, the Czech Republic exported 31.4 per cent of the total electricity generated (27.5 TWh), making it one of the largest European electricity exporters.

46. The major PaM in the energy supply sector is the State Energy Policy, which contains a 30-year outlook regarding energy management and associated objectives in line with the requirements of sustainable development. The proposal for the State Energy Policy is drafted by the Ministry of Industry and Trade, after which is it submitted for approval to the Government. The Ministry of Industry and Trade evaluates the implementation of the State Energy Policy at least once every five years and informs the Government of the results.

47. **Renewable energy sources.** In recent years, the installed capacity of and electricity production from RES in the Czech Republic has been steadily growing. RES accounted for 6.9 per cent of total electricity generation in 2010, 8.5 per cent in 2011 and 9.2 per cent in 2012. The structure of electricity generation from RES in 2012 was approximately as follows: photovoltaic sources (26.7 per cent), hydropower (26.4 per cent), biomass (22.4 per cent), biogas (18.3 per cent), wind (5.2 per cent) and energy produced from the incineration of solid municipal waste (1.1 per cent). The Czech Republic has committed itself to achieving a 13 per cent share of RES in the total final energy consumption by 2020 as part of the joint EU 2020 targets. The target includes gross electricity consumption, final energy consumption for heating and cooling and final energy consumption for transportation. The Party had already achieved a share of approximately 10 per cent of RES in the total final energy consumption by 2011.

48. The main PaM promoting RES is the preferential feed-in tariffs for electricity generated from RES, with an estimated mitigation impact of 2,872.50 kt CO₂ eq per year by 2020. During the review, the Czech Republic elaborated on the impact of this PaM, stating that the impact of 50 per cent of new biomass installations and biogas combined heat and power, as well as 100 per cent of new solar, wind and small hydropower plant installations are attributed to it. The estimated emission reductions were calculated from the expected electricity production and the average system emission coefficient for electricity production. During the review, the Czech Republic provided additional information on the PaMs associated with achieving its RES target by 2020, and its progress in meeting the

target, including its planned achievement of the target in 2014. In order to increase transparency, the ERT encourages the Czech Republic to include the additional information provided on feed-in tariffs and its progress in reaching the RES target in its next NC.

49. **Energy efficiency.** Regarding total final energy consumption by end use, the industrial sector is the most energy intensive, accounting for 35.8 per cent of the total in 2011. However, energy consumption in the industrial sector has decreased since 2006, owing to the introduction of less energy-intensive technologies, such as the replacement of less efficient technology in combined heating and power plants. Other significant energy-intensive sectors are transportation (accounting for 24.3 per cent of the total final energy consumption in 2011) and households (accounting for 24.1 per cent in 2011), owing mainly to heating. Energy savings are also being achieved in the area of consumption through a plethora of measures, such as the application of the best available technologies, the use of energy-saving appliances, the construction of energy-saving buildings, the use of high-quality insulation, the use of energy audits, the labelling of appliances, the increased efficiency of energy cycles, and the obligation of energy companies to introduce combined heat and power plants.

50. Energy efficiency related PaMs in the Czech Republic are promoted in the framework of the State Programme to Promote Energy Savings and the Use of Renewable Sources of Energy, the directive on energy performance of buildings, and the energy labelling of household electrical appliances. The State Programme to Promote Energy Savings and the Use of Renewable Sources of Energy represents the implementation tool for the State Energy Policy and the Czech Republic's commitments as part of the EU climate and energy package in the area of energy efficiency. During the review, the Party provided information on its 2nd NEEAP, which includes the costs and mitigation potential of various energy efficiency PaMs. In addition, the Party discussed its non-binding target to achieve a 9 per cent saving in final energy consumption in 2016 (20,309 GWh) compared with the average final energy consumption in the years 2002 to 2006 as part of the joint 2020 energy efficiency target for the EU. According to its 2nd NEEAP, the Czech Republic will achieve an overall saving in final energy consumption in 2016 of 9.39 per cent (21,194 GWh). In order to increase transparency, the ERT encourages the Czech Republic to include the information provided on its NEEAP and the progress towards its energy efficiency target in its next NC.

51. **Residential and commercial sectors.** Households accounted for 24.1 per cent of total final energy consumption in the Czech Republic in 2011, making this sector one of the largest sources of GHG emissions. Consumption of energy for heating and hot water supply remains the most significant use of energy by households. Most residential buildings do not comply with existing energy standards, which results in high energy intensity and GHG emissions per unit of residential area.

52. One of the main PaMs in the residential and commercial sectors is the GIS. The GIS, which focuses on the reduction of energy intensity and GHG emissions in the housing sector, is funded by the sale of the Czech Republic's assigned amount units (AAUs). The first phase of the GIS, from 2009 to 2012, was the first subsidy programme for the thermal insulation of family houses. Following the intermediate phase in 2013, the new phase of the GIS began in 2014 and will continue to assist residential and public-sector buildings with heat energy savings and the use of RES. After all measures within the GIS are implemented, it will reduce emissions by approximately 12,400 kt CO₂ eq over a 15-year period. Due to the success of the first GIS, two new programmes have started: the new GIS for family housing for 2013 and the new GIS for residential and public buildings from 2013 to 2020.

53. During the review, the Czech Republic provided additional information about PaMs for energy efficiency in the residential and commercial sectors, such as the implementation

of energy-saving obligations for energy companies. In order to increase transparency, the ERT encourages the Party to include this information in its next NC.

54. **Transport sector.** From 1990 to 2011, GHG emissions from the transport sector increased by 122.5 per cent (9,499.50 kt CO₂ eq). In 2011, the transport sector accounted for 12.8 per cent of all GHG emissions in the Czech Republic. The increase in emissions stems mainly from the steady increases in road freight and passenger transportation, with the number of motor vehicles in the Czech Republic doubling over the last 20 years. Despite continuous improvements in the structure of the vehicle pool, such as more vehicles complying with EURO standards for passenger cars and a significant decrease in the number of cars without catalytic converters (93 per cent of cars in 1993 to 16 per cent of cars in 2011), the average age of vehicles in the Czech Republic remains high, resulting in significant GHG emissions per vehicle.

55. In its NC6, the Czech Republic refers to its Operational Programme Transport, which has a budget of EUR 5.82 billion and represents approximately 22 per cent of all funding allocated from EU funds to the Czech Republic for 2007–2013. All projects implemented under the programme favour mass transportation and aim to increase the flow of road transportation and support ecological alternatives to road automobile transportation. During the review, the Party further elaborated on its transportation-related PaMs, including its integration of EU transport legislation in its national programmes and its participation in the EU Structural Funds for 2014–2020. In order to increase transparency, the ERT encourages the Czech Republic to include this information on its transport-related PaMs in its next NC.

56. **Industrial sector.** The Czech Republic is traditionally an industrialized country and industry currently contributes to approximately one third of its GDP, which is significantly higher than the EU average of one fifth. The production of technologically advanced products, such as machinery, electronics and vehicles, continues to increase. In the second half of 2008 there was a decline in industrial production, triggered by a downturn in Czech automobile exports owing to the global economic crisis. Automobile production reached its lowest level in the first quarter of 2011, when it dropped by 31.3 per cent compared to 2007.

57. The main PaM in the industrial sector of the Czech Republic is Act No. 76/2002 Coll. on integrated pollution prevention and control (IPPC), which involves the implementation of best available techniques (BAT) for industrial and agricultural facilities, focusing on the production and use of heat and electricity. BAT includes the technologies used as well as the manner in which the facility is designed, built, operated, maintained and decommissioned. The act also allows the application of emission limits or equivalent technical parameters, which are based on the advanced technologies used in affected industrial sectors.

4. Policies and measures in other sectors

58. Between 1990 and 2011, GHG emissions from the industrial processes (including solvent and other product use), agriculture and waste sectors decreased by 37.0 per cent (14,593.29 kt CO₂ eq), mainly owing to: CO₂ emission reductions resulting from the restructuring of the industrial sector and the use of new emission reduction technologies; CH₄ emission reductions resulting from the decrease in coal mining and livestock numbers; and N₂O emission reductions resulting from the decrease in the use of mineral fertilizers for croplands and from livestock. However, there is a notable increase in emissions from the consumption of F-gases, which consist mainly of the HFCs from replacing CFCs and HCFCs (ozone-depleting substances) in cooling equipment and extending the application of F-gases in modern technologies.

59. **Industrial processes.** Between 1990 and 2011, GHG emissions from the industrial processes sector decreased by 35.9 per cent (7,032.71 kt CO₂ eq), mainly owing to a decrease in industrial production from 1990 to 1993 and the implementation of new industrial technologies. In the manufacturing industry, large structural changes occurred between 2000 and 2008, resulting in growth in the sectors producing technologically more demanding products using less energy and producing fewer GHG emissions (cars, electronics and computer technologies). Most sectors underwent technological innovation, especially automobile production, electronics, optics and restructured metallurgy. The drop in industrial production following the 2008 economic crisis also resulted in a decrease in GHG emissions from industrial processes.

60. In addition to IPPC, discussed in paragraph 57 above, the Czech Republic provided information during the review relating to PaMs in the industrial processes subsectors, including cement and lime production. Specifically, it provided information on the use of alternative fuels in the cement industry, such as waste tyres. The use of alternative fuels has resulted in a decrease of GHG emissions when compared with emissions from the combustion of fossil fuels. In order to increase transparency, the ERT encourages the Czech Republic to provide this information in relation to the industrial processes sector and PaMs in its next NC.

61. **Agriculture.** Between 1990 and 2011, GHG emissions from the agriculture sector decreased by 50.3 per cent (8,168.44 kt CO₂ eq), mainly owing to the decrease in the use of mineral fertilizer resulting from the steady growth of organic farming and to the decrease in livestock numbers. Agriculture-related PaMs in the Czech Republic aim to reduce GHG emissions by focusing primarily on decreasing the application of nitric fertilizer, using catch crops, developing organic farming (eco-farming), introducing modern technologies and controlling the fermentation of plant waste. The main PaMs in the agriculture sector include the Action Plan for Development of Organic Farming and the Rural Development Programme, the latter being a strategy to achieve a 15 per cent share of organic farming by 2015 in the Czech Republic, leading to a reduction in GHG emissions by reducing the use of industrial nitric fertilizer and increasing long-term carbon soil sequestration. The Rural Development Programme (2007 to 2013 and 2014 to 2020) implements agro-environmental-climatic activities, such as the prevention of soil erosion in agricultural fields.

62. During the review, the Czech Republic provided more information regarding its PaMs in the agriculture sector, including the effects of renewable energy projects involving biomass and biogas. In order to increase transparency, the ERT encourages the Party to include such information in its next NC.

63. **LULUCF.** The LULUCF sector was a net sink of 7,959.22 kt CO₂ eq in the Czech Republic in 2011 and net GHG removals have increased by 120.0 per cent since 1990. The most important land category in the LULUCF sector in the Czech Republic with regard to GHG emissions is forest lands. Forestry in the Czech Republic is regulated by the Forest Act (Act No. 289/1995 Coll. on Forests, as amended), which constitutes the fundamental legislative instrument. While the act does not directly determine the specific targets for forest carbon stocks, its provisions regulate carbon stocks and the reduction of GHG emissions indirectly. Its purpose is to determine conditions for the preservation, tending and regeneration of forests as national riches to enable the fulfilment of all of their functions and to support sustainable forestry. In addition, the National Forest Programme II, approved by Government Resolution No. 1221/2008, should lead to a draft forestry bill that will contain specific measures for preventing climate change impacts and promoting adaptation to climate change in the forestry sector. The measures are generally focused on creating more resilient forest ecosystems by supporting diversified growth with the highest

possible use of natural processes, diverse wood plant composition, natural capacity for restoration and variability of afforestation methods.

64. While some information on PaMs in the LULUCF sector was provided in the NC6, the ERT noted that the Czech Republic did not present the information in a transparent manner. During the review, the Party elaborated on the National Forest Programme II as well as on its LULUCF activities associated with the Kyoto Protocol. In order to increase transparency, the ERT encourages the Czech Republic to include this information regarding its PaMs in the LULUCF sector in its next NC.

65. **Waste management.** Between 1990 and 2011, GHG emissions from the waste sector increased by 32.0 per cent (903.27 kt CO₂ eq), mainly owing to the large volumes of waste generated as a result of changing lifestyles and a large proportion of these volumes still being landfilled: in 2012, 53 per cent of total municipal waste production was removed by landfilling. The Waste Management Plan of the Czech Republic determines the country's specific objectives and targets as well as measures for waste management. The current Waste Management Plan, which includes objectives set out by the Czech Republic and EU legislation, covers the period from 2003 to 2013. Currently, the Waste Management Plan is in the process of being updated for the next decade. The main priorities of the new Waste Management Plan by 2025 include: waste prevention measures; the reduction of the hazardous waste; maximum material and energy recovery from waste in connection with particular industrial sectors and regions; and reducing the scope of waste landfilled, especially of mixed municipal waste.

5. Policies and measures related to implementation of commitments under the Kyoto Protocol

66. The Czech Republic reported on its package of PaMs adopted, implemented and elaborated in achieving its commitment under the Kyoto Protocol.

67. In its original NC6 submission, the Czech Republic did not include information regarding: (a) the steps that it has taken to promote and/or implement any decisions made by the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) in order to limit or reduce GHG emissions not controlled by the Montreal Protocol from aviation and marine bunker fuels; and (b) how it strives to implement PaMs under Article 2 of the Kyoto Protocol in such a way as to minimize adverse effects, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts, on other Parties. During the review, the Czech Republic stated that it is a member of ICAO and IMO and that the EU, on behalf of its member States, is involved in the process of reducing GHG emissions from aviation and marine bunker fuels and incorporating decisions into EU legislation. In addition, civil aviation in the EU was included in the EU ETS as of 2012.

68. In the revised NC6 submitted by the Czech Republic, information regarding the Party's involvement with ICAO and IMO and reducing GHG emissions from aviation and marine bunker fuels was included. In addition, the revised NC6 referenced the EU's BR1 and chapter 15 of the Czech Republic's 2013 NIR regarding information on how it strives to implement PaMs under Article 2 of the Kyoto Protocol, as well as its commitments under Article 3, paragraph 1, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties. Further information is presented in chapter III.B below.

C. Projections and the total effect of policies and measures, including information on complementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol

69. In its NC6, the Czech Republic reported on two emission projection scenarios until 2030. No updated emission projections were provided during the review; however, a preliminary analysis of future energy scenarios was provided.

1. Projections overview, methodology and key assumptions

70. The GHG emission projections provided by the Czech Republic in its NC6/BR1 include a ‘with measures’ and a ‘with additional measures’ scenario until 2030, presented relative to actual inventory data for 1990–2010. As a result of utilizing inventory data for 1990–2010 from the 2012 annual inventory submission as the basis for developing the emission projections, the Party’s projections are not fully consistent with the latest national inventory data for 2011, as contained in the 2013 annual inventory submission. During the review, the Czech Republic stated that, owing to the EU reporting and monitoring requirements of the EU monitoring mechanism regulation (MMR) (regulation 525/2013/EU), the 2012 annual submission provided the latest available data to use for the projections. The ERT noted that the Party may consider using the most recent national inventory data, to the extent possible, in the preparation of the emission projections for its next NC, so that all recalculations undertaken for the national inventory between reporting years are included in the emission projection estimates.

71. In its original NC6 submission, the Czech Republic presented projections on a sectoral basis for the following sectors only: agriculture, waste and LULUCF. Projections are presented on a gas-by-gas basis for the following GHGs: CO₂, CH₄, N₂O, PFCs, HFCs and SF₆ (treating PFCs and HFCs collectively in each case). Projections are also provided in an aggregated format for most sectors as well as for a national total, using global warming potential (GWP) values from the Second Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). The Czech Republic did not provide projections on a sectoral basis using the same sectoral categories as presented in the PaMs section of the NC6, or projections in an aggregated format for each sector using GWP values. In its revised NC6, the Party included projections on a sectoral basis for all sectors, as well as projections in an aggregated format for each sector, using GWP values.

72. In its NC6, the Czech Republic did not provide transparent emission projections related to fuel sold to ships and aircraft engaged in international transport. Emission projections are provided for “Aviation gasoline”; however, the NC6 neither specifies if these projections are for domestic or international aviation, nor does it discuss whether these emissions are included or excluded in the emission projections totals. During the review, the Czech Republic clarified that these emission projections are for international aviation, and that they do not have emissions related to fuel sold to ships for international transport. In order to improve the transparency of the projections, the ERT recommends that the Czech Republic clearly identify and discuss its emission projections related to fuel sold to ships and aircraft engaged in international transport in its next NC.

73. The Party provided a ‘with measures’ scenario in line with the definition contained in the UNFCCC reporting guidelines on NCs. The scenario includes all PaMs implemented and adopted prior to the date of the development of the emission projections (June 2012). It also provided a ‘with additional measures’ scenario, which includes planned PaMs. However, in its NC6, the Czech Republic did not clearly identify which specific PaMs were included in each scenario. During the review, the Party provided this information to the ERT in a tabular format. In order to improve the transparency of the projections, the ERT recommends that the Czech Republic include such information in its next NC.

74. Projections for a ‘without measures’ scenario were not provided in the NC6/BR1. During the review, the Czech Republic explained that the reporting requirements for projections from EU member States have changed from voluntary to mandatory since MMR entered into force in July 2013. This will result in more complete reporting on projections by the member States, including a ‘without measures’ scenario, in the future. In order to increase completeness, the ERT encourages the Czech Republic to provide estimates for a ‘without measures’ scenario and include information on the improvement of its projections in its next NC.

75. The methodology used for the preparation of the emission projections for the NC6 is almost identical to that used for the preparation of the emission projections for the Party’s third, fourth and fifth national communications, allowing comparisons to be made between the four reports. The methodology employed includes the following inputs: GHG inventory data; selection of the base and end years of the projection period; selection of methodologies and models for the estimation of emission projections; collection and analysis of input data; determination of initial assumptions; definition of scenarios; and sensitivity analysis of selected input assumptions.

76. The main assumptions identified in the NC6 and provided during the review were as follows: (a) economic development and trends (GDP and gross value added); (b) demographic development and trends; (c) global fuel and energy prices (coal, oil and gas); (d) development of domestic prices and fuel and energy availability and consumption; (e) availability of domestic coal reserves; (f) energy scenarios, including the future of nuclear power and coal combustion for electricity generation; (g) political and legal environment; (h) projected livestock populations and agricultural land area, including land use and land-use change; (i) technological development in industrial processes; and (j) future developments in the waste sector. The assumptions outlined have been updated from those provided in the NC5 and the ERT commends the Czech Republic for including updated information in its NC6.

77. During the review, the Czech Republic provided additional information on its projection methodology, including: (a) the strengths and weaknesses of the model used to estimate projections for the energy sector; (b) the activity data used in the estimation of projected fugitive emissions; and (c) assumptions in relation to projected improvements in livestock production efficiencies and milk production. In addition, the Party stated that it is in the process of implementing new institutional arrangements for the preparation of emission projections and the analysis of PaMs in line with the MMR. In order to increase transparency, the Czech Republic is encouraged to include such information in its next NC.

78. As reported in its NC6, the Czech Republic conducted a sensitivity analysis of its emission projections utilizing two alternative scenarios of economic development (GDP) in combination with two demographic population trends. The results of the sensitivity analysis suggest that, under a scenario of higher economic and population growth, growth in GHG emissions is likely. However, the potential growth in GHG emissions is somewhat mitigated by an increased investment in energy efficiency related PaMs as a result of more favourable economic conditions.

2. Results of projections

79. Under the Kyoto Protocol, the Czech Republic agreed to reduce its GHG emissions by 8 per cent compared with the base year level during the first commitment period (2008–2012). According to the 2013 inventory data, the Party’s total GHG emissions (excluding LULUCF) were 31.5 per cent below the base year level in 2011. Furthermore, the Czech Republic’s total GHG emissions (including LULUCF) were 34.4 per cent below the base year level in 2011. For the second commitment period of the Kyoto Protocol

(2013–2020), the EU-28 has agreed to reduce emissions by 20 per cent by 2020 compared with the 1990 level (equivalent to a 14 per cent reduction compared with in 2005).

80. Under the Convention, the EU-28 communicated a joint quantified economy-wide emission reduction target of 20 per cent below the 1990 level by 2020. The joint target of the EU-28 is implemented through binding legislation known as the EU climate and energy package, which was adopted in 2009. The EU-28 plans to meet the target through efforts divided among member States (ESD) in both the ETS and non-ETS sectors as follows: (a) a 21 per cent GHG emission reduction by 2020 compared with the 2005 level in the ETS sectors; and (b) a 10 per cent GHG emission reduction by 2020 compared with the 2005 level under ESD in the non-ETS sectors. The ESD includes binding renewable energy goals and non-binding energy efficiency goals for each EU member State. The EU climate and energy package allows certified emission reductions (CERs) and emission reduction units (ERUs) to be used for compliance purposes, subject to a number of restrictions, including a limit of 50 per cent of the required reduction below the 2005 level for the EU ETS sectors. With regard to the target under the Convention for the EU-28, emissions and removals from the LULUCF sector are excluded from the non-ETS sectors under the ESD.

81. The Czech Republic did not include information in its NC6 regarding its emission reduction target for the non-ETS sectors (to limit GHG emissions growth to 9 per cent above the 2005 level by 2020) and its non-binding target to achieve a 9 per cent reduction in final energy consumption in 2016 (20,309 GWh) compared with the average final energy consumption in the years 2002–2006 under the Convention. The Party's target to achieve a 13 per cent share of RES in the final consumption of energy sources by 2020 was mentioned in the NC6, but not transparently linked to the overall EU 2020 target or to the associated PaMs implemented to achieve the target. During the review, the Party provided information regarding its country-specific targets and how they relate to the overall 2020 target under the Convention for the EU. It also further elaborated on the PaMs implemented to achieve the targets, including PaMs identified in its 2nd NEEAP. In order to increase transparency, the Czech Republic may consider including such information in its next NC.

82. The overall emission projections provided by the Czech Republic indicate that emissions in 2020 will be 122,696.80 kt CO₂ eq under the 'with measures' scenario (37.5 per cent below the 1990 level) and 120,843.80 kt CO₂ eq under the 'with additional measures' scenario (38.4 per cent below the 1990 level). In addition, the projections show that emissions in 2030 will be 109,646.30 kt CO₂ eq under the 'with measures' scenario (44.1 per cent below the 1990 level) and 106,800.80 kt CO₂ eq under the 'with additional measures' scenario (45.6 per cent below the 1990 level). According to the reported projections, the Czech Republic is expected to achieve its 2020 targets. The projected emission levels under different scenarios and information on the Party's Kyoto Protocol targets and quantified economy-wide emission reduction target are presented in table 5 and the figure below. The emission projections provided in the NC6 do not differentiate between the ETS and non-ETS sectors. In order to facilitate the assessment of the progress of the Party towards achieving its target for the non-ETS sectors by 2020 (to limit GHG emissions growth to 9 per cent above the 2005 level by 2020), the ERT encourages the Czech Republic to provide emission projections for the ETS and non-ETS sectors separately in its next NC.

83. In its NC6, the Czech Republic did not include a discussion of projections by gas or the contribution of different gases to the projections of total emissions. From the data available in the NC6, the ERT established that the largest contributor to the projected GHG emissions is CO₂, accounting for 85.2 per cent of total emissions in 2020 under the 'with measures' scenario and 85.0 per cent of emissions under the 'with additional measures' scenario. In 2020, CH₄ is projected to account for 7.3 per cent of emissions under both the 'with measures' and 'with additional measures' scenarios, while N₂O is projected to

account for 6.2 per cent under both scenarios. In 2020, the contribution of F-gases is projected to account for approximately 1.2 per cent of emissions under both the ‘with measures’ and ‘with additional measures’ scenarios. In order to increase transparency, the ERT encourages the Czech Republic to provide a discussion of projections by gas and the contribution of the different gases to the projections of total emissions in its next NC.

84. The most significant sectoral GHG emission reductions under the ‘with measures’ scenario from 1990 to 2020 are projected to occur in the energy sector (67,769.97 kt CO₂ eq, or 43.2 per cent), followed by agriculture (8,423.78 kt CO₂ eq, or 51.9 per cent) and the industrial processes sector (7,583.96 kt CO₂ eq, or 47.8 per cent). GHG emissions from the transport sector are projected to increase by 9,370.56 kt CO₂ eq (an increase of 99.9 per cent) by 2020 and GHG emissions from the waste sector are projected to increase by 1,065.63 kt CO₂ eq (an increase of 39.9 per cent) by 2020 compared with the 1990 level. If additional measures are considered (‘with additional measures’ scenario), the sectoral proportions remain approximately the same, with an additional emission reduction of 1,853 kt CO₂ eq in the total emission projections.

Table 5
Summary of greenhouse gas emission projections for the Czech Republic

	<i>Greenhouse gas emissions (kt CO₂ eq per year)</i>	<i>Changes in relation to the base year^a level (%)</i>	<i>Changes in relation to the 1990 level (%)</i>
Kyoto Protocol base year ^b	196 204.52	–	0.0
Kyoto Protocol target for the first commitment period (2008–2012)	180 508.16	–8.0	–8.0
Kyoto Protocol target for the second commitment period (2013–2020) ^c	Not available yet		
Quantified economy-wide emission reduction target under the Convention ^d	Not available yet		
Inventory data 1990 ^e	196 189.40	0.0	–
Inventory data 2011 ^e	134 345.79	–31.5	–31.5
Average annual emissions for 2008–2011 ^e	137 091.64	–30.1	–30.1
‘With measures’ projections for 2020 ^f	122 696.80	–37.5	–37.5
‘With additional measures’ projections for 2020 ^f	120 843.80	–38.4	–38.4
‘With measures’ projections for 2030 ^f	109 646.30	–44.1	–44.1
‘With additional measures’ projections for 2030 ^f	106 800.80	–45.6	–45.6

^a “Base year” in this column refers to the base year used for the targets under the Kyoto Protocol, while for the target under the Convention it refers to the base year used for that target.

^b The Kyoto Protocol base year level of emissions is provided in the initial review report contained in document FCCC/IRR/2007/CZE.

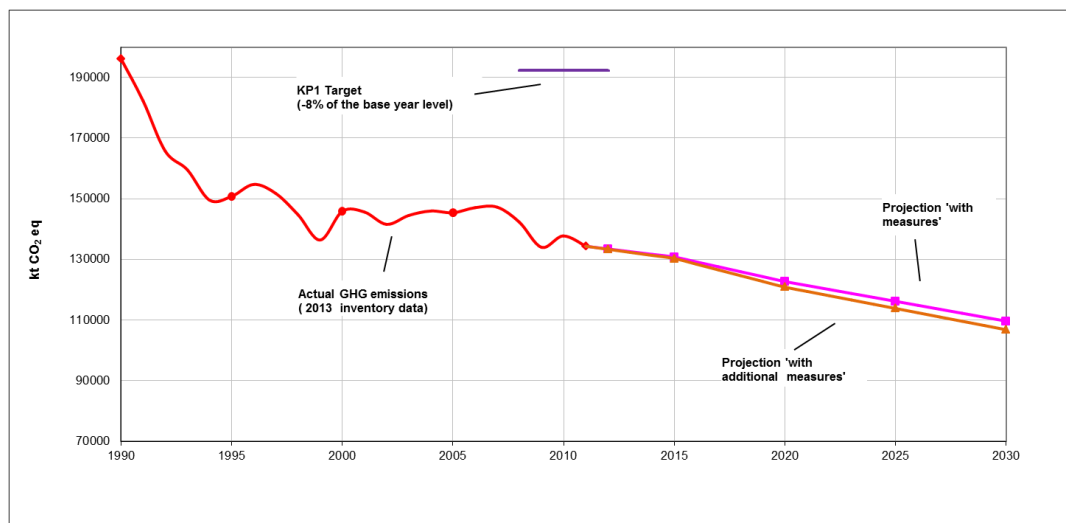
^c The Kyoto Protocol target for the second commitment period (2013–2020) is a joint target for the European Union and its 28 member States and Iceland. The target is to reduce emissions by 20 per cent by 2020 compared with the base year (1990) level. The target for sectors not covered by the European Union Emissions Trading System is to limit emissions growth to 9 per cent above the 2005 level by 2020 (+9 per cent) for the Czech Republic under the European Union effort-sharing decision.

^d Quantified economy-wide emission reduction target under the Convention is a joint target for the European Union and its 28 member States. The target is to reduce emissions by 20 per cent by 2020 compared with the base year (1990) level.

^e The Czech Republic's 2013 greenhouse gas inventory submission (version 2.1); the emissions are without land use, land-use change and forestry.

^f The Czech Republic's sixth national communication and/or first biennial report.

Greenhouse gas emission projections



Sources: (1) Data for the years 1990–2011: the Czech Republic's 2013 greenhouse gas inventory submission, version 2.1; the emissions are without land use, land-use change and forestry (LULUCF); (2) Data for the years 2012–2030: the Czech Republic's sixth national communication and/or first biennial report; the emissions are without LULUCF.

Note: The target for the second commitment period of the Kyoto Protocol is based on preliminary estimates of the base year emissions for the first commitment period of the Kyoto Protocol and the quantified emission limitation or reduction objective included in annex I to decision 1/CMP.8. The initial assigned amount for the second commitment period will be established after the initial review for the second commitment period of the Kyoto Protocol.

3. Total effect of policies and measures

85. In its original NC6 submission, the Czech Republic did not present the estimated and expected total effect of implemented and adopted PaMs, or an estimate of the total effect of its PaMs in accordance with the 'with measures' definition, compared with a situation without such PaMs. In its revised NC6, the Czech Republic included an estimate of the total effect of implemented and adopted PaMs, planned PaMs and an estimate of the total effect of its PaMs in accordance with the 'with measures' definition for the years 2015 and 2020. To improve the completeness of the reporting, the ERT recommends that the Czech Republic provide an estimate of the total effect of its PaMs, in accordance with the 'with measures' definition, compared with a situation without such PaMs for at least one historic year.

86. In its revised NC6, the Czech Republic reported the total estimated effect of its adopted and implemented PaMs in 2020 to be 18,947 kt CO₂ eq. According to the information reported in the revised NC6, PaMs implemented and adopted in the energy sector will deliver the largest emission reductions, followed by the effect of PaMs implemented and adopted in the transport sector and industrial processes sector. The most effective PaMs and drivers behind GHG emission reductions are described in chapter II.B above. Table 6 provides an overview of the total effect of PaMs as reported by the Czech Republic.

Table 6
Projected effects of planned, implemented and adopted policies and measures in 2015 and 2020

Sector	<i>Effect of implemented and adopted measures (kt CO₂ eq)</i>	<i>Relative value (% of 1990 emissions)</i>	<i>Effect of planned measures (kt CO₂ eq)</i>	<i>Relative value (% of 1990 emissions)</i>	<i>Effect of implemented and adopted measures (kt CO₂ eq)</i>	<i>Relative value (% of 1990 emissions)</i>	<i>Effect of planned measures (kt CO₂ eq)</i>	<i>Relative value (% of 1990 emissions)</i>
	2015				2020			
Energy (without CO ₂ from transport)	7 134	4.6	364	0.2	7 682	4.9	868	0.6
Transport – CO ₂	1 676	21.6	147	1.9	2 603	33.6	486	6.3
Industrial processes	1 365	7.0	0	0	2 012	10.3	0	0
Agriculture	370	2.3	210	1.3	475	2.9	250	1.5
Waste	50	1.8	154	5.5	136	4.8	388	13.7
Cross-cutting	1 669	NA	0	NA	6 039	NA	0	NA
Total	12 264	6.3	875	0.5	18 947	9.7	1 992	1.0

Source: The Czech Republic's sixth national communication and/or first biennial report.

Note: The total effect of implemented and adopted policies and measures is defined as the difference between the 'without measures' and 'with measures' scenarios; the total effect of planned policies and measures is defined as the difference between the 'with measures' and 'with additional measures' scenarios.

Abbreviation: NA = not available.

4. Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol

87. In its NC6, the Czech Republic provided information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action. The ERT noted that the Czech Republic does not plan to use the market-based mechanisms to meet its Kyoto Protocol target.

88. The Czech Republic utilizes the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol. Specifically, as at 2012, 85 joint implementation (JI) projects had been approved. The implementation of all JI projects during the period 2002–2012 has generated approximately 7.45 million AAUs, from which 4.4 million ERUs have been issued (0.88 million annually). The contribution of the JI projects to the Party's total GHG emission reductions is estimated by the Czech Republic to be approximately 4 per cent.

89. The emission reductions due to the EU ETS are considered to be domestic action, except the purchases of CERs and ERUs. The Czech Government has supported, under the clean development mechanism, six hydropower plants in North Korea and two Clean Energy Generation Projects in the Republic of Uzbekistan. CEZ, the largest of the Czech Republic's electricity generators, has invested in the development of RES in Central and Eastern Europe and the Balkans.

D. Provision of financial resources and technology transfer to developing country Parties, including information under Articles 10 and 11 of the Kyoto Protocol

90. The Czech Republic is not a Party included in Annex II to the Convention and is therefore not obliged to adopt measures and fulfil obligations as defined in Article 4, paragraphs 3, 4 and 5, of the Convention. However, as reported in its NC6, the Party

implemented bilateral and multilateral projects in developing countries in 2011 and 2012 through foreign development cooperation. Key strategic documents regarding foreign development cooperation include the Development Cooperation Strategy of the Czech Republic 2010–2017 and the Multilateral Development Cooperation Strategy of the Czech Republic 2013–2017, which define the territorial and sectoral priorities of foreign development cooperation of the Czech Republic and reflect international commitments and actual challenges in the area of development assistance.

91. The Czech Republic provided detailed information on the assistance that it has made available to developing country Parties that are particularly vulnerable to the adverse effects of climate change to help them to meet the costs of climate change impacts. Specifically, the Party financed a number of projects from 2010 to 2013, focusing on the reduction of GHG emissions, the modernization of energy facilities and systems, adaptation to climate change impacts and the utilization of alternative and/or RES. Table 7 summarizes information on financial resources provided by the Czech Republic.

92. During the review, the ERT expressed that the Czech Republic may consider including information about the steps or actions it has implemented for projects in developing countries to ensure that they are sustained over time, as well as information about the knowledge transfer and resources used for the maintenance of such projects by the recipient country. In its revised NC6, the Party included such information.

93. In its NC6, the Czech Republic provided information on the fulfilment of its commitments under Article 10 of the Kyoto Protocol. The ERT commends the Party for reporting information regarding the provision of financial resources and technology transfer to developing country Parties and encourages it to continue to do so in its next national communication.

Table 7

Summary of information on financial resources for 2011–2012

(United States dollars)

<i>Allocation channel of public financial support</i>	<i>Years of disbursement</i>	
	<i>2011</i>	<i>2012</i>
Contributions through multilateral channels, including:		
Contributions through multilateral financial institutions, including regional development banks	21 241 000	22 720 000
Contributions to the Global Environment Facility	1 413 000	868 000
Contributions through bilateral and regional channels	76 873 000	66 260 000
Contributions through United Nations bodies	616 000	600 000

E. Vulnerability assessment, climate change impacts and adaptation measures

94. In its NC6, the Czech Republic has provided information on the expected impacts of climate change in the country and on adaptation measures. The NC6 states that, in addition to implementing the EU Adaptation Strategy,⁷ the Czech Republic is currently in the process of preparing the Strategy on Adaptation to Climate Change in the Czech Republic. The new strategy will provide the groundwork for the quantification of vulnerability

⁷ See <http://mzp.cz/cz/adaptacni_strategie_eu>.

estimates and define individual measures for relevant sectors. Therefore, the vulnerability estimates described in the NC6 serve only as preliminary estimates until the new strategy is finalized in 2014.

95. While the ERT recognizes that the vulnerability estimates contained in the NC6 are preliminary, the majority of the information presented is qualitative and the sources of the information are not always clearly identified. In addition, the methods used for quantifying the vulnerability estimates, and how the methods will differ under the new strategy, are not discussed. In order to increase transparency, the ERT recommends that the Czech Republic include information on the methods used for quantifying its vulnerability estimates, as well as the sources of information, in its next NC. The ERT also encourages the Party to use the IPCC *Technical Guidelines for Assessing Climate Change Impacts and Adaptations* and the United Nations Environment Programme *Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies*, as applicable.

96. The Czech Republic provided an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention with regard to adaptation. However, the Party did not address its cooperation with Parties not included in Annex I to the Convention (non-Annex I Parties), including its funding of and participation in adaptation projects. The Party included this information in the financial resources and technology transfer chapter of its NC6, but did not reference it in the chapter on estimated vulnerabilities, climate change impacts and adaptation measures. In order to increase transparency, the ERT encourages the Czech Republic to link this information via chapter and section references, as appropriate, in its next NC.

97. Table 8 summarizes the information on vulnerability and adaptation to climate change presented in the NC6.

Table 8
Summary of information on vulnerability and adaptation to climate change

<i>Vulnerable area</i>	<i>Examples/comments/adaptation measures reported</i>
Water regime and resources	<i>Vulnerability:</i> variability and decrease of precipitation and river flows and storage of water reservoirs; intense precipitation episodes in summer will increase the risk of flash floods; increased risk of drought <i>Adaptation:</i> increased water retention, flood protection and flood prevention; addressing droughts; improved water management and anti-erosion measures
Agriculture and food security	<i>Vulnerability:</i> reductions in plant and fodder production, genetic diversity and soil fertility; soil erosion; extension of growing season but less moisture and lower yields; more frequent storms but rainfall may increase soil water erosion; changes in diseases and pests will affect agricultural production <i>Adaptation:</i> land-use planning, water management and anti-erosion measures; afforestation and grass planting to combat wind and reduce soil erosion; pest control and limiting water consumption; selection of plant species that are resistant to pests and drought; greater use of irrigation systems; diversification of agriculture
Biodiversity	<i>Vulnerability:</i> the most vulnerable ecosystems are alpine ecosystems and original grasslands; increase in invasive non-indigenous species; decrease in biological diversity; decrease (by 40 per cent) in the number of northerly species of birds; shift in habitats of butterflies; dozens of rare species at risk of extinction <i>Adaptation:</i> maintenance and increase in the number of species; ecosystem protection; protection and support of biodiversity in situ;

<i>Vulnerable area</i>	<i>Examples/comments/adaptation measures reported</i>
Forest management	<p>protection against defragmentation of landscape; protection of rare and endangered species and key biotopes; limiting the spread of invasive species</p> <p><i>Vulnerability:</i> altitudinal shift of many tree species; drought, increasing the risk of forest fires; deteriorating health and stability of tree stands; incidence of pests; gusty winds, wet snow and landslides following extreme rainfall and forest fires</p> <p><i>Adaptation:</i> reduction of spruce stands and increasing the share of broad-leaved and fir trees; sounder management methods and elimination of pressures from game animals; reduction of the risk posed by insect pests</p>
Urbanized landscape	<p><i>Vulnerability:</i> paved surfaces cause overheating, higher air temperatures, quicker evaporation, fast run-off and dustiness; significant impacts on quality of life and on the availability and quality of water; more intense precipitation and strong winds will increase the danger of damage to buildings</p> <p><i>Adaptation:</i> regeneration of the urban landscape to restore natural vegetation; reduction of pollution in run-off; greater use of renewable energy sources in the cooling and air conditioning of buildings; shading of buildings</p>
Hygiene and health protection	<p><i>Vulnerability:</i> the health of the population is directly (physical climate) and indirectly (environment and lifestyles) affected; increase in the frequency of floods, with accompanied direct and indirect effects, including diseases; risk of mosquitoes and the diseases that they may transmit; increased risk of heat stroke, dehydration and health problems, especially for high-risk segments of the population such as children, seniors and sick people; food-borne infections; increase in diseases transmitted between animals and people</p> <p><i>Adaptation:</i> measures to combat contagious diseases, cardiovascular disorders and allergies; early warning system for climate-sensitive pathogens and their animal vectors and reservoirs; healthcare information and education systems relating to heat waves and landslides</p>
Crisis situations and protection of the population and the environment	<p><i>Vulnerability:</i> increased likelihood of crisis situations such as extreme heat, precipitation, wind, long-term drought, large-scale flooding, landslides, rock formation collapses and forest fires</p> <p><i>Adaptation:</i> protection of the population; early warning systems; protection of critical infrastructure; relocation of housing built in areas prone to floods and landslides</p>
Tourism and recreation	<p><i>Vulnerability:</i> shortening of the winter skiing season, requiring the making of artificial snow, which will be increasingly complicated by lack of water sources and energy barriers, especially increasing prices; substantial heating of water bodies; reduction in water quality</p> <p><i>Adaptation:</i> no coherent set of adaptation measures currently in place in the Czech Republic for the tourism sector</p>
Transport systems	<p><i>Vulnerability:</i> extreme weather fluctuations such as sudden intensive rain or snowfall, flooding, landslides, heat waves and low river water levels may significantly affect road, railway, river and also air transport</p> <p><i>Adaptation:</i> no coherent set of adaptation measures currently in place in the Czech Republic for the transport sector</p>

<i>Vulnerable area</i>	<i>Examples/comments/adaptation measures reported</i>
Industry and energy sector	<p><i>Vulnerability:</i> changes in the amount and temporal distribution of precipitation will have an effect on hydropower electricity generation and on the cooling process in thermal power plants</p> <p><i>Adaptation:</i> draft strategy on the adaptation of current security measures and risk management systems in industrial facilities in case of accidents due to high winds and floods; emergency rescue plans</p>

98. In its NC6, the Czech Republic focuses more on adaptation than on vulnerability. There is no major shift in focus and sectors in the NC6 compared with the NC5, except for updated climate scenario data. A number of research initiatives on vulnerability conducted by the Czech Republic are discussed, including the effect of climate change on agriculture and forests. The expected socioeconomic and ecological impacts of climate change include: extreme weather fluctuations, such as sudden intensive rain or snowfall; the altitudinal shift of many tree species; and reductions in plant and fodder production, genetic diversity and soil fertility.

F. Research and systematic observation

99. The Czech Republic has provided information on its actions relating to research and systematic observation and addressed both domestic and international activities, including the Global Climate Observing System (GCOS), the Global Earth Observations System of Systems, the EU Copernicus programme, which represents the contribution of the EU to the global Group on Earth Observations programme, the Intergovernmental Board for Climate Services programme, the EUMETSAT satellite forecasting and warning system, the METEOALARM project of EUMETNET and the World Meteorological Organization/CLIDATA project that provides assistance and capacity-building activities to developing countries in meteorology and hydrology. More specifically, in 2013, the CLIDATA system was used in 34 countries worldwide. Furthermore, the Czech Republic has provided a summary of information on GCOS activities.

100. In its original NC6 submission, the Czech Republic did not discuss its participation in the World Climate Programme, the International Geosphere–Biosphere Programme and the IPCC. During the review, the Party stated that its involvement in such international research and systematic observation activities consists mainly of data delivery to relevant databases and international exchanges and included this information in its revised NC6.

101. The international and domestic actions of the Czech Republic relating to research and systematic observation include:

(a) Global and regional climate model simulations focusing on Central Europe from the eighteenth to the twentieth century, undertaken by the Czech Science Foundation. The project compiles an ensemble of simulations. Data for a selected member of the Coupled Global Circulation Model (CGCM) ensemble will then serve as input to the regional climatic model RCM ALADIN-Climate/CZ for a detailed simulation of Central European climate from 1701 to 2010;

(b) The Integrated Project Water and Global Change (WATCH) administered by the Technology Agency of the Czech Republic, with the chief beneficiary being the T. G. Masaryk Water Research Institute, a public research institution. It brings together the hydrological, water resources and climate communities to analyse, quantify and predict the components of the current and future global water cycles and the related conditions of water resources.

102. In its NC6, the Czech Republic stated that, from 2009 to 2013, 63 research, development and innovation projects related to climate change were implemented. The Research and Development and Innovation Information System of the Czech Republic was responsible for the projects. The total volume of funding provided to research and development projects from 2009 to 2013 was 227 million Czech koruna. The beneficiaries were mainly national institutions, including: the Academy of Sciences; the Czech Science Foundation; the Ministry of Education, Youth and Sports; the Ministry of Agriculture; the Ministry of the Environment; and the Technology Agency.

103. In its original NC6 submission, the Czech Republic reported actions taken to support related capacity-building in developing countries, such as capacity development in the field of engineering geology and hydrogeology in Ethiopia and capacity-building in environmental geology (mapping of geo-risk, including hydrogeological conditions) in the towns of Dila and Hosaina. During the review, the ERT noted that minimal financial information was provided regarding support for capacity-building in developing countries. In its revised NC6, the Czech Republic referenced chapter 7.2 of its NC6 (financing of climate protection measures in developing countries) as a source for that information. However, in order to increase transparency, the ERT recommends that the Czech Republic include a discussion regarding its actions taken to support capacity-building in developing countries (including financial assistance) directly associated with research and systematic observation in its next NC.

G. Education, training and public awareness

104. In its NC6, the Czech Republic has provided information on its actions relating to education, training and public awareness at both the domestic and international levels. At the domestic level, the Party promotes an environmental education and public awareness programme supported by legislation. The key strategic and cross-sectoral document for the elaboration of detailed environmental programmes, including climate change, is the State Environmental Policy 2012–2020. The key objective of the environmental education and public awareness programme is to raise awareness and knowledge of the environment among the population and to promote education aimed at sustainable development and public participation in environmental issues. Each region within the Czech Republic formulates its own concepts and associated funding mechanisms relating to the programme.

105. One of the key developments in education and training in the Czech Republic is the establishment of the Framework Education Programmes (FEPs), which include cross-sectional issues that are concerned with the education and training of students in selected socially important and topical areas. Each school creates its own school environmental programme according to the principles outlined in the relevant FEP. The further education of pedagogical workers and informal education involving non-governmental organizations (NGOs) on environmental issues, including climate change, are also being promoted. There are also several public-awareness campaigns and stakeholder information management systems in place in the Czech Republic. For example, support for the environmental education and public awareness programme is provided by foundations such as the Partnership Foundation, the Civil Society Development Foundation, the Via Foundation and the Open Society Fund.

106. The Czech Republic participates in a number of international projects concerned with environmental communication, education and public awareness. For example, the GLOBE programme, in which the Czech Republic is a participant, is a global online programme for schools that permits participants globally to monitor trends in global environmental issues such as the carbon cycle. Several environmental education and public awareness projects have also been implemented bilaterally through cross-border

cooperation with Polish, German, Slovak, Serbian and Austrian organizations, including projects in the area of environmental consulting, environmentally oriented kindergartens and environmental education and public awareness for children and youth. The Czech Republic is also involved in training experts from developing countries.

107. In order to improve transparency, the ERT encourages the Czech Republic to provide additional information regarding its participation in international activities, including objectives and outcomes, in its next NC. In addition, the Party may consider developing a plan for monitoring and evaluating the effectiveness of its public-awareness campaigns.

III. Summary of reviewed supplementary information under the Kyoto Protocol

A. Overview of supplementary information under Article 7, paragraph 2, of the Kyoto Protocol

108. Supplementary information provided by the Czech Republic under Article 7, paragraph 2, of the Kyoto Protocol in its NC6 is mostly complete and mostly transparent. The supplementary information is placed in different sections of the NC6. Table 9 provides an overview of supplementary information under Article 7, paragraph 2, of the Kyoto Protocol as well as references to the NC6 chapters in which this information is provided.

109. The Czech Republic has not reported the following elements of the supplementary information required under Article 7, paragraph 2, of the Kyoto Protocol: a complete description of the national inventory system, a complete description of the national registry, and complete and transparent information on domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures. The technical assessment of the information reported under Article 7, paragraph 2, of the Kyoto Protocol is contained in the relevant sections of this report. The ERT recommends that the Czech Republic include the above-listed reporting elements in its next NC.

Table 9

Overview of supplementary information under Article 7, paragraph 2, of the Kyoto Protocol

<i>Supplementary information</i>	<i>Reference to the sixth national communication</i>
National registry	Chapter 3.4
National system	Chapter 3.3
Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	Chapter 5.5
Policies and measures in accordance with Article 2	Chapters 4.2, 4.3 and 4.4
Domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures	Chapter 4.1
Information under Article 10	Chapters 3.3, 4.1, 4.2, 4.3, 4.4, 7, 7.3, 8 and 9
Financial resources	Chapter 7

Note: Reporting on financial resources under the Kyoto Protocol is relevant for developed country Parties and other developed Parties that are included in Annex II to the Convention (Annex II Parties). As the Czech Republic is not an Annex II Party, it does not have an obligation to provide information on financial resources under Article 11 of the Kyoto Protocol, including on “new and additional” resources.

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

110. The Czech Republic reported the information requested in section H, “Minimization of adverse impacts in accordance with Article 3, paragraph 14”, of the annex to decision 15/CMP.1 as a part of its 2013 annual submission. During the review, the Party provided the ERT with the additional information on how it strives to implement its commitments under Article 3, paragraph 1, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention. The ERT considers the reported information to be complete and transparent. The ERT noted that the Party could continue exploring and reporting on the adverse impacts of its response measures.

111. The Party’s 2013 NIR and previous NIRs and the additional information provided during the review presented several initiatives of the Czech Republic aimed at minimizing adverse impacts, including cooperating in the development, diffusion and transfer of advanced fossil-fuel technologies that emit fewer GHG emissions, assisting developing Parties that are highly dependent on the export of fossil fuels in diversifying their economies and conducting relevant research.

IV. Conclusions and recommendations

112. The ERT conducted a technical review of the information reported in the NC6 of the Czech Republic according to the UNFCCC reporting guidelines on NCs. The ERT concludes that the NC6 provides a good overview of the national climate policy of the Czech Republic. The information provided in the NC6 includes most elements of the supplementary information under Article 7 of the Kyoto Protocol, with the exception of some information on the national system, the national registry, and domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures. During the review, the Czech Republic provided additional information on the emission projections in an aggregated format for each sector, estimates of the cumulative and individual effects of PaMs and additional information on domestic and institutional arrangements.

113. The Czech Republic’s emissions in 2011 were estimated to be 31.5 per cent below the 1990 level excluding LULUCF and 34.4 per cent below including LULUCF. Emission decreases were mainly owing to: the transition to a market economy and the resulting decrease in industrial production and the restructuring of certain industrial sectors; the implementation of new industrial technologies; and decreases in coal mining, the use of mineral fertilizer in croplands and livestock numbers. Emissions from the transport sector increased by 122.5 per cent, owing to steady increases in road freight transportation and passenger transportation, with the number of motor vehicles doubling over the last 20 years. Emissions from the waste sector also increased, mainly owing to the large volumes of waste generated that is still being landfilled in the Czech Republic.

114. In its NC6, the Czech Republic presents GHG emission projections for the period from 2015 to 2030. Two scenarios are included: ‘with measures’ and ‘with additional measures’. The projected reductions in GHG emissions by 2020 in relation to 1990 under the ‘with measures’ and ‘with additional measures’ scenarios are 37.5 and 38.4 per cent, respectively. The projected reductions in GHG emissions by 2030 in relation to 1990 under the ‘with measures’ and ‘with additional measures’ scenarios are 44.1 and 45.6 per cent, respectively.

115. Based on the comparison of its target (180,508.16 kt CO₂ eq) to its average annual emissions in the period 2008–2011 (137,091.64 kt CO₂ eq), the Czech Republic is in a position to overachieve its Kyoto Protocol target for the first commitment period (which is an 8 per cent emission reduction compared with the base year level). The Czech Republic participates in and contributes to the EU target of 20 per cent emissions reduction in 2020 under the Convention and its Kyoto Protocol second commitment period. At the time of the review, national targets for EU member States under the second commitment period of the Kyoto Protocol had not yet been decided. Under the Convention target, sectors covered by the EU ETS have an EU-wide emissions cap and Parties can purchase emission credits to offset GHG emissions. For the non-ETS sectors (excluding LULUCF under the Kyoto Protocol), the Czech Republic has a target to limit emissions growth to 9 per cent above the 2005 level by 2020 (+9 per cent). Considering the existing and planned PaMs, the Czech Republic expects to meet the target.

116. The Czech Republic is not planning to make use of the Kyoto Protocol mechanisms to meet its Kyoto Protocol target for the first commitment period, as it will be reached by domestic action alone. The Czech Republic does participate in JI activities and uses the revenue, along with the revenue from AAUs, to fund its GIS programme.

117. The Czech Republic reported on its PaMs that have been adopted, implemented and elaborated in achieving its commitments under the Convention and its Kyoto Protocol. The overarching cross-sectoral PaM in the Czech Republic is the Climate Protection Policy (in preparation), which will replace the existing National Programme. The Climate Protection Policy will include the Czech Republic's implementation of the EU climate and energy package, adopted in 2009, as well as the EU ETS and ESD. As such, the Climate Protection Policy of the Czech Republic will include the adoption of the new reduction targets under the Convention and the Kyoto Protocol for 2020 as well as medium- and long-term targets for 2030 and 2050. This cross-sectoral PaM is supplemented by the State Environmental Policy 2012–2020, the National Emission Reduction Programme, the Strategy on Adaptation to Climate Change in the Czech Republic and the Update of the State Energy Policy.

118. The Czech Republic is not a Party included in Annex II to the Convention and is therefore not obliged to adopt measures and fulfil obligations as defined in Article 4, paragraphs 3, 4 and 5, of the Convention. However, as reported in its NC6, the Party implemented bilateral and multilateral projects in developing countries in 2011 and 2012 through foreign development cooperation. The Party has provided detailed information on the assistance that it has made available to developing country Parties that are particularly vulnerable to the adverse effects of climate change to help them to meet the costs of climate change impacts. Specifically, the Czech Republic financed a number of projects from 2010 to 2013, focusing on the reduction of GHG emissions, the modernization of energy facilities and systems, adaptation to climate change impacts and utilization of alternative and/or renewable energy sources.

119. In its NC6, the Czech Republic focuses more on adaptation than on vulnerability. There is no major shift in focus and sectors in the NC6 compared with the NC5, except for updated climate scenario data. In addition to implementing the EU Adaptation Strategy, the Party is currently in the process of preparing the Strategy on Adaptation to Climate Change in the Czech Republic. The new strategy will provide the groundwork for the quantification of vulnerability estimates and define individual measures for relevant sectors. The expected socioeconomic and ecological impacts of climate change include: extreme weather fluctuations such as sudden intensive rain or snowfall; the altitudinal shift of many tree species; and reductions in plant and fodder production, genetic diversity and soil fertility.

120. Regarding research and systematic observation, the Czech Republic discussed in its NC6 actions taken to support capacity-building in developing countries, such as capacity

development in the field of engineering geology and hydrogeology in Ethiopia and capacity-building in environmental geology (mapping of geo-risk including hydrogeological conditions) in the towns of Dila and Hosaina. From 2009 to 2013, 63 research, development and innovation projects related to climate change were implemented. The Research and Development and Innovation Information System of the Czech Republic was responsible for the projects.

121. At the domestic level, the Czech Republic promotes an environmental education and public awareness programme supported by legislation. The key strategic and cross-sectoral document for the elaboration of detailed environmental programmes, including relating to climate change, is the State Environmental Policy 2012–2020. The key objective of the environmental education and public awareness programme is to raise awareness and knowledge of the environment among the population and to promote education aimed at sustainable development and public participation in environmental issues.

122. Supplementary information under Article 7, paragraph 1, of the Kyoto Protocol on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol was provided by the Party in its 2013 annual submission.

123. In the course of the review, the ERT formulated several recommendations relating to the completeness and transparency of the Czech Republic's reporting under the Convention and its Kyoto Protocol. The key recommendations⁸ are that the Czech Republic:

(a) Improve the completeness of its reporting by including in its NC the following:

(i) Information on the roles and responsibilities of various agencies and entities in relation to the inventory development process, as well as on the institutional, legal and procedural arrangements made to prepare the inventory;

(ii) A description of the process for collecting activity data, for selecting emission factors and methods, and for the development of emission estimates;

(iii) Information on procedures for the official consideration and approval of the inventory;

(iv) A description of the database structure and capacity of the national registry;

(v) A description of how the national registry conforms to the technical standards for data exchange between registry systems;

(vi) A description of the procedures employed in the national registry to minimize discrepancies and the steps taken to terminate transactions where a discrepancy is notified and to correct problems in the event of a failure to terminate transactions;

(vii) A description of procedures for addressing cases of non-compliance under domestic law;

(viii) A description of any provisions to make publicly accessible information on legislative arrangements and enforcement and administrative procedures (e.g. rules on enforcement and administrative procedures, and action taken);

(ix) Information under all of the subject headings for PaMs required by the UNFCCC reporting guidelines on NCs and textual descriptions of the principal PaMs;

⁸ The recommendations are given in full in the relevant sections of this report.

- (x) An estimate of the total effect of its PaMs, in accordance with the ‘with measures’ definition, compared with a situation without such PaMs for at least one historical year;
- (b) Improve the transparency of its reporting by including in its NC the following:
 - (i) A description of any institutional arrangements and decision-making procedures that it has in place to coordinate activities related to participation in the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol, including the participation of legal entities;
 - (ii) Information on PaMs by sector and by gas;
 - (iii) Information regarding fuel sold to ships and aircraft engaged in international transport, including emission projections for aircraft;
 - (iv) Information on which PaMs are included in the ‘with measures’ and ‘with additional measures’ scenarios;
 - (v) Information on the methods used for quantifying the vulnerability estimates and the sources of information;
 - (vi) A discussion on actions taken to support related capacity-building in developing countries (including financial assistance) directly associated with research and systematic observation.

V. Questions of implementation

124. During the review, the ERT assessed the NC6, including supplementary information provided under Article 7, paragraph 2, of the Kyoto Protocol and reviewed information on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol, with regard to timeliness, completeness, transparency and adherence to the UNFCCC reporting guidelines on NCs. No question of implementation was raised by the ERT during the review.

Annex

Documents and information used during the review

A. Reference documents

“Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications”. FCCC/CP/1999/7. Available at <<http://unfccc.int/resource/docs/cop5/07.pdf>>.

“Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories”. FCCC/CP/1999/7. Available at <<http://unfccc.int/resource/docs/cop5/07.pdf>>.

“Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”. Decision 15/CMP.1. Available at <<http://unfccc.int/resource/docs/2005/cmp1/eng/08a02.pdf#page=54>>.

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

“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 23/CP.19. Available at <<http://unfccc.int/resource/docs/2013/cop19/eng/10a02.pdf#page=20>>.

FCCC/SBI/2011/INF.1. Compilation and synthesis of fifth national communications. Executive summary. Note by the secretariat. Available at <<http://unfccc.int/resource/docs/2011/sbi/eng/inf01.pdf>>.

FCCC/SBI/2011/INF.1/Add.1. Compilation and synthesis of fifth national communications. Note by the secretariat. Addendum. Policies, measures, and past and projected future greenhouse gas emission trends of Parties included in Annex I to the Convention. Available at <<http://unfccc.int/resource/docs/2011/sbi/eng/inf01a01.pdf>>.

FCCC/SBI/2011/INF.1/Add.2. Compilation and synthesis of fifth national communications. Note by the secretariat. Addendum. Financial resources, technology transfer, vulnerability, adaptation and other issues relating to the implementation of the Convention by Parties included in Annex I to the Convention. Available at <<http://unfccc.int/resource/docs/2011/sbi/eng/inf01a02.pdf>>.

FCCC/SBI/2011/INF.2. Compilation and synthesis of supplementary information incorporated in fifth national communications submitted in accordance with Article 7, paragraph 2, of the Kyoto Protocol. Note by the secretariat. Available at <<http://unfccc.int/resource/docs/2011/sbi/eng/inf02.pdf>>.

FCCC/ARR/2013/CZE. Report of the individual review of the annual submission of the Czech Republic submitted in 2013. Available at <<http://unfccc.int/resource/docs/2014/arr/cze.pdf>>.

FCCC/IRR/2007/CZE. Report of the review of the initial report of the Czech Republic. Available at <<http://unfccc.int/resource/docs/2007/irr/cze.pdf>>.

FCCC/IDR.5/CZE. Report of the in-depth review of the fifth national communication of the Czech Republic. Available at <<http://unfccc.int/resource/docs/2010/idr/cze05.pdf>>.

Sixth national communication of the Czech Republic. Available at <http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/cze_nc6_resubmission.pdf>.

2013 GHG inventory submission of the Czech Republic. Available at <http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/7383.php>.

B. Additional information provided by the Party

Responses to questions during the review were received from Ms. Jana Paluchova (Ministry of the Environment), including additional material on updated policies and measures, greenhouse gas projections, the national registry and recent climate policy developments in Czech Republic. The following documents¹ were also provided by the Czech Republic:

ENVIROS, s.r.o. 2012. *Energy Efficiency Policies and Measures in Czech Republic*.

Ministry of Industry and Trade. 2013. *Report on the Progress Achieved Towards National Energy Efficiency Targets in the Czech Republic*.

Ministry of the Environment. 2011. *2nd National Energy Efficiency Action Plan of the Czech Republic*.

Ministry of Industry and Trade. 2013. *Political measures implemented for the purpose of achieving end-use energy savings in the Czech Republic*.

¹ Reproduced as received from the Party.