

# Slovenia

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## 1. SOURCES OF INFORMATION

Slovenia's submission concerning a mechanism for monitoring community greenhouse gas emissions and for implementing the Kyoto Protocol pursuant to Decision no 280/2004/EC (MMS 2007)

National Allocation Plan of Slovenia 2008 to 2012 (NAP2), October 2006, Ljubljana, [http://ec.europa.eu/environment/climat/pdf/nap\\_slovenia\\_final.pdf](http://ec.europa.eu/environment/climat/pdf/nap_slovenia_final.pdf).

The European Community's initial report under the Kyoto Protocol - Report to facilitate the calculation of the assigned amount of the European Community pursuant to Article 3, paragraphs 7 and 8 of the Kyoto Protocol (Submission to the UNFCCC Secretariat), EEA Technical report No 10/2006

### **Base-year emissions**

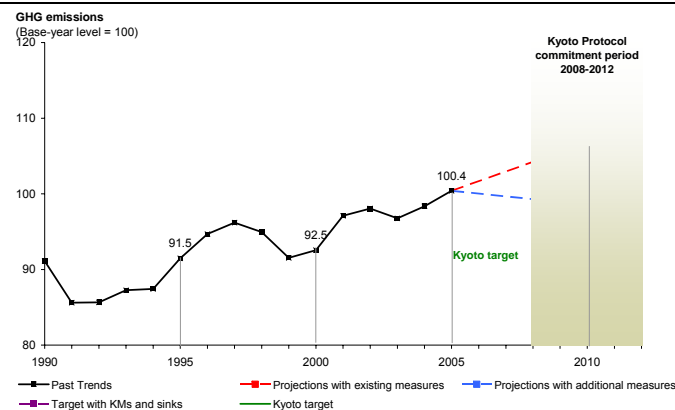
Base-year emissions of greenhouse gases are calculated using 1990 emissions for carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) and 1995 emissions for fluorinated gases (SF<sub>6</sub>, HFCs and PFCs).

Base-year data is as reported by Member States in the sources noted above. Base year data is consistent with data reported in *The European Community's initial report under the Kyoto Protocol - Report to facilitate the calculation of the assigned amount of the European Community pursuant to Article 3, paragraphs 7 and 8 of the Kyoto Protocol (Submission to the UNFCCC Secretariat)*, EEA Technical report No 10/2006. This data is currently undergoing a review procedure by UNFCCC and is therefore subject to change.

## 2. SUMMARY

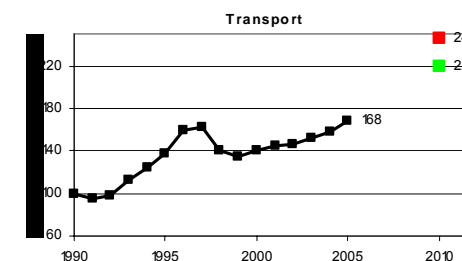
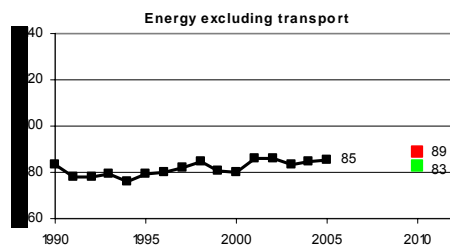
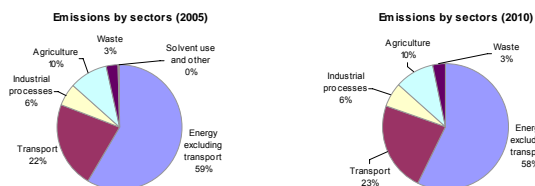
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Emissions base year (initial report)	20.2 Mt
Emissions 2005	20.3 Mt
Emissions base year (for projections)	20.2 Mt
Projections 2010 with existing measures	21.6 Mt
Projections 2010 with additional measures	19.9 Mt
Kyoto target (absolute)	18.6 Mt
Kyoto target (% from base year)	- 8.0 %
Change base year to 2005	+ 0.4 %
Change 2004-05	+ 2.1 %
Change base year to 2010 with existing measures	+ 6.8 %
Change base year -2010 with additional measures	- 1.4 %
Distance to linear target path 2005	- 2.1 (+6.4) index points
Use of Kyoto mechanisms	< 0.6 Mt
Sinks (Articles 3.3 and 3.4)	1.7 Mt
Emissions in 1990 (Article 3.7)	n.a.



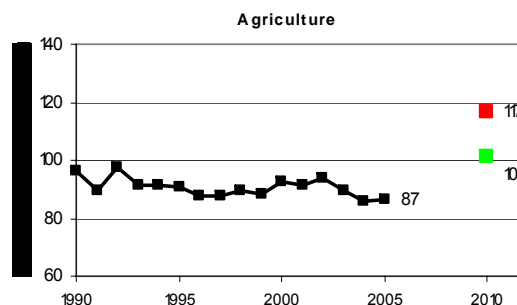
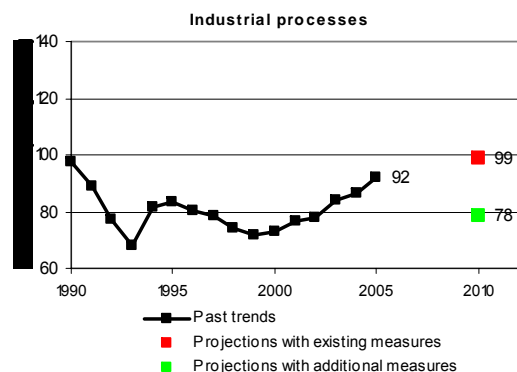
**Past emissions:** Slovenia's GHG emissions were 2.1 % above 2004 and 0.4 % above base-year (1986) levels in 2005. Main factors for increasing emissions with regard to the previous year were increased fuel consumption in all energy related sectors except households and services. Between the base year and 2005, emission decreases from manufacturing industries and energy industries were offset by increases from transport and households and services.

**Emission projections:** Emissions in 2005 were six percentage points below projections with existing measures for 2010. With existing measures Slovenia will be 15 percentage points above the Kyoto target. Additional measures are projected to provide eight percentage points which will still leave a gap of about seven percentage points. Slovenia intends to close this gap by making use of Kyoto mechanisms and carbon sinks of 1.7 Mt. For the current assessment 0.6 Mt of Kyoto units have been taken into account although Slovenia has not yet decided on the quantity and has not yet allocated a budget.

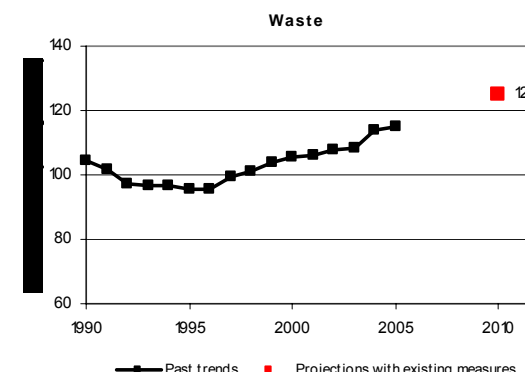


■ Past trends  
■ Projections with existing measures  
■ Projections with additional measures

■ Past trends  
■ Projections with existing measures  
■ Projections with additional measures



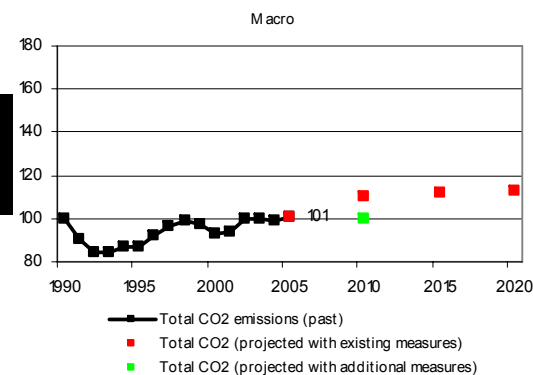
■ Past trends  
■ Projections with existing measures  
■ Projections with additional measures



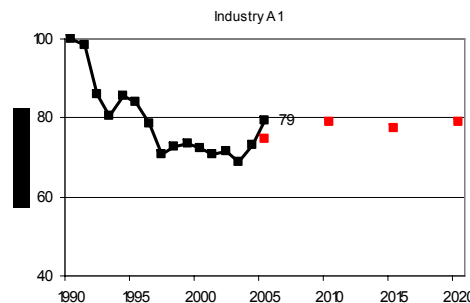
■ Past trends  
■ Projections with existing measures

### 3. REPORTED INDICATORS

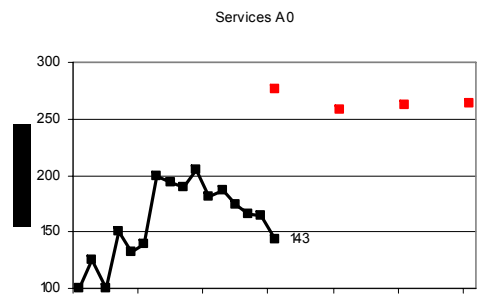
Note, that due to the use of different definitions and different timing of submissions projected values may be inconsistent with past values.



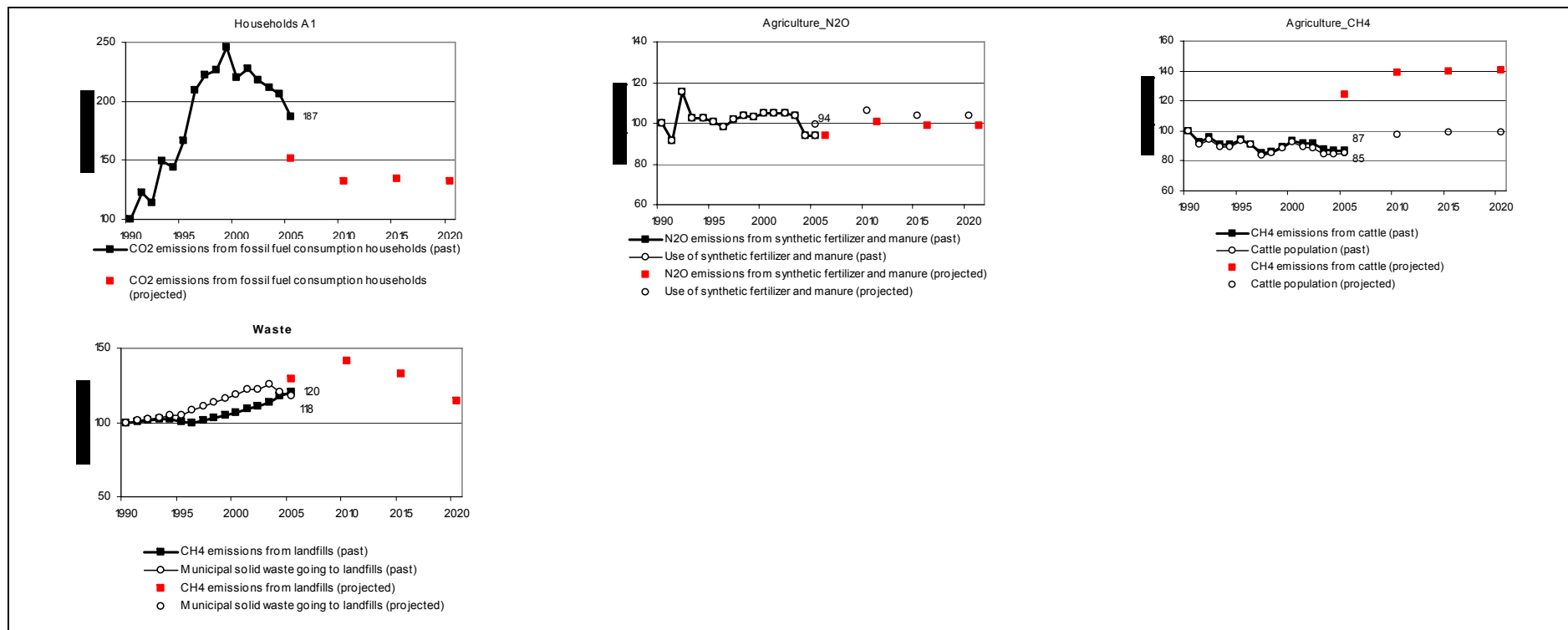
■ Total CO2 emissions (past)  
■ Total CO2 (projected with existing measures)  
■ Total CO2 (projected with additional measures)



■ CO2 emissions from industry (past)  
■ CO2 emissions from industry (projected)



■ CO2 emissions from services (past)  
■ CO2 emissions from services (projected)



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Priority Indicators		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Macro	Total CO <sub>2</sub> emissions, kt	14,633	13,673	13,577	14,080	14,079	14,865	15,619	15,928	15,670	15,035	15,116	16,084	16,149	15,949	16,319	16,672
	GDP, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	21	22	23
Macro B0	CO <sub>2</sub> emissions from energy consumption, kt	13,612	12,811	12,787	13,429	13,277	14,056	14,804	15,101	14,854	14,202	14,268	15,173	15,250	14,975	15,322	15,611
	GDP, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	21	22	23
Transport C0	CO <sub>2</sub> emissions from passenger cars, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	2,639	3,147	-
	Number of kilometres by passenger cars, Mkm	-	-	-	-	-	-	-	-	-	-	-	-	-	17	19	-
Industry A1	CO <sub>2</sub> emissions from industry, kt	3,090	3,044	2,654	2,486	2,650	2,600	2,431	2,189	2,253	2,272	2,241	2,181	2,216	2,129	2,258	2,455
	Gross value-added total industry, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	6	7	7
Households A1	CO <sub>2</sub> emissions from fossil fuel consumption households, kt	797	979	909	1,188	1,147	1,325	1,667	1,766	1,808	1,958	1,754	1,816	1,737	1,687	1,643	1,492
	Stock of permanently occupied dwellings, 1000	-	-	-	-	-	-	-	-	-	-	-	-	-	665	665	665
Services A0	CO <sub>2</sub> emissions from fossil fuel consumption in commercial and institutional sector, kt	496	617	496	747	654	691	984	960	941	1,015	900	923	863	824	816	710
	Gross value-added services, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	10	11	11
Transformation B0	CO <sub>2</sub> emissions from public and autoproducer thermal power stations, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	5,908	6,058	6,097
	All products - output and autoproducer thermal power stations, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	27	27	28

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Additional Priority Indicators		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Transport D0	CO <sub>2</sub> emissions from freight transport on road, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	1,123	NE	-
	Freight transport on road, Mtkm	-	-	-	-	-	-	-	-	-	-	-	-	-	7,135	NE	-
Industry A1.1	Total CO <sub>2</sub> emissions from iron and steel, kt	533	393	319	300	330	305	316	294	279	284	337	345	347	370	272	293
	Gross value-added - iron and steel industry, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Industry A1.2	Energy related CO <sub>2</sub> emissions chemical industries, kt	208	221	167	131	83	152	109	249	236	177	168	169	170	183	199	166
	Gross value-added - chemical industry, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Industry A1.3	Energy related CO <sub>2</sub> emissions - glass pottery and building materials industry, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	483	530	635
	Gross value added - glass pottery and building materials industry, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
Industry C0.1	Total CO <sub>2</sub> emissions from iron and steel, kt	533	393	319	300	330	305	316	294	279	284	337	345	347	370	272	293
	Production of oxygen steel	-	-	-	-	-	-	-	-	-	-	-	-	-	541	571	606
Industry C0.2	Energy related CO <sub>2</sub> emissions from glass, pottery and building materials, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	483	530	635
	Cement production, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	1,267	1,205	1,166

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Supplementary Indicators		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Transport B0 (diesel)	CO <sub>2</sub> emissions of diesel-driven cars, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	1,718	NE	-
	Number of km, of diesel-driven passenger cars, Mio km	-	-	-	-	-	-	-	-	-	-	-	-	-	133	NE	-
Transport (B0) (petrol)	CO <sub>2</sub> emissions of petrol-driven cars, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	2,116	NE	-
	Number of km, of petrol-driven passenger cars, Mio km	-	-	-	-	-	-	-	-	-	-	-	-	-	762	NE	-
Transport C0	CO <sub>2</sub> emissions from passenger cars, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	2,639	NE	-
	Passenger transport by cars, Mpkm	-	-	-	-	-	-	-	-	-	-	-	-	-	NE	NE	-
Transport E1	CO <sub>2</sub> emissions from domestic air transport, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Domestic air passenger, Mio	-	-	-	-	-	-	-	-	-	-	-	-	-	NO	NO	-
Industry A1.4	Energy related CO <sub>2</sub> emissions food industry, kt	218	215	190	194	178	200	176	213	210	215	181	165	181	226	178	173
	Gross Value Added food, drink and tobacco industry, Mio EUR (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	425	396	371
Industry A1.5	Energy related CO <sub>2</sub> emissions - paper and printing industry, kt	379	595	603	541	613	696	691	367	466	555	507	446	476	454	501	567
	Gross value added paper and printing industry, Mio EUR (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	391.54	415.93	428.23
Households A0	Surface area of permanently occupied dwellings, Mio m <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	NE	NE	-
	Specific CO <sub>2</sub> emissions of households for space heating, t/m <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-	51	NE	NE	51
Services B0	CO <sub>2</sub> emissions from space heating in commercial and institutional, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	NE	NE	-
	Surface area of services buildings, Mio m <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	NE	NE	-
Transformation D0	CO <sub>2</sub> emissions from public thermal power stations, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	5,908	NE	-
	All products output by public thermal power stations, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	26	26	26
Transformation E0	CO <sub>2</sub> emissions from autoproducer, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	NE	NE	-
	All products output by autoproducer thermal power stations, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Transformation	CO <sub>2</sub> emissions from classical power production, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	5,908	-	-
	All products output by public and autoproducer power stations, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	50	55	54
Transport	CO <sub>2</sub> emissions from transport, kt	2,660	2,514	2,590	2,990	3,298	3,624	4,199	4,268	3,687	3,507	3,653	3,786	3,800	3,941	4,092	4,367
	Total final energy consumption from transport, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	56	58	62
Industry	Energy related CO <sub>2</sub> emissions paper and printing industries, kt	379	595	603	541	613	696	691	367	466	555	507	446	476	454	501	567
	Physical output of paper, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	864	949	966
Industry	CO <sub>2</sub> emissions from the industry sector	3,090	3,044	2,654	2,486	2,650	2,600	2,431	2,189	2,253	2,272	2,241	2,181	2,216	2,129	2,258	2,455
	Total final energy consumption from industry, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	62	63	68
Households	CO <sub>2</sub> emissions from households, kt	797	797	979	909	1,188	1,147	1,325	1,667	1,766	1,808	1,958	1,754	1,816	1,737	1,687	1,643
	Total final energy consumption from households, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	53	52	50



## 4. OVERVIEW OF CCPM IMPLEMENTATION IN MEMBER STATE

Table 1. Information provided on the implementation of policies and measures

Sector	CCPM	Status
Cross-cutting	Emissions trading 2003/87/EC	N
Cross-cutting	Kyoto Protocol project mechanisms 2004/101/EC	
Cross-cutting	Integrated pollution prevention and control 96/61/EC	
Energy supply	Promotion of cogeneration 2004/8/EC	B
Energy supply	Taxation of energy products 2003/96/EC	B
Energy supply	Internal electricity market 2003/54/EC	
Energy supply	Promotion of electricity from RE sources 2001/77/EC	B
Energy supply	Internal market in natural gas 98/30/EC	
Energy supply	Emissions from large combustion plants 88/609/EEC	
Energy consumption	Directives on energy labelling of appliances	N
Energy consumption	End-use efficiency and energy services 2006/32/EC	
Energy consumption	Ecodesign requirements for energy-using products 2005/32/EC	
Energy consumption	Energy performance of buildings 2002/91/EC	
Energy consumption	Eco-management & audit scheme (EMAS) EC 761/2001	N
Energy consumption	Energy-efficiency labelling for office equipment Regulation No. 2422/2001	
Energy consumption	Efficiency fluorescent lighting 2000/55/EC	
Energy consumption	Efficiency of hot water boilers 92/42/EEC	N
Transport	Environmental performance freight transport (Marco Polo Programme)	
Transport	Motor challenge, voluntary EC programme	
Transport	Promotion of biofuels for transport 2003/30/EC	
Transport	Integrated European railway area (2 <sup>nd</sup> + 3rd Railway package) (COM(2002)18 final)	
Transport	Transport modal shift to rail 2001/12/EC etc.	
Transport	Consumer information on cars 1999/94/EC	N
Transport	Agreement with car manufacturers ACEA etc.	
Industrial Process	F-gas regulation (Regulation No 842/2006)	
Industrial Process	HFC emissions from air conditioning in motor vehicles 2006/40/EC	
Agriculture	Support under CAP (1782/2003)	N
Agriculture	Support under CAP - amendment (1783/2003)	
Agriculture	Nitrates 91/676/EEC	
Agriculture	Transition to rural development support No 2603/1999	
Agriculture	Agricultural production methods compatible with environment Regulation (EEC) No 2078/92	
Agriculture	Aid scheme for forestry measures in agriculture (Regulation (EEC) No 2080/92)	
Agriculture	Emission by engines to power agricultural or forestry 2000/25/EC	
Agriculture	Pre-accession measures for agriculture and rural development Regulation (EC) No 1268/1999	
Waste	Directive on waste 2006/12/EC	
Waste	Landfill directive 1999/31/EC	N
Waste	Packaging and packaging waste (Directive 94/62/EC, 2004/12/EC, 2005/20/EC)	

*Legend*

<b>New national PAM implemented after CCPM was adopted</b>	<b>N</b>
<b>Existing national PAM re-enforced by CCPM</b>	<b>R</b>
<b>National PAM already in force before CCPM was adopted</b>	<b>B</b>
<b>Not reported</b>	

Source: MMS 2007

## 5. COMPLETENESS OF REPORTING

Table 2. Information provided on policies and measures

Information provided	Level of information provided	Comments
Policy names	+++	
Objectives of policies	+++	
Which greenhouse gases?	+++	All six gases: CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFC, PFC, SF <sub>6</sub>
Status of Implementation	+++	Not specified from when.
Implementation body specified	+++	The implementation body is specified in all but two case for the WM scenarios
Quantitative assessment of implementation	++	Data for 2010 is almost complete (missing in 2 instances), but there is no assessment for 2020
Interaction with other policies and measures discussed	++	CCPM is provided for 70%

Table 3. Information provided on projections

Category of Information	Level of information provided	Comments
Scenarios considered	++	Only two scenarios, with measures and with additional measures were provided
Expressed relative to base year	+++	
Starting year	2000	No access to the MMS narrative part yet
Split of projections	2005, 2010, 2015, 2020	Information is available split both by gases and by sectors
Presentation of results	+++	Information is presented in detail
Description of model (level of detail, approach and assumptions)	+++	The methodology is described in detail, separate models were used for energy, transport, industrial processes, waste and agriculture
Sensitivity analysis (key inputs to model / high, central and low projections scenarios / robustness of model)	-	No sensitivity analyses was carried out

Discussion of uncertainty	++	Uncertainty is discussed in a separate chapter, and an uncertainty analysis was carried out and main possible uncertainty factors listed for each different sector (energy, transport, industry, agriculture), but very few calculations and data are provided
Details of parameters and assumptions	++	Mandatory parameters were listed and calculations/assumptions were listed for 2005, 2010, 2015 and 2020. No data was provided for the recommended parameters on projections.

## 6. ASSESSMENT OF POLICIES AND MEASURES

**Table 4. Summary of the effect of policies and measures included in the 2010 projections (Mt CO<sub>2</sub>-eq.)**

	With measures	With additional measures
Energy (total, excluding transport)	NE	0.8
Energy supply	NE	0.0
Energy – industry, construction	NE	0.8
Energy – other (commercial, residential, agriculture)	NE	0.0
Transport (energy)	NE	0.5
Industrial processes	NE	0.3
Waste	NE	0
Agriculture	NE	0
Cross-sectoral	NE	NE
<b>Total (excluding LULUCF)</b>	NE	1.7

The effect of the “with measures” scenario could not be calculated because the “without measures” scenario was not available in the MMS 2007 Excel report.

Table 5. Detailed information on policies and measures

## Policies and measures in the "with measures" projection

Sector	Name	Objective	Type of GHG affected	Type of instrument	Status	Implementing entity	Estimated savings (ktCO <sub>2</sub> -eq.)		Related CCPM
							2010	2020	
Cross-cutting	Environmental taxes for pollution of the air with CO <sub>2</sub> emissions	More efficient energy use	CO <sub>2</sub>	Fiscal	Implemented				
Cross-cutting	JI and CDM mechanisms	GHG emission reduction	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFC, PFC, SF <sub>6</sub>	Economic	Implemented				Kyoto Protocol project mechanisms (Dir 2004/101/EC)
Energy supply	Technological modernisation of thermal power stations	To reduce specific emissions in the generation of electricity, since given the expected market conditions and the objectives of the Resolution on the National Energy Programme (RNEP) no reduction in the generation of electricity in Slovenia can be expected in the short term	CO <sub>2</sub>	Economic, regulatory	Implemented	National Government (MESP-Environment Directorate, Min. of the Economy - Energy Directorate), Others (Energy Agency)	414		Integrated pollution prevention and control (IPPC) (Dir 96/61/EC)
Energy supply	Promoting cogeneration in district heating	Increasing electricity generation in cogeneration units in district heating systems	CO <sub>2</sub>	Economic, information	Implemented	National Government (Min. of the Economy-Energy directorate, Government office for local self	92		Promotion of cogeneration (Dir 2004/8/EC)

Sector	Name	Objective	Type of GHG affected	Type of instrument	Status	Implementing entity	Estimated savings (ktCO <sub>2</sub> -eq.)		Related CCPM
							2010	2020	
						government and regional policy, MESP), Others (Slovenian Ecological Fund, Energy agency)			
Energy supply	Generation from RES	Increasing electricity generation from RES	CO <sub>2</sub>	Economic, information	Implemented	National Government (Min. of the Economy-Energy directorate, Government office for local self-government and regional policy, MESP, Dept. Of EEU and RES), Others (Slovenian Ecological Fund, Energy agency)	193		Electricity production from renewable energy sources (Dir 2001/77/EC)
Energy supply	Promoting cogeneration of electricity and heat	Increase cogeneration	CO <sub>2</sub>	Economic	Implemented	National Government (Ministry of economy - Energy Directorate)	93		Promotion of cogeneration (Dir 2004/8/EC)
Energy supply	Replacement of fuel	Decreasing use of fossil fuels	CO <sub>2</sub>	Economic	Implemented	National Government (MESP-Environment Directorate)	214		
Energy supply	Increased use of RES (especially wood biomass)	Decreasing use of fossil fuels	CO <sub>2</sub>	Economic	Implemented	National Government (MESP - Dept. Of EEU and RES, MESP (OP-ENLES provider), Others	40		Electricity production from renewable energy sources (Dir

Sector	Name	Objective	Type of GHG affected	Type of instrument	Status	Implementing entity	Estimated savings (ktCO <sub>2</sub> -eq.)		Related CCPM
							2010	2020	
						(Slovenian ecological fund)			2001/77/EC)
Energy supply	Increasing the use of RES and replacing fuels for heating and preparation of sanitary hot water	Increasing the proportion of heat consumed in households from renewable sources, natural gas and district heating systems, where the heat is supplied through cogeneration with high efficiency or renewable energy sources	CO <sub>2</sub>	Economic	Implemented	National Government (MESP Dept of EEU and RES MESP (OP ROPI provider, probably Dept of EEU and RES) Min. of Agriculture (Rural Development Programme)), Others (Slovenian ecological fund)	255		
Energy supply	Promoting electricity generation in cogeneration with heat and based on RES	Increase use of cogeneration	CO <sub>2</sub>	Economic	Implemented	National Government (Min. of the Economy – Energy Directorate MESP Dept of EEU and RES, Slovenian Ecological Fund Min. of the Economy, Energy Agency)	70		Promotion of cogeneration (Dir 2004/8/EC)
Energy consumption	Legislation of the energy performance of buildings	Increase energy efficiency of buildings	CO <sub>2</sub>	Regulatory	Implemented	National Government (MESP Spatial Planning Directorate, Min. of the Economy - Energy directorate)	105		Energy performance of buildings (Dir 2002/91/EC)
Energy consumption	Energy rehabilitation of	Increase energy efficiency of buildings	CO <sub>2</sub>	Economic, Voluntary/	Implemented	National Government	217		End-use efficiency and

Sector	Name	Objective	Type of GHG affected	Type of instrument	Status	Implementing entity	Estimated savings (ktCO <sub>2</sub> -eq.)		Related CCPM
							2010	2020	
	buildings			negotiated agreement, Regulatory		(MESP Dept. Of EEU and RES; MESP (Op Ropi Provider, probably Dept of EEU and RES)), Others (Slovenian ecological fund)			energy services (Dir 2006/32/EC)
Energy consumption	Increasing the energy efficiency of electricity use in households and services	Increasing the use of energy-saving household appliances	CO <sub>2</sub>	Economic, information	Implemented	National Government (MESP Dept of EEU and RES), Others (Slovenian ecological fund)	305		Energy labelling of household appliances (Dir 2003/66/EC (refrigerators - freezers), 2002/40/EC (electric ovens), 2002/31/EC (air-conditioners), 99/9/EC (dishwashers), 98/11/EC (lamps), 96/89/EC (washing machines), 96/60/EC (washer-driers) and 92/75/EC
Energy consumption	Increased energy efficiency	Increase energy efficiency	CO <sub>2</sub>	Economic, Voluntary/negotiated agreement, Regulatory	Implemented	National Government (MESP – Environment Directorate,	193		Integrated pollution prevention and control (IPPC) (Dir 96/61/EC)



Sector	Name	Objective	Type of GHG affected	Type of instrument	Status	Implementing entity	Estimated savings (ktCO <sub>2</sub> -eq.)		Related CCPM
							2010	2020	
						European programme providers in Slovenia; MESP - Dept of EEU and RES; MESP (OP ROPI provider, probably Dept of EEU and RES); MESP - Environment Directorate), Companies / Businesses / industrial associations (Chamber of Commerce and Industry of Slovenia), Others (Slovenian ecological fund)			
Transport	EU strategy for reducing emissions from private	Reduce CO <sub>2</sub> emissions from private vehicles and to improve fuel efficiency	CO <sub>2</sub>	Economic, Fiscal, Voluntary/ negotiated agreement	Implemented	National Government (MESP - Environment Directorate)	467		Labelling of new passenger cars (Dir 1999/94/EC), Voluntary agreement with car manufacturers to reduce specific CO <sub>2</sub> emissions (ACEA, KAMA, JAMA)

Sector	Name	Objective	Type of GHG affected	Type of instrument	Status	Implementing entity	Estimated savings (ktCO <sub>2</sub> -eq.)		Related CCPM
							2010	2020	
Transport	Promoting public passenger transport	Increase use of public transport	CO <sub>2</sub>	Economic	Implemented	National Government (Ministry of transport)	459		
Transport	Replacing fossil fuels with biofuels	Increase the proportion of biofuels in total fuel consumption for transport 2006 at least 1.2%, for 2007 at least 2%, for 2008 at least 3%, for 2009 at least 4% and 2010 at least 5	CO <sub>2</sub>	Fiscal, regulatory	Implemented	National Government (MESP - Environment Directorate)	217		Biofuels Directive (Dir 2003/30/EC)
Industrial Processes	Adaptation of aluminium production to best available technologies	Reduce emissions from industrial processes	CO <sub>2</sub> , PFC	Regulatory	Implemented	National Government (MESP - Environment Directorate)	159		Integrated pollution prevention and control (IPPC) (Dir 96/61/EC)
Industrial Processes	Reducing coolant leaks from refrigeration, freezer and air conditioning appliances and removing coolants from obsolete appliances	Reduce emissions from industrial processes	HFC	Regulatory	Implemented	National Government (MESP - Environment Directorate, Min. of Transport - Roads directorate)	32		HFC emissions from air conditioning in motor vehicles (Dir 2006/40/EC)
Agriculture	Introduction of anaerobic digesters to produce biogas on agribusiness	Reducing emissions from agriculture	CO <sub>2</sub> , CH <sub>4</sub>	Economic	Implemented	National Government (MESP Dept. Of EEU and RES, Min. of Agriculture)	16		

Sector	Name	Objective	Type of GHG affected	Type of instrument	Status	Implementing entity	Estimated savings (ktCO <sub>2</sub> -eq.)		Related CCPM
							2010	2020	
	operations and farm holdings					(Rural development programme)			
Agriculture	Pasture rearing of bovines	Reducing emissions from agriculture	CH <sub>4</sub>	Education	Implemented	National Government (Min. of Agriculture (Rural development programme))	15		
Agriculture	Rational fertilising of agricultural plants	Reducing emissions from agriculture	N <sub>2</sub> O	Economic, Education	Implemented	National Government (Min. of Agriculture (Rural development programme))	38		Nitrates Directive (Dir 91/676/EEC)
Forestry	Sustainable forest management	Increasing CO <sub>2</sub> sinks	CO <sub>2</sub>	Regulatory	Implemented	National Government (Min. of Agriculture)	1320		
Waste	Degasification and combustion, energy exploitation or use of landfill gas	Reduce emissions from waste deposition	CO <sub>2</sub> , CH <sub>4</sub>	Economic, Fiscal, Regulatory	Implemented	National Government (MESP - Environment Directorate)	105		Landfill Directive (Dir 1999/31/EC)
Waste	Reducing the quantity of disposed waste	Reduce emissions from waste deposition	CO <sub>2</sub> , CH <sub>4</sub>	Regulatory	Implemented	National Government (MESP - Environment Directorate)	39		Directive on waste (Dir 2006/12/EC), Packaging and packaging waste (Dir 94/62/EC, 2004/12/EC, 2005/20/EC)

## Policies and measures in the “with additional measures” projection

Sector	Name	Objective	Type of GHG affected	Type of instrument	Status	Implementing entity	Estimated savings (ktCO <sub>2</sub> -eq.)		Related CCPM
							2010	2020	
Cross-cutting	Trading the right to emit greenhouse gases (EU-ETS)	Reduce emissions in a cost effective way	CO <sub>2</sub>	Economic	Implemented	National Government (MESP - Environment Directorate, Ministry of Finance,)	1314		Emissions trading scheme (Dir 2003/87/EC)
Transport	Implementing measures of the resolution on transport policy for the transition from road to rail	Reducing GHG emission through the transport of goods and passengers by rail	CO <sub>2</sub>	Regulatory	Planned	National Government (Ministry of transport)	556		

Source: Öko Institut, (accessed June 2007), ECCP Policies and Measures database, <http://www.oeko.de/service/pam/index.php>

## 7. EVALUATION OF PROJECTIONS

Table 6. Summary of projections by gas in 2010 (Mt CO<sub>2</sub>-eq.)

	Base-year	With measures	With additional measures
Carbon dioxide (excl. LULUCF)	16.2	17.8	16.2
Methane	2.4	2.3	2.3
Nitrous oxide	1.4	1.3	1.3
HFCs	0.0	0.1	0.1
PFCs	0.3	0.0	0.0
SF <sub>6</sub>	0.0	0.0	0.0
<b>Total (excl. LULUCF)</b>	20.2	21.6	19.9
% change relative to base year (excl. LULUCF)		6.7%	-1.5%

Table 7. Summary of projections (6 gas basket) by sector in 2010 (Mt CO<sub>2</sub>-eq.)

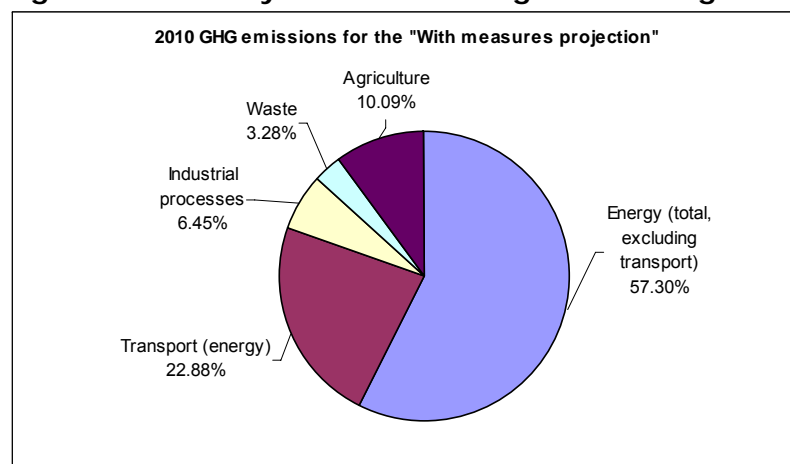
	Base-year	With measures	% change relative to base-year	With additional measures	% change relative to base-year
Energy (total, excluding transport)	13.9	12.4	-11%	11.5	-17%
Energy supply	0.4	0.4	-13%	0.4	-13%
Energy – industry, construction	11.1	9.2	-17%	8.4	-25%
Energy – other (commercial, residential, agriculture)	2.4	2.8	17%	2.8	17%
Transport (energy)	2.0	4.9	146%	4.4	120%
Industrial processes	1.4	1.4	-1%	1.1	-22%
Waste	0.6	0.7	25%	0.7	25%
Agriculture	2.3	2.2	-6%	2.2	-6%
<b>Total (excl. LULUCF)</b>	20.2	21.6	7%	19.9	-1%



Table 8. Summary of projections by sector and by gas in 2010 (Mt CO<sub>2</sub>-eq.) compared to base-year emissions

	Carbon dioxide			Methane			Nitrous oxide			F-gases (SF <sub>6</sub> , HFCs and PFCs)		
	Base-year	With measures	With additional measures	Base-year	With measures	With additional measures	Base year	With measures	With additional measures	Base-year	With measures	With additional measures
Energy (excl. transport)	13.191	11.896	11.048	0.58	0.371	0.371	0.145	0.092	0.092	NE	NE	NE
Transport (energy)	1.971	4.725	4.205	0.011	0.007	0.007	0.025	0.202	0.202	NE	NE	NE
Industrial processes	0.998	1.216	0.925	0.003	0.006	0.006	0.081	0.034	0.034	0.326	0.136	0.136
Waste	NE	NE	NE	0.507	0.649	0.649	0.059	0.058	0.058	NE	NE	NE
Agriculture	NE	NE	NE	1.275	1.228	1.228	1.031	0.949	0.949	NE	NE	NE
<b>Total (excl. LULUCF)</b>	<b>16.16</b>	<b>17.837</b>	<b>16.178</b>	<b>2.376</b>	<b>2.261</b>	<b>2.261</b>	<b>1.341</b>	<b>1.335</b>	<b>1.335</b>	<b>0.326</b>	<b>0.136</b>	<b>0.136</b>

Figure 1. Share by sector of 2010 greenhouse gas emissions according to the "With existing measures" projections



**Table 9. Summary of projections (6 gas basket) in 2010, 2015 and 2020 (Mt CO<sub>2</sub>-eq.)**

	Base-year*	2010	2010 % of base- year level	2015	2015 % of base- year level	2020	2020 % of base- year level
Total (excl. LULUCF)	20.2	19.9	98.6%	20.0	99.1%	20.0	99.2%

**Table 10. Assessment of the target (6 gas basket), with a comparison of 2010 projections in 2005, 2006 and 2007 national reports**

	Emissions in MtCO <sub>2</sub> -equiv., excluding LULUCF			
	2010 projections from 2005	2010 projections from 2006	2010 projections from 2007	2010 projections from 2007 % of base- year level
Base year emissions used for projections	20.2	20.2	20.2	100%
Kyoto Commitment/burden sharing	18.6	18.6	18.6	-8.0%
With existing P&Ms projections	21.2	21.2	21.6	106.7%
Gap (-ve means overachievement of target)	2.6	2.6	3.0	14.7%
With additional P&Ms projections	20.3	19.9	19.9	98.5%
Remaining gap	1.7	1.3	1.3	6.5%
Effect of flexible mechanisms	0.0	0.0	0.0	0.0%
Remaining gap (with use of flexible mechanisms)	1.7	1.3	1.3	6.5%

Above table excludes LULUCF

LULUCF will be covered in the main report, based on the questionnaire submissions.

Source for 2005 data is GHG emission trends and projections in Europe 2005.

Source for 2006 data is GHG emission trends and projections in Europe 2006.

\* Base year data is consistent with data reported in The European Community's initial report under the Kyoto Protocol - Report to facilitate the calculation of the assigned amount of the European Community pursuant to Article 3, paragraphs 7 and 8 of the Kyoto Protocol (Submission to the UNFCCC Secretariat), EEA Technical report No 10/2006 (20.203 MtCO<sub>2</sub>-eq). This data is currently undergoing a review procedure by UNFCCC and is therefore subject to change.

**Table 11. Comparison with projections for the trading sector (EU ETS)**

	MMS	NAP 2 projections	Difference
Energy sector	11.9 <sup>a</sup>	6.023 <sup>e</sup>	
Energy sector included in EU ETS	11.8 <sup>c</sup>		--
Industry sector	1.216 <sup>b</sup>	2.144 <sup>f</sup>	--
Industry sector included in EU ETS	1.216 <sup>d</sup>		--
Total Energy & Industry	13.116	8.3 <sup>g</sup>	63%

There is a significant discrepancy between MMS 2007 CO<sub>2</sub> projection for 2010 and the annual NAP2 allowances calculation.



Energy use from industry is normally included in the energy sector for projections under the UNFCCC and included in the industry sector for NAP 2 projections. Due to these and other differences in the sector definitions projections for the individual sectors might not be comparable.

<sup>a</sup> Included are MMS 2007 CO<sub>2</sub> VM emissions from the sectors Energy-Transport

<sup>b</sup> Included are MMS 2007 CO<sub>2</sub> VM emissions from the sectors Industrial processes

<sup>c</sup> Included are MMS 2007 CO<sub>2</sub> VM emissions from sectors 1. Energy Industries + 2. Manufacturing Industries and Constructions + 4. Other sectors

<sup>d</sup> Included are MMS 2007 CO<sub>2</sub> VM emissions from sectors 2.A. Mineral products, 2.b. Chemical Industry, 2.c. Metal Production, 2.d. Other Production

<sup>e</sup> Calculation includes Thermal power plants and thermal power and district heating plants+District heating plants, listed in the NAP2 table Specifying the Quantity of Allowances to be Issued Annually in the 2008 – 2012 Period

<sup>f</sup> Calculation includes Industry – combustion emissions + Industry – process emissions listed in the NAP2 table Specifying the Quantity of Allowances to be Issued Annually in the 2008 – 2012 Period

<sup>g</sup> Calculation includes NAP2 Energy Sector + NAP2 Industry sector + new entrance reserve

## 8. DESCRIPTION OF MODELLING APPROACH

### Overview of modelling approach

The greenhouse gas emissions projections were carried out using the IPCC methodology together with other different models and it was carried out separately using different models for each sector: energy, industrial processes, waste and agriculture.

#### A Energy

In calculating emissions projections in the energy sector several models were used like PET-SLO, REES-SLO, MESAP, ELAM-SLO, ELBIVIM.

The PET-SLO model calculates the market shares of individual energy-saving technologies among end users as a response to changed pricing signals, financial incentives and information campaigns.

REES-SLO estimates the market shares of individual technologies and their costs from the input data for a basic model of the reference energy system

MESAP is used to calculate the prospective balances of final energy consumption and to estimate local generation of electricity based on the proportions of various technologies in the breakdown of final consumption and connections to influential parameters

The SLO programme simulates the timeframe for loading the electrical energy system, taking account of typical users and local generators

The ELBIVIM model is used to calculate the balances of electricity generation in free market conditions

The MESAP/REES-SLO model is used for analysing the proportions of electricity generation in individual units and the pertaining costs

The COPERT model was used for calculating emissions from transport.

#### B Industrial Processes

The emission projections for industrial processes were made based on industrial output projections taking into account various emission factors for different type of businesses, and taking into consideration calculations used for NAP2.

#### C Waste

For calculating emission projection for both solid and liquid waste the IPCC 1997 methodology was used.

## D Agriculture

Emission projections were calculated based on the IPCC 2007 guidelines, however it was noted that data on the extent of plant production and animal husbandry are captured separately, therefore the model does not enable an optimisation on the overall agriculture level, but only on individual segments

### Sensitivity analysis

No sensitivity analysis was carried out.

### Details of the uncertainty assessment

MS has identified the following main reasons for uncertainty:

- The uncertainty of statistical data used for projection calculations
- The models used for projections
- The uncertainty of the scenarios of policies and measures to be implemented
- The uncertainty of future economic, technological and social development

Percentages regarding uncertainties were only calculated for the agricultural sector, based on the IPCC 2000 handbook. According to these calculations the uncertainty in methane emissions is estimated at 19%, in nitrogen oxide at 230%. The uncertainty for emissions of both gases in agriculture is estimated at 135%.

There is no description about how to minimise uncertainties.

## 9. PROJECTION INDICATOR REPORTING

Table 12 shows the projection indicators for monitoring and evaluating progress with regard to policies and measures (2005/166/EC) as well as the given numerators and denominators. Information has been provided for the years 2005, 2010, 2015 and 2020.

## 10. REPORTING OF PARAMETERS ON PROJECTIONS

The mandatory parameters are provided in Table 13. For most parameters information is provided for 2005, 2010, 2015, 2020. For the following mandatory parameters information is not complete:

Assumptions for general economic parameters

Assumptions for the industry sector

- The production index for industrial sector

Assumptions for the transport sector

- The growth of transport relative to GDP
- The level of private consumption (excluding private transport)
- The share of the tertiary sector in GDP and the growth rate

Assumptions in the agriculture sector

- The share of the agriculture sector in GDP and relative growth

No information was provided for any of the recommended parameters in the table.

Table 12. Indicators for projections to monitor and evaluate progress with policies and measures (2005/166/EC) Annex III

N°	Eurostat Sectors	Indicator	2005	2010	2015	2020	Numerator/denominator	2005	2010	2015	2020
1	Macro	CO <sub>2</sub> intensity of GDP, t/Euro million	0.70	0.64	0.58	0.53	Total CO <sub>2</sub> emissions, kt	16288	17837	18140	18259
							GDP, bio Euro (EC95)	23214	27774	31116	34517
2	Transport C0	CO <sub>2</sub> emissions from passenger cars, kt	2697	2836	2883	2827					
		Number of kilometres by passenger cars, Mkm	25799	26561	26920	25966					
3	Transport D0	CO <sub>2</sub> emissions from freight transport (all modes), kt	1140	1465	1593	1682					
		Freight transport (all modes), Mtkm	7327	10248	12185	13005					
4	Industry A1	Energy related CO <sub>2</sub> intensity of industry, t/Euro million	0.335	0.296	0.268	0.246	CO <sub>2</sub> emissions from fuel consumption industry, kt	2309	2442	2396	2436
							Gross value-added total industry, Bio Euro (EC 95)	6888	8248	8926	9891
5	Households A1	Specific CO <sub>2</sub> emissions of households, t/dwelling	1.62	1.35	1.31	1.24	CO <sub>2</sub> emissions from fossil fuel consumption households, kt	1203	1055	1069	1052
							Stock of permanently occupied dwellings, 1000	741	779	813	846
6	Services A0	CO <sub>2</sub> intensity of the services sector, t/Euro million	114.4	87.8	77.4	69.7	CO <sub>2</sub> emissions from fossil fuel consumption services, kt	1372	1282	1299	1304
							Gross value-added services, bio Euro (EC95)	11.99	14.59	16.77	18.72
7	Transformation B0	Specific CO <sub>2</sub> emissions of public and autoproducer power plants, t/TJ	0.47	0.45	0.36	0.36	CO <sub>2</sub> emissions from public and autoproducer thermal power stations, kt	6624	7181	7150	7242
							All products-output by public and autoproducer thermal power stations, PJ	14150	16104	19974	20353
8	Agriculture	Specific N <sub>2</sub> O emissions of fertilizer and manure use, kg/kg	0.0186	0.0187	0.0187	0.0187	N <sub>2</sub> O emissions from synthetic fertilizer and manure use, kt	1.057	1.132	1.107	1.112
							Use of synthetic fertiliser and manure, kt nitrogen	56.72	60.62	59.16	59.42
9	Agriculture	Specific CH <sub>4</sub> emissions of cattle	0.0915	0.0887	0.0882	0.0889	CH <sub>4</sub> emissions from cattle, kt	41.391	46.175	46.555	46.93

		production, kg/head					Cattle populations, 1000 head	452.517	520.3	527.7	527.7
10	Waste	Specific CH <sub>4</sub> emissions from landfills, kt/kt	0.026	0.038	0.044	0.041	CH <sub>4</sub> emissions from landfills, kt				
							Municipal solid waste going to landfills, kt	20.9	22.9	21.4	18.5
								793.1	597.2	486.9	446.2

Table 13. List of parameters on projections (Annex IV of Implementing Provisions<sup>1</sup>)

1. Mandatory parameters on projections	2005	2010	2015	2020	Unit
<b>Assumptions for general economic parameters</b>					
GDP (value at given years or annual growth rate and base year)	23,214	27,774	31,116	34,517	Mio EUR 2000 (Euro 2000 basis)
Gross Domestic Product growth Rate	3.4	3.7	2.3	2.1	Annual growth rate (%)
Population (value at given years or annual growth rate and base year)	1,985	1,980	1,975	1,964	Thousand People
Population Growth Rate and Base Year Value	100.0	99.7	99.5	98.9	% of 2005 value
International coal prices at given years in Euro per tone or GJ (Gigajoule)					
International oil prices at given years in Euro per barrel or GJ					
International gas prices at given years in Euro per m3 or GJ					
<b>Assumptions for the energy sector</b>					
Total gross inland consumption (PJ) (split by oil, gas, coal, renewables, nuclear, other)	237.30	257.44	273.18	275.32	Petajoule (PJ)
Oil (fossil)	99.58	101.32	103.07	101.99	Petajoule (PJ)
Gas (fossil)	39.96	49.52	73.65	75.24	Petajoule (PJ)
Coal	62.04	63.22	50.20	50.19	Petajoule (PJ)
Renewables	35.72	43.38	46.26	47.90	Petajoule (PJ)
Nuclear (IEA definition for energy calc.)	63.38	59.45	58.51	58.51	Petajoule (PJ)
Net Electricity import (-+)	-1.17	-3.73	-4.83	-9.20	Petajoule (PJ)
Other Please Specify in Column I	0.00	0.00	0.00	0.00	Petajoule

<sup>1</sup> Commission Decision of 10 February 2005 laying down rules implementing Decision No 280/2004/EC of the European Parliament and of the Council concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol

## SLOVENIA

Total electricity production by fuel type (oil, gas, coal, renewables, nuclear, other)	14150	16104	19974	20353	(PJ) GWh
Oil (fossil)	32	45	42	42	GWh
Gas (fossil)	380	1376	4725	4888	GWh
Coal	4598	4833	4862	4862	GWh
Renewable	3527	4733	5228	5445	GWh
Nuclear (IEA definition for energy calc.)	5614	5117	5117	5117	GWh
Other Please Specify in Column I					
Energy demand by sector split by fuel (delivered)	300.68	316.90	331.69	333.83	
Energy Industries	142.69	149.97	161.28	162.74	
Oil (fossil)	0.38	0.46	0.44	0.43	Petajoule (PJ)
Gas (fossil)	4.39	11.27	34.29	34.72	Petajoule (PJ)
Coal	58.57	59.48	46.67	46.67	Petajoule (PJ)
Renewables	15.97	19.29	21.36	22.42	Petajoule (PJ)
Nuclear (IEA definition for energy calc.)	63.38	59.45	58.51	58.51	Petajoule (PJ)
Other Please Specify in Column I					Gwhe
Industry	46.07	48.49	48.00	48.73	
Oil (fossil)	10.53	11.27	11.11	11.68	Petajoule (PJ)
Gas (fossil)	28.30	29.62	29.51	29.65	Petajoule (PJ)
Coal	3.48	3.74	3.53	3.52	Petajoule (PJ)
Renewables	3.76	3.87	3.85	3.88	Petajoule (PJ)
Other Please Specify in Column I					Petajoule (PJ)
Commercial (Tertiary)	25.23	26.55	27.09	26.95	
Oil (fossil)	18.59	18.40	17.77	16.72	Petajoule (PJ)
Gas (fossil)	4.10	5.04	5.80	6.41	Petajoule (PJ)
Coal	0.00	0.00	0.00	0.00	Petajoule

## SLOVENIA

Renewables	2.53	3.10	3.51	3.82	(PJ) Petajoule (PJ)
Other Please Specify in Column I					Gwhe
Residential	29.25	29.18	29.09	28.78	
Oil (fossil)	12.65	11.84	11.09	10.19	Petajoule (PJ)
Gas (fossil)	3.16	3.58	4.04	4.46	Petajoule (PJ)
Coal	0.00	0.00	0.00	0.00	Petajoule (PJ)
Renewables	13.45	13.75	13.95	14.13	Petajoule (PJ)
Other Please Specify in Column I					Gwhe
Transport	57.44	62.72	66.23	66.63	
Oil (fossil)	57.44	59.35	62.65	62.97	Petajoule (PJ)
Gas (fossil)					Petajoule (PJ)
Renewables	0.00	3.36	3.58	3.66	Petajoule (PJ)
Other Please Specify in Column I					Gwhe
Assumptions on weather parameters, especially heating or cooling degree days					
Heating Degree Days	2836	2836	2836	2836	Annual HDD
Cooling Degree Days					
<b>Assumptions for the industry sector</b>					
Gross value-added total industry, Bio Euro (EC95) 2000	6,888	8,248	8,926	9,891	Mio EUR 2000 (Euro 2000 basis)
<b>For Member States using Macroeconomic Models:</b>					
The share of the industrial sector in GDP and growth rate	30%	30%	29%	29%	
Manufacture of food products, beverages and tobacco	729	907	935	986	Mio EUR 2000 (Euro 2000 basis)
Manufacture of textiles and textile products	355	349	309	294	Mio EUR 2000 (Euro 2000 basis)

## SLOVENIA

Manufacture of leather and leather products	76	70	59	56	Mio EUR 2000 (Euro 2000 basis)
Manufacture of wood and wood products	209	244	263	291	Mio EUR 2000 (Euro 2000 basis)
Manufacture of pulp, paper and paper products; publishing and printing	402	464	533	609	Mio EUR 2000 (Euro 2000 basis)
Manufacture of coke, refined petroleum products and nuclear fuel	11	13	15	16	Mio EUR 2000 (Euro 2000 basis)
Manufacture of chemicals, chemical products and man-made fibres	652	805	869	981	Mio EUR 2000 (Euro 2000 basis)
Manufacture of rubber and plastic products	315	397	456	529	Mio EUR 2000 (Euro 2000 basis)
Manufacture of other non-metallic mineral products	276	334	360	388	Mio EUR 2000 (Euro 2000 basis)
Manufacture of basic metals and fabricated metal products	871	1,002	1,082	1,159	Mio EUR 2000 (Euro 2000 basis)
Manufacture of machinery and equipment n.e.c.	536	645	684	758	Mio EUR 2000 (Euro 2000 basis)
Manufacture of electrical and optical equipment	748	982	1,133	1,355	Mio EUR 2000 (Euro 2000 basis)
Manufacture of transport equipment	213	255	269	275	Mio EUR 2000 (Euro 2000 basis)
Manufacturing of furniture	363	445	477	522	Mio EUR 2000 (Euro 2000 basis)
Construction	1,132	1,337	1,481	1,671	Mio EUR 2000 (Euro 2000 basis)



<b>For Member States using other models:</b>					
The production index for industrial sector					
<b>Assumptions for the transport sector</b>					
<b>For Member States using macroeconomic models:</b>					
The growth of transport relative to GDP					
<b>For Member States using other models:</b>					
Growth of Passenger person kilometres	25799	26561	26920	25966	Gg fuel consumed/ GDP Million passenger km
Number of kilometers by passenger cars, Mkm	17085	18200	19087	18595	Million tonnes km
Freight transport (all modes), Mtkm	7,327	10,248	12,185	13,005	Mtkm
<b>Assumptions for buildings (in residential and commercial or tertiary sector)</b>					
Gross value-added — services, Bio Euro (EC95)	11,993	14,592	16,774	18,719	Mio EUR 2000 (Euro 2000 basis)
<b>For Member States using macroeconomic models:</b>					
The level of private consumption (excluding private transport)					
The share of the tertiary sector in GDP and the growth rate					
<b>For Member States using other models:</b>					
The rate of change of floor space for tertiary buildings and dwellings					
Average floor space per dwelling	73.1	74.6	75.9	77.1	M <sup>2</sup>
The number of dwellings and number of employees in the tertiary sector					
The number of dwellings	741	779	813	846	1000 dwellings
Number of employees in the tertiary sector					1000 employees
<b>Assumptions in the agriculture sector</b>					
<b>For Member States using macroeconomic models:</b>					
The share of the agriculture sector in GDP and relative growth					
<b>For Member States using other models:</b>					
Livestock numbers by animal type (for enteric fermentation beef, cows, sheep, for manure management, pigs and, poultry)					
Total Cattle	452.517	520.3	527.7	527.7	Value (Euro 1995 basis) Thousand Places <sup>8</sup> .

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Dairy cattle	120.273	124	114	114	1000 heads
Non-dairy cattle	332.244	396.3	413.7	413.7	1000 heads
Sheep	129.352	120	120	120	1000 heads
Swine	547.432	661.4	665	665	1000 heads
Poultry	4358.2	5487.8	5551	5551	1000 heads
Other, please specify	19.249	17	17	17	1000 heads
The area of crops by crop type					
Wheat (and spelt)	30059	30000	30000	30000	Hectares
Rye	1320	1000	1000	1000	Hectares
Barley	15451	18000	18000	18000	Hectares
Oats	2731	2251	2251	2251	Hectares
Maize (for grain)	42369	39248	38000	38000	Hectares
Triticale	1986	2000	2000	2000	Hectares
Millet	627	226	226	226	Hectares
Buckwheat	811	632	632	632	Hectares
Other cereals	193	57	57	57	Hectares
Fodder peas	1521	1641	1641	1641	Hectares
Dry beans	310	310	310	310	Hectares
Potatoes	6306	7000	7000	7000	Hectares
Sugar beet	5057	0	0	0	Hectares
Feedbeet	1469	1500	1500	1500	Hectares
Rape	2260	11360	15000	15000	Hectares
Pumpkins for oil	4108	4000	4000	4000	Hectares
Maize for silage	31525	28000	28000	28000	Hectares
Fodder cereals and mixtures of leguminous and cereals	200	200	200	200	Hectares
Fertilizer Used (Synthetic & Manure)	56.72	60.62	59.16	59.42	kt Nitrogen
The emissions factors					
Enteric fermentation Dairy cattle					Tonnes CO2e /Thousand Heads
	2014	2009	2041	2041	
Enteric fermentation Non-dairy cattle					Tonnes CO2e /Thousand Heads
	1095	1075	1085	1100	
Enteric fermentation sheep					Tonnes CO2e /Thousand Heads
	168	168	168	168	

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Manure management Dairy cattle	1426	1421	1450	1450	Tonnes CO2e /Thousand Heads
Manure management Non-dairy cattle	608	604	612	619	Tonnes CO2e /Thousand Heads
Manure management sheep	66	66	66	66	Tonnes CO2e /Thousand Heads
Manure management Swine	356	381	391	391	Consistent Units Tonnes CO2e /Thousand Heads
Manure management Poultry	6.59	6.59	6.59	6.59	Tonnes CO2e /Thousand Heads
Fertilizer use & Crops					
1. Synthetic Fertilizers	0.0125	0.0125	0.0125	0.0125	kg N2O- N/kg N
2. Animal Manure Applied to Soils	0.0125	0.0125	0.0125	0.0125	kg N2O- N/kg N
3. N-fixing Crops	0.0125	0.0125	0.0125	0.0125	kg N2O- N/kg N
4. Crop Residue	0.0125	0.0125	0.0125	0.0125	kg N2O- N/kg N
<b>Assumptions in the waste sector</b>					
Municipal solid waste generation	793.118	740	740	740	kt
The organic fraction of municipal solid waste	52	52	52	52	%
Municipal solid waste disposed to landfills	100	80.7	65.8	60.3	%
Municipal solid waste disposed incinerated	0	0	0	0	%
Municipal solid waste disposed composted	0	19.3	34.2	39.7	%
Municipal solid waste disposed to landfills	<b>793.1</b>	<b>597.2</b>	<b>486.9</b>	<b>446.2</b>	kt
<b>Assumptions in the forestry sector</b>					

<p>Forest definitions Areas of:</p>	<p>Forest means land overgrown with forest trees in the form of stands or other forest plants which provides any of the functions of a forest. Forest according to this Act also includes overgrown plots of land defined as forest in the spatial element of the forest management plan (Forestry act, 1994). Selected threshold values for the forest definition to be used for reporting under Articles 3.3 and 3.4: minimum area for forest land area: 0,05 ha, Minimum value for tree crown cover: 30 %, Minimum tree height: 2 m (AAU Report SLO, 2006).</p>				
<p>Managed forests Unmanaged forests</p>	1169196	119419 6	1219196	1244196	Hectares

<b>2. Recommended parameters on projections</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
<b>Assumptions for general economic parameters</b>				
GDP growth rates split by industrial sectors in relation to 2000				
Comparison projected data with official forecasts				
<b>Assumptions for the energy sector</b>				
National coal, oil and gas energy prices per sector (including taxes)				
National electricity prices per sector as above (may be model output)				
Total production of district heating by fuel type				
<b>Assumptions for the industry sector</b>				
Assumptions fluorinated gases:				
Aluminium production and emissions factors				
Magnesium production and emissions factors				
Foam production and emissions factors				
Stock of refrigerant and leakage rates				
<i>For Member States using macroeconomic models:</i>				
Share of GDP for different sectors and growth rates				
Rate of improvement of energy intensity (1990 = 100)				
<i>For Member States using other models:</i>				
Index of production for different sectors				
Rate of improvement or index of energy efficiency				
<b>Assumptions for buildings (in residential and commercial / tertiary sector)</b>				
<i>For Member States using macroeconomic models:</i>				
Share of tertiary and household sectors in GDP				
Rate of improvement of energy intensity				
<i>For Member States using other models:</i>				
Number of households				
Number of new buildings				
Rate of improvement of energy efficiency (1990 = 100)				
<b>Assumptions for the transport sector</b>				
<i>For Member States using econometric models:</i>				
Growth of transport relative to GDP split by passenger and freight				
Improvements in energy efficiency split by vehicle type				
Improvements in energy efficiency split by vehicle type, whole fleet/new cars				
Rate of change of modal split (passenger and freight)				
Growth of passenger road kilometres				
Growth of passenger rail kilometres				
Growth of passenger aviation kilometres				
Growth of freight tonne kilometres on road				
Growth of freight tonne kilometres by rail				
Growth of freight tonne kilometres by navigation				

<b>2. Recommended parameters on projections</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
<b>Assumptions for the agriculture sector</b>				
<i>For Member States using econometric models:</i>				
Agricultural trade (import/export)				
Domestic consumption (e.g. milk/beef consumption)				
<i>For Member States using other models:</i>				
Development of area of crops, grassland, arable, set-aside, conversion to forests etc				
Macroeconomic assumptions behind projections of agricultural activity				
Description of livestock (e.g. by nutrient balance, output/animal production, milk production)				
Development of farming types (e.g. intensive conventional, organic farming)				
Distribution of housing/grazing systems and housing/grazing period				
Parameters of fertiliser regime:				
Details of fertiliser use (type of fertiliser, timing of application, inorganic/organic ratio)				
Volatilisation rate of ammonia, following spreading of manure on the soil				
Efficiency of manure use				
Parameters of manure management system:				
Distribution of storage facilities (e.g. with or without cover):				
Nitrogen excretion rate of manures				
Methods of application of manure				
Extent of introduction of control measures (storage systems, manure application), use of best available techniques				
Parameters related to nitrous oxide emissions from agricultural soils				
Amount of manure treatment				

## 11. COUNTRY CONCLUSIONS

The main document used for compiling the report is the MMS 2007, together with the Slovenian NAP2, the 2005 and 2006 GHG emission trends and projections in Europe reports (EEA reports) and the EC's Initial report.

Information provided regarding policies and measures data is quite comprehensive, although there is no time period mentioned for the implementation of the policies and measures planned/implemented and also the quantitative assessment is missing for 2020.

The calculations for emission projections are also incomplete: there is no "without measures" scenario calculated, however for the "with measures" and "with additional measures" scenarios all sectors and all six GHGs are covered.

Slovenia in 2006 adopted the Operational Programme to Reduce Greenhouse Gas Emissions by 2012 (OP-TGP), which describes numerous measures for reducing GHG emissions. Besides the OP-TGP there are several other programmes aimed at reducing GHG emissions such as National Energy Programme, Transport Policy, Operational Programme on Waste Disposal and Rural Development Programme.

The modelling approach for emission projections was made using different models and the IPCC methodology (1997) and it was described separately using different models for every sector: energy, industrial processes, waste and agriculture. Sensitivity analysis is missing; uncertainty assessment was made but it wasn't discussed in detail, uncertainty calculations were made only for the agricultural sector and there is no description on how the MS envisage minimizing uncertainty.

Emissions in base year 1986 in total amounted to 20,203 Gg CO<sub>2</sub> equiv. In 2004 GHG emissions were less with 1% compared to the base year and according to the "with measures" and "with additional measures" scenarios, emissions in 2005 will be approximately at the same level as in 2004. According to the "with measures scenario", emissions will increase substantially until 2010, but under the "with additional measures" scenario they will decline minimally. Up to 2020, both scenarios forecast a minimal increase in emissions relative to 2010.