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**COMPLIANCE COMMITTEE**

**CC/ERT/2007/5  
8 February 2007**

**Report of the centralized in-depth review of the fourth national  
communication of Slovenia**

**Note by the secretariat**

The report of the centralized in-depth review of the fourth national communication of Slovenia was published on 7 February 2007. For purposes of rule 10, paragraph 2, of the rules of procedure of the Compliance Committee (annex to decision 4/CMP.2), the report is considered received by the secretariat on the same date. This report, contained in the annex to this note, is being forwarded to the Compliance Committee in accordance with section VI, paragraph 3, of the annex to decision 27/CMP.1.



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**Report of the centralized in-depth review of  
the fourth national communication of Slovenia**

*According to decision 4/CP.8, Parties included in Annex I to the Convention are requested to submit to the secretariat, in accordance with Article 12, paragraphs 1 and 2, of the Convention, a fourth national communication by 1 January 2006. This report reflects the results of the in-depth review of the fourth national communication of Slovenia conducted by an expert review team in accordance with the relevant provisions of the Convention and Article 8 of the Kyoto Protocol.*

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## I. Introduction and summary

### A. Introduction

1. Slovenia has been a Party to the UNFCCC since 1995 and to its Kyoto Protocol since 2002. Under the Kyoto Protocol, Slovenia committed itself to reducing its greenhouse gas (GHG) emissions by 8 per cent compared to the base year (1986) level during the first commitment period from 2008 to 2012.
2. This report covers the centralized in-depth review (IDR) of the fourth national communication (NC4) of Slovenia, coordinated by the UNFCCC secretariat, in accordance with decision 7/CP.11. The review took place from 16 to 21 October 2006 in Bonn, Germany, and was conducted by the following team of nominated experts from the UNFCCC roster of experts: Mr. Gonçalo Cavalheiro (Portugal), Mr. Arthur Wellington Rolle (the Bahamas), Mr. Seppo Oikarinen (Finland), Ms. Helena Princova (Slovakia), Mr. Jigme (Bhutan) and Mr. Philip C. Acquah (Ghana). Mr. Cavalheiro and Mr. Rolle were the lead reviewers. The review was coordinated by Mr. Sergey Kononov (UNFCCC secretariat).
3. During the IDR, the expert review team (ERT) examined each part of the NC4. The ERT also evaluated the information contained in Slovenia's report demonstrating progress (RDP) in achieving its commitments under the Kyoto Protocol, and the supplementary information provided by Slovenia under Article 7, paragraph 2, of the Kyoto Protocol.
4. In accordance with the guidelines for review under Article 8 of the Kyoto Protocol (decision 22/CMP.1), a draft version of this report was communicated to the Government of Slovenia, which provided comments that were considered and incorporated, as appropriate, in this final version of the report.

### B. Summary

5. The ERT noted that Slovenia's NC4 complies in general with the UNFCCC reporting guidelines.<sup>1</sup> As required by decision 25/CP.8, the RDP provides clear and detailed information on the progress made by Slovenia in achieving its commitments under the Kyoto Protocol. Supplementary information under Article 7, paragraph 2, of the Kyoto Protocol<sup>2</sup> is provided in both the NC4 and the RDP. The ERT commended Slovenia for the high degree of coherence and consistency in its reporting.

#### 1. Completeness

6. The ERT noted that the NC4 covers all sections required by the UNFCCC reporting guidelines. The ERT also noted that Slovenia's RDP contains all parts stipulated by decisions 22/CP.7 and 25/CP.8. Furthermore, the ERT noted that Slovenia has provided the supplementary information required under Article 7, paragraph 2.

#### 2. Timeliness

7. The NC4 and the RDP were submitted on 12 June 2006. Decision 4/CP.8 requested the submission of the NC4 by 1 January 2006, and decision 22/CP.7 set the same date for Parties to submit their RDPs.

#### 3. Transparency

8. The ERT acknowledged that Slovenia's NC4 is well structured and concise. The NC4 provides clear information on all aspects of the implementation of the Convention and its Kyoto Protocol. In the

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<sup>1</sup> "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications." Document FCCC/CP/1999/7, pages 80–100.

<sup>2</sup> Decision 15/CMP.1, annex, chapter II (FCCC/KP/CMP/2005/8/Add.2).

course of the review, the ERT formulated a number of recommendations that could help Slovenia to further increase the transparency of its reporting, such as a recommendation to provide information on how it believes its policies and measures are modifying longer-term trends in anthropogenic GHG emissions and removals consistent with the objective of the Convention.

## II. Technical assessment of the reviewed elements

### A. National circumstances relevant to greenhouse gas emissions and removals

9. In its NC4, Slovenia has provided a comprehensive description of its national circumstances affecting GHG emissions and removals. This description covers the form of government and the structure of administration, population profile, geographic profile, climate, economic profile, energy, transport, industry, waste, building stock and urban structure, agriculture and forestry. Table 1 illustrates the national circumstances of the country by providing some indicators relevant to GHG emissions and removals.

10. In accordance with Article 4, paragraph 6, of the Convention and decision 11/CP.4, Slovenia, as a Party with an economy in transition (EIT), is allowed to use 1986 as its base year.

**Table 1. Indicators relevant to greenhouse gas emissions and removals for Slovenia**

	1986	1995	2000	2004	Change 1986–2000 (%)	Change 2000–2004 (%)	Change 1986–2004 (%)
Population (million)	–	1.99	1.99	2.00	–	0.4	–
GDP (billion USD 2000 PPP)	–	27	34	38	–	14.5	–
TPES (Mtoe)	–	6.0	6.5	7.2	–	10.5	–
GDP per capita (thousand USD 2000 PPP)	–	13.6	16.9	19.2	–	14.1	–
TPES per capita (toe)	–	3.0	3.3	3.6	–	10.1	–
GHG emissions without LULUCF (Tg CO <sub>2</sub> eq)	20.2	18.5	18.8	20.1	–6.9	6.6	–0.8
GHG emissions with LULUCF (Tg CO <sub>2</sub> eq)	– <sup>a</sup>	13.5	13.6	14.4	–	5.6	–
CO <sub>2</sub> emissions per capita (Mg)	–	7.5	7.6	8.2	–	8.0	–
CO <sub>2</sub> emissions per GDP unit (kg per USD 2000 PPP)	–	0.55	0.45	0.43	–	–5.3	–
GHG emissions per capita (Mg CO <sub>2</sub> eq)	–	9.3	9.5	10.0	–	6.1	–
GHG emissions per GDP unit (kg CO <sub>2</sub> eq per USD 2000 PPP)	–	0.69	0.56	0.52	–	–6.9	–

<sup>a</sup> LULUCF data for the base year (1986) were not available in the version of the GHG inventory used during the in-depth review.

Sources: GHG emissions data are from Slovenia's 2006 inventory submission. Population, GDP and TPES data are from the IEA.

Note 1: 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.

Note 2: For the abbreviations used, see annex II.

11. The NC4 contains summary information on GHG emission trends for the period 1990–2003. This information is consistent with the information provided by Slovenia in its GHG inventory submitted in 2005 but not fully consistent with the latest available version of the 2006 submission of the national GHG inventory. However, the differences with the 2006 inventory are small (mostly less than 1 per cent in total GHG emissions) and they could be the result of inventory recalculations in 2006. The inventory-related information in the NC4 and the RDP is consistent. Summary tables, including trend tables for emissions (given in the common reporting format (CRF)), are provided in an annex to the NC4.

12. Total GHG emissions excluding emissions and removals from land use, land-use change and forestry (LULUCF) decreased by 0.8 per cent between 1986 and 2004. This decrease was the result of decreases in emissions of CH<sub>4</sub> (by 11.8 per cent) and N<sub>2</sub>O (by 5.8 per cent), and of HFCs, PFCs and SF<sub>6</sub> (by –17.8 per cent, taken together), which offset a small increase (by 1.5 per cent) in CO<sub>2</sub> emissions. Changes in GHG emissions with LULUCF from the base year to 2004 cannot be estimated because data on net emissions/removals from LULUCF in the base year are not available. Table 2 provides an overview of GHG emissions by sector from 1986 to 2004 (see also the discussion of sectoral trends in section II.B).

13. Emissions declined from 1986 to 1992 as a result of the transition to a market economy. Between 1993 and 2000, they fluctuated (with a peak in 1997 due to “fuel tourism”), and by 2000 they had almost stabilized, but growth can be observed from 2000 to 2004 (by 6.6 per cent without LULUCF: see table 1). As table 2 shows, between 1986 and 2004 GHG emissions increased in the energy sector and waste, but decreased in the other sectors. Within the energy sector, the ERT noted the high growth of emissions in transport, which more than doubled (growth by 112.2 per cent), and in the other (mostly residential and commercial) sectors (about 19.5 per cent).

**Table 2. Greenhouse gas emissions by sector for Slovenia, 1990–2004**

	GHG emissions (Tg CO <sub>2</sub> equivalent)					Change (%)		Shares <sup>a</sup> by sector (%)	
	1986	1995	2000	2003	2004	1986–2004	2003–2004	1986	2004
1. Energy	15.9	14.7	14.9	15.7	16.1	1.5	2.7	77.1	80.4
A1. Energy industries	6.73	5.59	5.51	6.19	6.31	-6.2	2.1	34.0	31.5
A2. Manufacturing industries and construction	4.40	2.63	2.27	2.16	2.37	-46.3	9.6	16.9	11.8
A3. Transport	2.01	3.71	3.79	4.11	4.26	112.2	3.7	14.7	21.2
A4–5. Other	2.37	2.44	3.05	2.89	2.83	19.5	-2.2	9.8	14.1
B. Fugitive emissions	0.38	0.32	0.30	0.35	0.36	-7.2	0.6	1.7	1.8
2. Industrial processes	1.30	1.12	1.01	1.16	1.19	-8.0	3.3	7.1	6.0
3. Solvents and other product use	0.13	0.05	0.08	0.07	0.08	-39.7	9.8	0.4	0.4
4. Agriculture	2.33	2.12	2.18	2.11	2.02	-13.3	-4.4	12.1	10.1
5. LULUCF	-	-5.02	-5.18	-5.32	-5.64	-	6.1	-	-28.1
6. Waste	0.57	0.57	0.63	0.63	0.65	12.2	2.1	3.3	3.2
GHG total with LULUCF	-	13.5	13.6	14.3	14.4	-	0.5	-	-
GHG total without LULUCF	20.2	18.5	18.8	19.7	20.1	-0.8	2.0	-	-

<sup>a</sup> 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 which was offset by GHG removals through LULUCF.

*Note 1:* 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.

*Note 2:* For the abbreviations used, see annex II.

## B. Policies and measures

14. As required by the UNFCCC reporting guidelines, Slovenia has provided in its NC4 comprehensive and well-organized information on its package of policies and measures implemented, adopted and planned in order to fulfil its commitments under the Convention and its Kyoto Protocol. Each sector has its own textual description of the principal policies and measures, supplemented by summary tables by sector. However, the ERT noted that Slovenia has not provided information on how it believes its policies and measures are modifying longer-term trends in anthropogenic GHG emissions and removals consistent with the objective of the Convention (paragraph 25 of the UNFCCC reporting guidelines). Table 3 summarizes the reported information on policies and measures.

### 1. Policy framework and cross-sectoral measures

15. The Ministry for the Environment and Spatial Planning has overall responsibility for environment policy, including climate change. In 1997, the Climate Change Committee, chaired by the Minister for the Environment, was established. The Environment Directorate, the Spatial Planning Directorate and the European Affairs Directorate (within the Ministry for the Environment and Spatial Planning) and other ministries, such as the Economy Ministry (responsible for energy policy), have important roles in designing and implementing climate change policy. The national Action Plan to Reduce GHG Emissions (AP-GHG) was adopted in 2003, was revised in 2004 and is being further revised during 2006. The current plan (2004) includes 22 measures to reduce GHG emissions. A 2006 version of the AP-GHG was adopted by the Government in December 2006. It includes the use of carbon sinks (1.32 Tg CO<sub>2</sub>) and of the European Union (EU) emissions trading scheme (ETS) (1.31 Tg CO<sub>2</sub>) to achieve compliance with Slovenia's Kyoto Protocol target.

16. As a member of the EU, Slovenia has adopted the EU legislation which is relevant to climate change policy. Such measures include the Mechanism for Monitoring Community Greenhouse Gas

Emissions and for the Implementation of the Kyoto Protocol and the EU ETS. The EU ETS covers about 55 per cent of Slovenia's emissions, but its expected impact on Slovenia's emissions has not been reported. Slovenia provides in an annex to its NC4 a detailed list of the EU legislation which has shaped the design of several policies and measures.

**Table 3. Summary information on policies and measures**

Major policies and measures	Examples / comments
<b>Framework policies and cross-sectoral measures</b>	
Integrated climate programme	Action Plan for Reducing GHG Emissions (2003)
Energy/electricity/emissions taxation	CO <sub>2</sub> Tax (1997)
Emissions trading	EU emissions trading scheme (2005)
Other	Funding to support energy efficiency measures and renewable energy sources from the Department of Efficiency Energy Use and Renewable Energy Sources and from Ecological Fund
<b>Energy sector</b>	
Energy sector liberalization	Energy Act (2003 and revised in 2004); to be fully liberalized by 1 July 2007
Renewable energy sources and combined heat and power generation	Promotion of electricity production from renewable sources and CHP generation; incentives for RES and energy efficiency
Energy efficiency improvements	Thermal insulation and labelling of buildings; energy labelling of energy household appliances (0.04 Tg CO <sub>2</sub> )
<b>Transport</b>	
Vehicle and fuel taxes	Promotion of biofuel consumption (0.126 Tg CO <sub>2</sub> )
Agreements/partnerships	EC agreements: ACEA (1999), KAMA (2000), JAMA (2000)
Integrated transport planning	Encouragement for the use of public transport (0.1 Tg CO <sub>2</sub> ); increased share of rail freight transport (0.05 Tg CO <sub>2</sub> )
<b>Industry</b>	
Pollution prevention and control	IPPC Directive of the EC; EU ETS
Agreements/partnerships	Climate Change Agreements
<b>Agriculture</b>	
	Common Agricultural Policy of the EC; EC Nitrate Directive; Rural Development Programme for Slovenia (2004–2006); good agricultural practice in fertilizer application; promotion of biogas from manure for electricity and heat
<b>Waste management</b>	
	Landfill Directive of the EC; tax on waste going to landfills; regulation on compulsory separation of waste (2004); regulation on methane recovery from landfills; waste incineration
<b>Forestry</b>	
	Sustainable Forest Management Programme and regulation

*Note 1:* The GHG reduction estimates, given for some measures (in parentheses), are reductions in CO<sub>2</sub> or CO<sub>2</sub> equivalent for the year 2010.

*Note 2:* For the abbreviations used, see annex II.

17. Slovenia introduced a CO<sub>2</sub> tax in 1997, which is currently set at a rate of EUR 15 per tonne. The 2005 revision of the tax allowed for installations to sign an agreement by which they commit themselves to a reduction target of at least 2.5 per cent for the period 2005–2009, thus benefiting from a discount in the tax rate. Companies included in the EU ETS are exempt from the tax. Emission reductions attributable to the CO<sub>2</sub> tax are estimated as amounting to 8.75 Gg CO<sub>2</sub> annually for the period 2008–2012.

18. Slovenia reports in the NC4 that it may need to use the Kyoto Protocol mechanisms to achieve its reduction commitment, but no further information is provided. During the review, Slovenia informed the ERT that the mechanisms will be used through its participation in the EU ETS. The ERT suggests that this information be provided in Slovenia's next national communication.

## 2. Policies and measures in the energy sector

19. Between base year (1986) and 2004, GHG emissions from energy industries decreased by 6.2 per cent (0.4 Tg CO<sub>2</sub> equivalent), mainly driven by the economic upheavals associated with the transition to a market economy (see table 2). Compared to 1990, in 2004 these emissions had increased by 0.8 per cent. GHG emissions from manufacturing industries and construction also show a notable decrease (46.3 per cent or 2.0 Tg CO<sub>2</sub> equivalent in 2004 compared to base year, and by 24.3 per cent or 0.7 Tg CO<sub>2</sub> equivalent in 2004 compared to 1990), attributable mostly to the restructuring in the production of iron and steel, which resulted in a reduction in their production, and decreased use of liquid fuels. GHG emissions from transport increased considerably – by 112.2 per cent or 2.3 Tg CO<sub>2</sub> equivalent in 2004 compared to base year, and by 57.3 per cent compared to 1990 or 1.6 Tg CO<sub>2</sub>

equivalent. A peak of 4.4 Tg CO<sub>2</sub> equivalent from transport was reached in 1997, attributable to foreign drivers buying fuel in Slovenia because prices were lower (“fuel tourism”). After that year, emissions from transport decreased for two years, but since then they have been increasing, reaching 4.3 Tg CO<sub>2</sub> equivalent in 2004. GHG emissions in other sectors also increased (+19.5 per cent or 0.4 Tg compared to base year, and +56.3 per cent or 1.0 Tg CO<sub>2</sub> equivalent compared to 1990).

20. Slovenia’s energy policy is framed by the Energy Act and the Resolution on the National Energy Programme, which set the following goals: to increase energy use efficiency in the industry, service, transport and building sectors by 10 per cent and in the public sector by 15 per cent up to 2010, compared to 2004 levels; to double the proportion of electricity generated by combined heat and power (CHP); to increase the share of electricity generated from renewable energy sources (RES) from 32.0 per cent in 2002 to 33.6 per cent in 2010; and to introduce a 2 per cent share of biofuels in transport fuels by the end of 2005.

21. Policies and measures for the energy industries sector are estimated to lead to emission reductions of 1.9 Tg CO<sub>2</sub> per year by 2010. The greatest single contribution to these reductions will come from the liberalization of the electricity market, which is expected to deliver a reduction of 0.66 Tg CO<sub>2</sub> by 2010. These reductions are also influenced by the liberalization of the gas market and by the EU ETS. Emission reductions to be achieved through greater use of RES, including large hydropower plants, amount to 0.48 Tg CO<sub>2</sub> by 2010. These reductions include the contribution of a special energy efficiency programme and of a special programme for the use of wood biomass for central heating.

22. For the manufacturing industries sector, Slovenia reports that the promotion of energy efficiency in manufacturing industry, namely through agreements that reduce the CO<sub>2</sub> tax, together with the implementation of the European Directive on Integrated Prevention and Pollution Control (the IPPC Directive) and the introduction of standardized environmental management systems (International Standard ISO 14001 and the environmental management audit scheme (EMAS)), will be responsible for the reduction of 0.46 Tg CO<sub>2</sub> in 2010.

23. Five measures to increase energy efficiency in the residential sector, mostly based on the provision of information and awareness-raising, including thermal insulation and the energy labelling of buildings, should lead to an emission reduction of 0.43 Tg CO<sub>2</sub> in 2010.

24. For the transport sector, Slovenia reports that the European Commission agreement with the European, Japanese and Korean automobile industries will provide for a reduction of 0.25 Tg CO<sub>2</sub> by 2010, at the same time as the introduction of biofuels will reduce CO<sub>2</sub> emissions by 0.13 Tg.

### 3. Policies and measures in other sectors

25. Between the base year and 2004 there was some decrease (0.4 Tg CO<sub>2</sub> equivalent, or 9.1 per cent) in GHG emissions from the non-energy sectors taken together (industrial processes, solvent and other product use, agriculture and waste). The decrease was driven by the reduction in GHGs from agriculture; emissions from industrial processes, solvents and other product use and waste changed relatively little during that time period. LULUCF data from the base year are not available, but the data from the year 1995 show some increase in sinks – by 12.5 per cent between 1995 and 2004.

26. **Industrial processes.** Industrial processes are a minor source of GHG emissions in Slovenia (accounting for 6.0 per cent of total national GHG emissions in 2004). These emissions decreased by 8.0 per cent between 1986 and 2004.<sup>3</sup> This is due to the fact that the Slovenian industry has been changing from one based on raw material production (mineral production) to one based more on

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<sup>3</sup> According to the most recent inventory data from Slovenia, which became available at the end of the in-depth review, the decrease in the emissions from industrial processes between 1986 and 2004 was 12.0 per cent. The greatest cause for the decrease was reduced activity in lime production.



manufacturing (such as production of machines). The NC4 does not suggest any other reasons apart from structural change why the country has managed to keep GHG emissions low, nor does it mention any measures for the industrial processes sector that would account for it. After becoming a member of the EU, Slovenia has been subject to EU legislation. The impact of the EU legislation will be visible in the future. The IPPC Directive is the first EU directive that is expected to have an effect on GHG emissions in both energy use and industrial processes.

27. **Agriculture.** In 2004, the agriculture sector accounted for 10.1 per cent of total national GHG emissions. Emissions from the sector consist of CH<sub>4</sub> from enteric fermentation and manure management (about 54 per cent of total sectoral emissions in 2004) and N<sub>2</sub>O from manure management and fertilizers used on farmland (46 per cent). Emissions from agriculture have been declining because farmlands have been fertilized less and livestock numbers have been falling. Slovenia aims to take a couple of measures to cut down emissions from agriculture in the near future. To facilitate good agricultural practice in fertilizer application a decree was adopted in 2005 limiting the amount of fertilizer that can be put on farmlands and guidelines were issued on good farming practices. This programme is estimated to cut N<sub>2</sub>O emissions from agriculture by 11 Gg CO<sub>2</sub> equivalent by 2010. Under the Programme of Promotion of Biogas for Electricity and Heat, regulations on CH<sub>4</sub> emissions from enteric fermentation and manure treatment in farms, and financial support to investments in recovery systems and biogas use, are planned. The programme is expected to cut emissions from the sector by 20 Gg CO<sub>2</sub> equivalent by 2010.

28. **Forestry.** Since 1990, the forest area in Slovenia has increased by 4 per cent and wood mass by 42 per cent. In 1996, a Forest Development Programme was adopted which sets out the Slovenian management and forest development strategy. It is estimated that through this programme 3.8 Tg CO<sub>2</sub> will be absorbed in 2010, which is more than Slovenia's cap on removals by forest management (1.32 Tg CO<sub>2</sub>).

29. **Waste.** The waste sector is a minor source of emissions in Slovenia (it accounted for 3.2 per cent of total national GHG emissions in 2004). Most of the emissions (about 91 per cent) are CH<sub>4</sub> from landfill sites and waste-water treatment. Total GHG emissions from waste, while relatively small, increased by 12.2 per cent from 1986 to 2004. Since 2001, the operators of landfills have been taxed according to the amount and type of the waste deposited. The tax is reduced if the landfill has provision for methane capture and the combustion of the methane captured. The rules on waste disposal require all landfills to arrange, by the end of 2005, the capture of landfill gas and appropriate management of the gas captured. It is estimated that emissions will be cut by 74 Gg CO<sub>2</sub> equivalent by this rule in 2010. In the longer run Slovenia is aiming to improve the sorting and recycling of waste and to incinerate the non-recyclable components of waste, which are also required by the EU directive on landfills and that on packaging and package of waste.

## C. Projections and the total effect of policies and measures

### 1. Projections

30. In its NC4 and RDP, Slovenia provides GHG emission projections for both "with measures" and "with additional measures" scenarios up to 2020. The projections are presented in five-year intervals from 2005 to 2020 relative to actual inventory data for the period 1990–2003, complemented with data for 1986, which is the base year for Slovenia. The projections are presented on a sectoral basis, using different sectoral categories compared to those used in the policies and measures section of the NC4. The ERT noted that the projections for the LULUCF sector are not presented in either tabular or diagram format, although data for projected sinks in the period 2008–2012 are given in table 5-1 of the NC4.<sup>4</sup> The projections are also presented on a gas-by-gas basis for all the main GHGs: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, PFCs,

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<sup>4</sup> Additional information provided by Slovenia during the review confirmed that the projected potential of sinks during the first commitment period is high enough to allow the maximum possible use of removal units from forest management (1.32 Tg CO<sub>2</sub> equivalent) to allow it to meet the Kyoto Protocol target.

HFCs and SF<sub>6</sub>, the F-gases being treated collectively. In addition, projections are provided in an aggregated format for each sector as well as for a national total, using global warming potential (GWP) values. Emission projections relating to fuel sold for use in ships and aircraft engaged in international transport are not reported. The projections in Slovenia’s NC4 and RDP are consistent.

31. Information about all key assumptions and parameters used to develop the “with measures” and “with additional measures” scenarios is clearly and comprehensively presented in table D-1 (appendix D to the NC4). The table includes macroeconomic (gross domestic product (GDP) and fossil fuel price), demographic and energy consumption indicators as well as activity data for all sectors modelled, and supplementary information on the forecast share for the effects of individual measures in each scenario. Table 4 and figure 1 provide a summary of the GHG emission projections for Slovenia.

**Table 4. Summary of greenhouse gas emission projections for Slovenia**

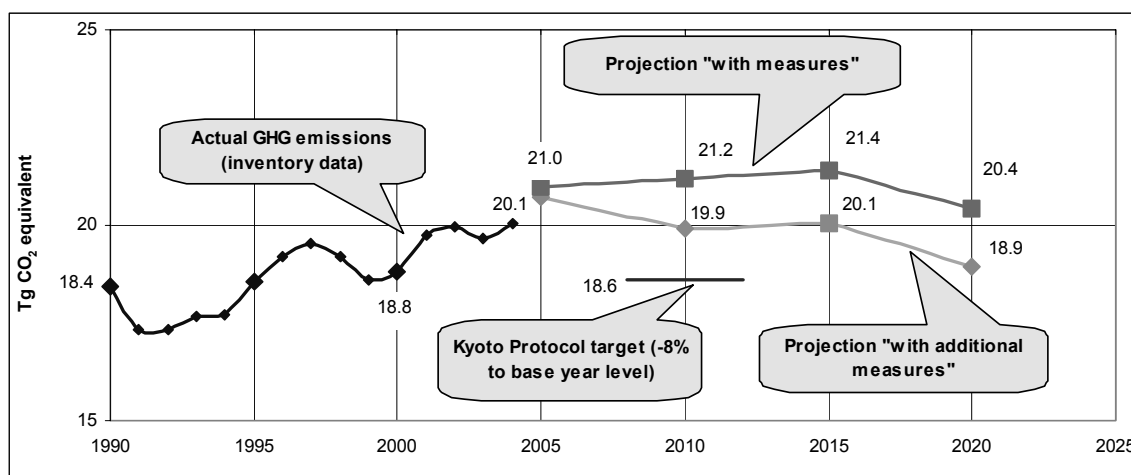
	GHG emissions (Tg CO <sub>2</sub> equivalent per year)	Changes compared to base year level (%)
Inventory data 1990 <sup>a</sup>	18.45	N/A
Inventory data 2003 <sup>a</sup>	19.67	-2.6
Kyoto Protocol base year <sup>b</sup>	20.20	N/A
Kyoto Protocol target	18.58	-8.0
“With measures” projections for the 2008–2012 average <sup>b</sup> without the use of sinks	21.19	4.9
“With measures” projections for the 2008–2012 average <sup>b</sup> including the use of sinks	19.87	-1.6
“With additional measures” projections for the 2008–2012 average <sup>b</sup> without the use of sinks	19.92	-1.4
“With additional measures” projections for the 2008–2012 average <sup>b</sup> including the use of sinks	18.60	-7.9

<sup>a</sup> Source: Slovenia’s 2006 GHG inventory submission; the emissions are without LULUCF.

<sup>b</sup> Source: Slovenia’s NC4 (table 5-1 on page 86); the projections are for GHG emissions without LULUCF.

Note: For the abbreviations used, see annex II. N/A = not applicable.

**Figure 1. Greenhouse gas emission projections**



Source: Slovenia’s NC4; the projections are for GHG emissions without LULUCF.

Note: The projected decline in GHG emissions after 2015 is linked to the projected start of operation of new hydropower plants, a decrease in the use of solid fuels and a simultaneous increase in the use of natural gas for electricity generation.

32. Projections in the energy sector were developed using REE-SLO, an energy–ecology model, complemented by a model to assess market penetration for policy measures (PET-SLO), a simulation model for the electricity load curve (ELAM-SLO), and a model for the calculation of balanced electricity production on a free market (ELBIVIM). Emissions in the transport sector were projected using the widely used COPERT model which, like the modelling tools for the energy sector, also makes it possible to calculate basic air pollutants. Emissions in the waste and agriculture sectors were projected using the

same Intergovernmental Panel on Climate Change (IPCC) methodology as for the GHG inventory; for industrial processes the emissions were calculated based on projected activity data.

33. The projections presented by Slovenia in the NC4 were originally prepared in 2000 for the National Energy Programme and then modified during the preparation of Slovenia's national allocation plan (NAP) for the first phase of the EU ETS. The ERT noted that the "with additional measures" projection in the NC4 shows higher emission levels than the previous set of projections given in Slovenia's third national communication (NC3) as a result of the projected higher share of solid fuels in energy supply.

34. By sector, the projections indicate that after 2005 GHG emissions will decrease only for the energy (without transport), solvent and other product use and waste sectors, but will increase in transport and change relatively little in the industry and agriculture sectors. The highest relative decreases in 2010 are projected for solvent and other product use (by more than 70 per cent) and for the waste sector (by more than 20 per cent), but the behaviour of total GHG emissions (which is almost identical for both scenarios) is determined mainly by the fluctuations in the energy sector due to its dominant share in total national emissions (about 80 per cent in 2004). Under both scenarios, emissions are driven mainly by the implementation of EU legislation, market openings for natural gas, and the promotion for investment in RES, including the projected start of the operation of new hydropower plants after 2015.

35. Emissions of CO<sub>2</sub> are projected to increase in the projection period, but this trend fluctuates according to assumptions made on the fuel switch from coal to gas (a fall in 2005–2008, then an increase up to 2015, followed by a decrease to 2020 due to changes in the fuel supply mix: see the note to figure 1) and growth of final energy use in the transport, industry and other sectors. Emissions of CH<sub>4</sub> are projected to decrease in both scenarios (due to the impact of measures to reduce the quantity of landfilled waste and to collect and combust landfill gases), while emissions of N<sub>2</sub>O are expected to change little. The "with measures" and "with additional measures" projections for the F-gases are different, which reflects a high reduction potential which Slovenia estimates for the transposition of EU legislation on F-gases in the "with additional measures" scenario.

36. Figure 1 and table 4 indicate that for both scenarios there is still a gap between the projected GHG emissions and Slovenia's target under the Kyoto Protocol: this gap amounts to 2.61 Tg CO<sub>2</sub> equivalent for the "with measures" scenario and 1.34 Tg CO<sub>2</sub> equivalent for the "with additional measures" scenario on average in 2008–2012 (table 4). In its NC4 Slovenia mentions its decision to fill this gap using credits from sinks, which are projected to be at the level of 1.32 Tg CO<sub>2</sub> per year on average in the first commitment period. The use of sink credits will allow Slovenia to reduce the gap to 1.29 Tg CO<sub>2</sub> equivalent for the "with measures" scenario and to close the gap almost completely (0.02 Tg CO<sub>2</sub> equivalent) for the "with additional measures" scenario.

37. The ERT encourages Slovenia to use the same categories in the sections on policies and measures and on projections, or, should the definitions differ, to provide a better explanation of what each individual category represents.

## 2. Total effect of policies and measures

38. Slovenia's NC4 presents in a transparent way the estimated individual effects of implemented, adopted and planned policies and measures considered in the scenarios modelled. The NC4 also contains estimates for the total effect of policies and measures using an approach which is fully consistent with the UNFCCC reporting guidelines. Slovenia reports that it may need to use Kyoto Protocol mechanisms to achieve its reduction commitment, but no further information is provided. The ERT suggests that this information be provided in Slovenia's next national communication. The sectoral totals for the expected reduction impacts as given in table 4-2 in the section on policies and measures in the NC4 differ from the results of projection models presented in tables 5-2 and 5-3, in which the synergy effect plays a role. Table 5 provides an overview of the total effects of policies and measures for Slovenia.

39. As table 5 indicates, the highest reductions are expected to be achieved by measures in the energy and transport sectors, followed by industrial processes. The evaluation by gases indicates that Slovenia expects the highest reduction impact from the measures to reduce CO<sub>2</sub> emissions.

40. The ERT commended Slovenia for its comprehensive, consistent and transparent presentation of its GHG projections and of the reduction potentials of policies and measures.

**Table 5. Projected effects of planned, implemented and adopted policies and measures in 2010**

	Effect of implemented and adopted measures (Tg CO <sub>2</sub> equivalent)	Relative value (% of base year emissions)	Effect of planned measures (Tg CO <sub>2</sub> equivalent)	Relative value (% of base year emissions)
Energy (with transport)	1.234	6.11	0.71	3.53
Industrial processes	0.15	0.73	0.27	1.35
Agriculture	0.039	0.19	0.05	0.25
Waste	0.103	0.51	0.08	0.40
<b>Total</b>	<b>1.523</b>	<b>7.54</b>	<b>1.12</b>	<b>5.54</b>

Source: Slovenia's NC4.

Note: The total effect of implemented, adopted and planned policies and measures is estimated within the projection model.

#### D. Vulnerability assessment, climate change impacts and adaptation measures

41. In its NC4, Slovenia has provided the required information on expected impacts of climate change in the country and on adaptation options. Table 6 summarizes the information on vulnerability and on adaptation measures presented in the NC4.

**Table 6. Summary information on vulnerability and adaptation to climate change**

Vulnerable area	Examples / comments / adaptation measures reported
Agriculture and food production	<b>Vulnerability:</b> Agriculture can be affected by climate change, but there are opportunities to minimize negative impacts through changes in agricultural practices <b>Adaptation:</b> Changes in the variety of cultivated crops
Forests and biodiversity	<b>Vulnerability:</b> Species and habitats in the periphery of the high Alpine region will have to shift location; risks of forest fires <b>Adaptation:</b> Preserve forest vegetation
Water resources	<b>Vulnerability:</b> Water shortage from increasing drought spells

42. From the results of general circulation models, Slovenia concludes that the impacts of climate will be wide-ranging. The impact on food production is divided into three broad categories: positive, conditionally positive and negative. Conditionally positive impacts are those where the consequences are unclear and depend on other specific factors; they also include the fact that an increase in air temperature will lead to changes in the location of agricultural production, such as the extension of vegetation belts, changes in the area of cultivated land, and the expansion of cultivated land to higher altitudes. The NC4 notes that Slovenia's water resources are already vulnerable and that forests, which cover 57 per cent of Slovenia's territory, and their biodiversity would be threatened in exposed sites.

43. Slovenia has provided information on adaptation measures for the agriculture and forestry sectors. The range of adaptation measures for crop production includes changing sowing dates, crop rotation, changing the varieties grown, changes to farm production policy and production technology, more intense fertilization and the construction of irrigation systems. Future adaptation could be achieved through a public awareness campaign and the enactment of policies. The NC4 suggests that the following policies be pursued: preparing preventive measures, preparing drought management measures and updating the methodology for assessing drought damage. Measures to enable forests to adapt to climate change include provisions to preserve forest vegetation, preventing the progressive reversion of abandoned agricultural land to forest, and directing artificial restocking of forests away from conifers towards deciduous trees.

44. The NC4 also provides information on how Slovenia's agriculture sector could benefit from the impacts of climate change. Environmental warming could extend the annual period of growth and the

accumulated heat would be transferred to areas that are currently too cold for the cultivation of crops, leading to an increase in the area of cultivated land. The economic impact on the agriculture sector is difficult to quantify since it will depend on political decisions, particularly in relation to different subsidy structures and on the import and export of food; and the centres and hubs of agricultural production may change. However, global assessments suggest that the price of agricultural products may rise by 10–20 per cent.

45. The ERT noted that a project has been initiated by the Environment Agency of the Republic of Slovenia (ARSO) with the objective of studying the vulnerability and adaptation to climate change of the energy, tourism, health and transport sectors at the national and regional levels. The project started in 2005 and will conclude in 2007.

#### **E. Research and systematic observation**

46. Slovenia has provided information on its actions relating to research and systematic observation and addressed both domestic and international activities, including the World Climate Programme, the Global Climate Observing System (GCOS) and the IPCC. The institutions responsible for Slovenia's research and development are the Ministry of Higher Education, Science and Technology, the Slovenian Research Agency and the Ministry of the Economy. The funding for Slovenia's research and development comes from private companies (60 per cent), the Government (36 per cent) and foreign organizations (4 per cent). Domestic expenditure on research and development has increased annually. Systematic observations and measurements are the responsibility of the ARSO and are derived from a large network of meteorological, air quality, oceanic and ground-based stations.

47. International cooperation by Slovenia in research activities takes place within various European programmes such as the European Co-operation in the field of Science and Technical Research (COST), the Intelligent Energy for Europe programme (EIE) and the EU's Sixth Framework Programme. Regional cooperation takes place within the Central European Initiative (CEI/SEP). International research activities include the international project CONEX II to produce tools for short-term and current weather forecasting and the COST 719 project, the aim of which is to put geographical information system (GIS) tools into operational use in meteorological services in Europe. The ERT noted that Slovenia is engaged in a wide range of bilateral cooperation under the auspices of the World Meteorological Organization. In addition, Slovenia is actively participating in the IPCC's working group on the impacts of, and vulnerability to, climate change.

48. Domestic research activities include a project to study conditions for wind and solar power plants in Slovenia, with the aim of assessing the potential for wind and solar energy and a meso-meteorological modelling programme to improve the meso-scale meteorological models.

49. Slovenia is participating in the Europe-wide GCOS. Data from 14 synoptic stations, radio-sounding measurements and oceanographic observations are exchanged within the World Weather Watch programme and the Permanent Service for Mean Sea Level (PSMSL) in the United Kingdom of Great Britain and Northern Ireland. However, because of a lack of funds to adapt data, the ground-based observations from the Anton Melik Geographic Institute are not part of the international exchange of data within the GCOS.

#### **F. Education, training and public awareness**

50. In the NC4, Slovenia has reported its actions relating to education, training and public awareness. However, the ERT noted a lack of information on the extent of public participation in the preparation or domestic review of the national communication. The ERT encourages Slovenia to provide this information in its next national communication.

51. Slovenia has reported in the NC4 that public awareness of the causes and consequences of climate change and the means of preventing it is very poor. Public opinion polls carried out in May 2005 indicate that only 47 per cent of total population is aware of the increase in global air temperature, and the percentage of the population that is aware of the Kyoto Protocol and of the consequences of climate change is even smaller. The Government of Slovenia recognizes the need for a general Government campaign to provide a comprehensive presentation of the issue.

52. Slovenia has reported that it carried out a curriculum review with special emphasis on environmental education at all levels. Environmental education is now part of the elementary school programme, the academic high schools' curriculum, and professional and vocational education, as well as interest group activities and extracurricular activities. Teachers are provided with continuing professional training through annual seminar programmes. The Ministry of Education and Sport, the focal agency for the development and operation of the education and training system, has formed a Commission for Education and Sustainable Development. The Nova Gorica Polytechnic offers an undergraduate course and also has a postgraduate programme. The University of Ljubljana also offers a postgraduate programme.

53. Slovenia has reported that public information and awareness programmes are implemented mainly through the Ministry of Environment and Spatial Planning in the form of consultation meetings, publications, bulletins, Internet websites and public events. Non-governmental organizations (NGOs) and consultancy firms are also credited with playing an important role in education, public information and awareness. The Government facilitates access to financial resources by issuing tenders for co-financing for projects to promote environmental protection and spatial planning, to co-finance information campaigns, and for awareness-raising and promotional activities for efficient energy use and renewable energy sources.

### **III. Evaluation of information contained in the report demonstrating progress and of supplementary information under Article 7, paragraph 2, of the Kyoto Protocol**

#### **A. Information contained in the report demonstrating progress**

54. Slovenia's RDP includes four chapters which contain the information required by decisions 22/CP.7 and 25/CP.8, including the evaluation of how domestic measures, in the light of the trends and projections, contribute to meeting its commitments under Article 3, paragraph 1, of the Kyoto Protocol. The ERT found the information contained in the RDP to be consistent with that in the NC4.

55. Slovenia introduced its initial strategy to reduce GHG emissions in 2000, and in 2003 adopted the AP-GHG which was then supplemented by the implementation of the EU common and coordinated policies and measures (CCPMs) after Slovenia joined the EU in 2004. The emission reductions under CCPMs represent a significant part of Slovenia's actions to meet its Kyoto Protocol commitments. Table 7 shows the estimates of the emission reductions achieved through existing policies and measures and additional measures adopted, implemented and planned in the context of the national action plan to reduce emissions.

56. Slovenia has enacted various legal and regulatory instruments, such as acts, resolutions, decrees and rules, as well as EU directives, which are being enforced to sustain the various policy objectives under Slovenia's Kyoto Protocol commitment. The most notable are the Energy Act, based on the Resolution on the National Environmental Action Programme 2005–2012 (2005), a new decree on CO<sub>2</sub> emissions pollution (2005), and harmonized regulatory responses to various EU directives under the EU's CCPMs.

57. Slovenia's legally binding commitment under the Kyoto Protocol is to reduce its GHG emissions in the first commitment period (2008–2012) by 8 per cent compared to the base year, which is 1986 for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O and 1995 for HFCs, PFCs and SF<sub>6</sub>. In 2004, total GHG emissions (without LULUCF) were 0.8 per cent below the 1986 level. The policies and measures adopted and implemented for the period 1997–2005, including the Action Plan to Reduce GHG Emissions of 2003 and the EU directives in force since Slovenia joined the EU, have contributed to limiting the growth in GHG emissions. The GHG projections presented in the RDP indicate that Slovenia will be able to meet its Kyoto Protocol target by supplementing its domestic measures with use of the Kyoto Protocol mechanisms and credits for CO<sub>2</sub> removals under Article 3, paragraph 4, of the Kyoto Protocol.

**Table 7. Slovenia's measures projected as at 2005 to meet the Kyoto Protocol target in 2010**

Item	Measure	Estimated emission reductions, Tg CO <sub>2</sub> equivalent
1	Energy supply (renewable energy, co-generation, switch to natural gas)	1.140
2	Industry (energy use efficiency programmes enforced by environmental protection permits)	0.460
3	Transport sector (vehicle engine retrofit, more fuel efficient vehicles, biofuels)	0.561
4	Households and services (energy-use efficiency and renewable energy use, appliance standards, thermal efficiency of buildings, building codes)	0.736
5	Waste (reduction of organic waste sent to solid waste disposal sites, landfill gas capture and use)	0.200
6	Agriculture (support to sustainable agriculture, promotion of the use of biogas for electricity generation)	0.040
7	LULUCF (use of Article 3, paragraphs 3 and 4, for issuing removal units <sup>b</sup> )	1.320 <sup>a</sup>
<b>Total</b>		<b>3.137</b>

<sup>a</sup> This represents the cap on the use of forest management under Article 3, paragraph 4. Estimated annual CO<sub>2</sub> sequestration, based on the IPCC methodology, is 3.8 Tg CO<sub>2</sub>.

<sup>b</sup> Estimates for removal units under Article 3, paragraph 3, are not available.

58. Slovenia's LULUCF sector constitutes a net sink. Slovenia has a 57 per cent forest cover and has adopted and implemented a sustainable forest management programme since 1996. Slovenia's total CO<sub>2</sub> removals under Article 3, paragraph 4, are estimated as 3.8 Tg CO<sub>2</sub> equivalent by 2010 based on the IPCC methodology. Slovenia intends to use removals units from forest management under Article 3, paragraph 4, of the Kyoto Protocol up to the cap value of 1.32 Tg CO<sub>2</sub> as part of the effort to meet its emission reduction target under the Kyoto Protocol. The net reduction from use of the Kyoto Protocol mechanisms (implementation is to be linked to the EU ETS) is projected to be 1.31 Tg CO<sub>2</sub> in the first commitment period. These additional measures will together contribute to close Slovenia's emission reduction gap of 2.61 Tg CO<sub>2</sub> equivalent projected (under the "with measures" scenario) for the first commitment period (2008–2012).

59. Slovenia's RDP mentions the country's internal capacity-building activities and possibilities for assisting developing countries in the implementation of the Convention in the future.

#### **B. Supplementary information under Article 7, paragraph 2, of the Kyoto Protocol**

60. In its NC4 and RDP, Slovenia has provided most of the supplementary information required under Article 7, paragraph 2, of the Kyoto Protocol. This information reflects the steps taken by Slovenia to implement the relevant provisions of the Kyoto Protocol. The supplementary information is placed in different sections of the NC4 and the RDP. Table 8 provides references to the NC4 and RDP chapters in which supplementary information is provided.

61. Slovenia has appointed the ARSO as the national entity and its designated representative with overall responsibility for the national inventory. The ERT noted that Slovenia has made considerable improvements in the institutional arrangements to meet the Kyoto Protocol requirements for the national system; however, some elements, such as the quality assurance and quality control (QA/QC) plan, which is being developed, as well as the description of the procedures for the official consideration and approval of the inventory, should be described in Slovenia's next national communication.

62. The RDP indicates that since 1996 Slovenia has been preparing its participation in the Kyoto Protocol mechanisms, including the appointment of the designated national authority for clean development mechanism (CDM) projects, the appointment of the designated focal point for joint implementation (JI) projects, and the establishment of the national registry. The ERT noted that details of the national registry (which is being developed for Slovenia by the United Kingdom will be described in the next national communication.

63. The ERT also noted that Slovenia has not reported the following elements of the supplementary information required under Article 7, paragraph 2, of the Kyoto Protocol: a description of the national registry; information on the efforts Slovenia is making to implement policies and measures in such a way as to minimize adverse effects, including the effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention; 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 any elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contributes to the conservation of biodiversity and sustainable use of natural resources.<sup>5</sup> The ERT recommends that Slovenia include these reporting elements in its next national communication.

**Table 8. Overview of supplementary information under Article 7, paragraph 2, of the Kyoto Protocol**

Supplementary information	Reference	Reported activities
National system and national registry under Article 5, paragraph 1	RDP, p. 43 in chapter 4	<ul style="list-style-type: none"> <li>The ARSO with other collaborating institutions and administrative bodies is responsible for compiling GHG emission inventories</li> <li>Improvements made in national system since 2004 to meet Kyoto Protocol requirements</li> <li>A cooperation agreement has been reached among the institutions working on compiling inventories-but, except for the Statistical Office of the Republic of Slovenia, it is not clear which other agencies/institutions are involved and what are the institutional, legal and procedural arrangements for cooperation</li> <li>A description of the process and the results of key source identification is not provided</li> </ul>
Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	RDP, section 1.3, p. 26; NC4, p. 74	<ul style="list-style-type: none"> <li>Plans to participate in JI and CDM in addition to EU ETS</li> <li>Guidelines for implementation of JI and CDM drawn up; the designated national authority and contact person have been appointed</li> <li>More detailed information is not provided</li> </ul>
Policies and measures in accordance with Article 2	NC4, pp. 57–78; NC4, annex C; RDP, chapter 1	<ul style="list-style-type: none"> <li>Strategy to Reduce GHG Emissions adopted in 2000</li> <li>Revised Action Plan to Reduce GHG Emissions (AP-GHG) adopted in July 2003 and supplemented in 2004</li> <li>Information provided on existing policies and measures to reduce sectoral emissions in energy, transport, industry, agriculture and forestry, waste, and emissions of F-gases; and on interdepartmental measures</li> <li>Contribution of measures to meeting the Kyoto targets in the first commitment period has been quantified</li> </ul>
Domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures	RDP, p. 14	<ul style="list-style-type: none"> <li>Listed national policy instruments (Resolution on the National Environmental Action Programme for the Period 2005–2012, and Action Plan to Reduce GHG Emissions)</li> <li>In 2004, Slovenia became a member State of EU, which required harmonization of Slovenia's legal order with EU legislation, including instruments for implementation of Kyoto Protocol</li> </ul>
Implementation of Article 3, paragraphs 3 and 4	RDP, p. 39	<ul style="list-style-type: none"> <li>Slovenia intends to use removal units under Article 3, paragraph 4, to meet its Kyoto Protocol targets in the first commitment period</li> </ul>

*Note 1:* As an EIT country, Slovenia does not have to report on the implementation of Article 11 of the Kyoto Protocol, including on the provision of new and additional resources.

*Note 2:* For the abbreviations used, see annex II.

<sup>5</sup> See paragraph 38 in decision 15/CMP.1.



## IV. Conclusions

64. Slovenia has an energy policy and a climate change policy in effect. The Action Plan to Reduce GHG Emissions in the energy sector was adopted in 2003; it has undergone one revision and is currently being further revised. Slovenia's domestic measures, including a carbon tax, are intended to reduce domestic GHG emissions in order to help Slovenia meet its Kyoto Protocol target in the first commitment period (2008–2012).

65. In 2004, GHG emissions (without LULUCF) in Slovenia were 0.8 per cent below the base year (1986) level. The emissions declined from 1986 to 1992 as a result of the transition to a market economy. Between 1993 and 2000, emissions fluctuated, and they had almost stabilized by 2000, but growth can be observed from 2000 to 2004 (by 6.6 per cent in GHG emissions without LULUCF).

66. In the NC4 and the RDP, Slovenia has presented GHG projections for the period 1986–2020. Three scenarios are included: baseline (“without measures”); “with measures” (reflecting the effect of currently implemented and adopted policies and measures); and “with additional measures” (reflecting the effect of planned policies and measures). The projections show that Slovenia's GHG emissions under the “with measures” scenario would be 4.9 per cent (about 2.6 Tg CO<sub>2</sub> equivalent) above base year level on average in the period 2008–2012, whereas Slovenia's target under the Kyoto Protocol is an 8 per cent reduction. With additional measures Slovenia's GHG emissions in 2010 would be 1.4 per cent below base year level (about 1.3 Tg CO<sub>2</sub> equivalent). Slovenia plans to bridge this gap with credits from sinks that are projected to be, in 2010, at the level of 1.32 Tg CO<sub>2</sub> per year. This would allow Slovenia to decrease the gap to about 1.29 Tg CO<sub>2</sub> equivalent for the “with measures” scenario and to close the gap almost completely (0.02 Tg CO<sub>2</sub> equivalent) for the “with additional measures” scenario.

67. In the course of the IDR, the ERT formulated a number of recommendations relating to the completeness and transparency of Slovenia's reporting under the Convention and its Kyoto Protocol. The key recommendations<sup>6</sup> are that Slovenia, in its next national communication:

- Provide information on how it believes its policies and measures are modifying longer-term trends in anthropogenic GHG emissions and removals consistent with the objective of the Convention;
- Provide information on the projected use, if any, of the Kyoto Protocol mechanisms for achieving its emission reduction commitment;
- Provide a description of the national registry; information on the efforts it is making to implement policies and measures in such a way as to minimize adverse effects, including the effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention; 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 any elected activities under Article 3, paragraph 4, of the Kyoto Protocol, also contributes to the conservation of biodiversity and sustainable use of natural resources.

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<sup>6</sup> For a complete list of recommendations, the relevant sections of this report should be consulted.

Annex I**Documents and information used during the review****A. Reference documents**

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

UNFCCC. Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol, decision 15/CMP.1. FCCC/KP/CMP/2005/8/Add.2. Available at <<http://unfccc.int/resource/docs/2005/cmp1/eng/08a02.pdf#page=54>>.

UNFCCC. Guidelines for review under Article 8 of the Kyoto Protocol, decision 22/CMP.1. FCCC/KP/CMP/2005/8/Add.3. Available at <<http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf#page=51>>.

UNFCCC. Report on the in-depth review of the first national communication of Slovenia. FCCC/IDR.3/SVN. Available at <<http://unfccc.int/resource/docs/idr/svn01.pdf>>.

UNFCCC. Synthesis of reports demonstrating progress in accordance with Article 3, paragraph 2, of the Kyoto Protocol. FCCC/SBI/2006/INF.2. Available at <<http://unfccc.int/resource/docs/2006/sbi/eng/inf02.pdf>>.

UNFCCC. Report of the individual review of the greenhouse gas inventory of Slovenia submitted in the year 2005. FCCC/ARR/2005/SVN. Available at <<http://unfccc.int/resource/docs/2006/arr/svn.pdf>>.

Slovenia's Ministry of the Environment and Spatial Planning. Slovenia's Fourth National Communication under the United Nations Framework Convention on Climate Change. Available at <<http://unfccc.int/resource/docs/natc/svnnc4.pdf>>.

Slovenia's Ministry of the Environment and Spatial Planning. Slovenia's Report on Demonstrable Progress under the Kyoto Protocol. Available at <<http://unfccc.int/resource/docs/dpr/svn1.pdf>>.

The 2006 GHG inventory submission of Slovenia. Available at <[unfccc.int/national\\_reports/annex\\_i\\_ghg\\_inventories/national\\_inventories\\_submissions/items/3734.php](http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/3734.php)>.

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

Responses to questions during the review were received from Mr. Matjaz Cesen, Jozef Stefan Institute.

Annex II**Acronyms and abbreviations**

ACEA	European Automobile Manufacturers Association (Association des Constructeurs Européens d'Automobiles)	ISO	International Organization for Standardization
AP-GHG	Action Plan to Reduce GHG Emissions	kg	kilogram (1 kg = 1 thousand grams)
ARSO	Environment Agency of the Republic of Slovenia	kWh	kilowatt hour
CCPMs	common and coordinated policies and measures	JI	joint implementation
CDM	clean development mechanism	JAMA	Japan Automobile Manufacturers Association
CH <sub>4</sub>	methane	KAMA	Korea Automobile Manufacturers Association
CHP	combined heat and power	LULUCF	land use, land-use change and forestry
CO <sub>2</sub>	carbon dioxide	Mg	megagram (1 Mg = 1 tonne)
CO <sub>2</sub> eq	carbon dioxide equivalent	mg	milligram (1000 mg = 1 gram)
CRF	common reporting format	Mtoe	millions of tonnes of oil equivalent
EC	European Community	N <sub>2</sub> O	nitrous oxide
EIT	economy in transition	NC3	third national communication
EMAS	environmental management audit scheme	NC4	fourth national communication
ERT	expert review team	NGO	non-governmental organization
ETS	emissions trading scheme	Nm <sup>3</sup>	standard cubic meter
EU	European Union	PFCs	perfluorocarbons
F-gases	fluorinated gases	PPP	purchasing power parities
GDP	gross domestic product	RDP	Report demonstrating progress under the Kyoto Protocol
GHG	greenhouse gas; unless indicated otherwise, GHG emissions are the weighted sum of CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs and SF <sub>6</sub> without GHG emissions and removals from LULUCF	RES	renewable energy sources
GWP	global warming potential	SF <sub>6</sub>	sulphur hexafluoride
HFCs	hydrofluorocarbons	SO <sub>2</sub>	sulphur dioxide
IDR	in-depth review	Tg	teragram (1 Tg = 1 million tonnes)
IEA	International Energy Agency	toe	tonnes of oil equivalent
IPCC	Intergovernmental Panel on Climate Change	TPES	total primary energy supply
IPPC	Integrated Pollution Prevention and Control	UNFCCC	United Nations Framework Convention on Climate Change
		USD	United States dollar

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