Switzerland

Contents

Figures and tables

1. SOURCES OF INFORMATION

Switzerland's 4th National Communication submitted to the UNFCCC, 2005.

Switzerland's Report on Demonstrable Progress under Article 3.2 of the Kyoto Protocol submitted to the UNFCCC, dated 2005.

Switzerland's Initial Report under the Kyoto Protocol, dated 2006.

Personal communications from the Federal Office for the Environment Climate Unit, July 2007.

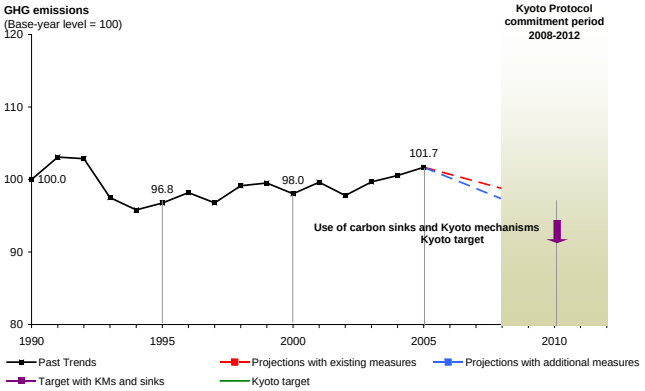
Base-year emissions

Base-year emissions of greenhouse gases are calculated using 1990 emissions for carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) and for fluorinated gases (SF_6, HFCs and PFCs).

Base year data is 0.25 MtCO2-eq lower than data reported in Switzerland's Initial Report under the Kyoto Protocol, dated 2006. This data is currently undergoing a review procedure by UNFCCC and is therefore subject to change.

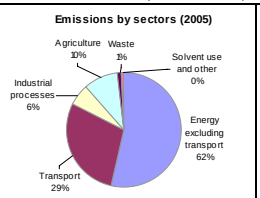
2. SUMMARY

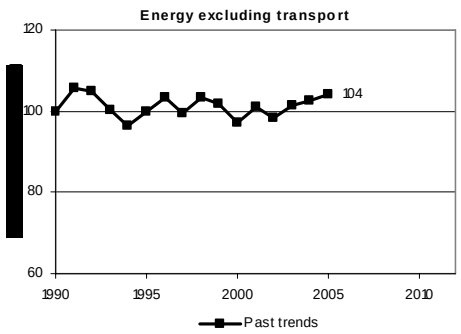
SWITZERLAND	
Emissions base year (initial report)	52.7 Mt
Emissions 2005	53.6 Mt
Emissions base year (for projections)	52.5 Mt
Projections 2010 with existing measures	50.8 Mt
Projections 2010 with additional measures	49.5 Mt
Kyoto target (absolute)	48.5 Mt
Kyoto target (% from base year)	– 8.0 %
Change base year to 2005	+ 1.7 %
Change 2004–05	+ 1.1 %
Change base year to 2010 with existing measures	- 3.2 %
Change base year to 2010 with additional measures	- 5.6 %
Distance to linear target path 2005	+5.4 index points
Use of Kyoto mechanisms	1.6 Mt.
Sinks (Articles 3.3. and 3.4)	n.a.
Emissions in 1990 (Article 3.7)	n.a.

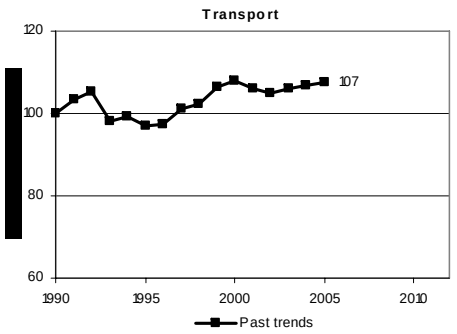


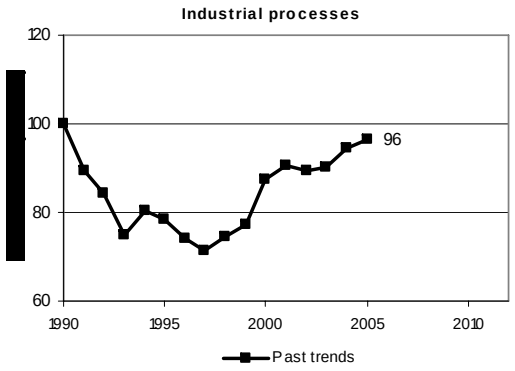
Past emissions In 2005, Switzerland's GHG emissions were 1.1 % above those of 2004 and 1.7 % above base-year levels. Main factors for increasing emissions with regard to the previous year were increased energy use in households and services. Looking at the change 1990–2005, road transport and energy supply are by far the largest contributor to emission increases, followed by emissions from consumption of halocarbons.

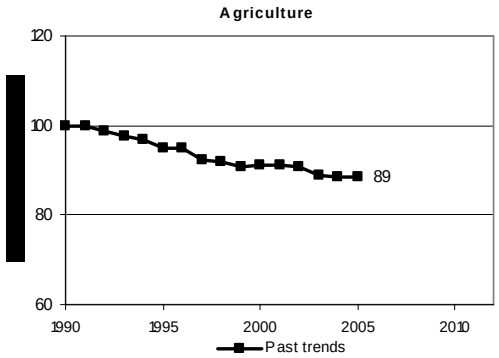
Emission projections: Emissions in 2005 were 1 index points above the base year level and 5 index points above the 'with existing measures' scenario for 2010. Switzerland will not achieve the Kyoto target with additional domestic measures, therefore 1.6 million tonnes of Kyoto units per year of the commitment period will be used.

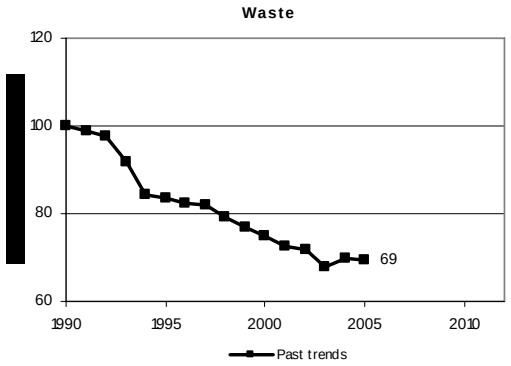







Industrial processes
120
100
80
60
1990
1995
2000
2005
2010
96
Past trends


Agriculture
120
100
80
60
1990
1995
2000
2005
2010
89
Past trends


Waste
120
100
80
60
1990
1995
2000
2005
2010
69
Past trends

3. COMPLETENESS OF REPORTING

Table 1. Information provided on policies and measures

Information provided	Level of information provided	Comments
Policy names	+++	All policies clearly named
Objectives of policies	+++	Policy objectives set out clearly, as is the type of policy (economic, voluntary, legislative).
Which greenhouse gases?	++	Switzerland specifies which gases are affected by each policy, but does not list all of them – only distinguishes between CO_2, 'precursors' and 'others'
Status of Implementation	++	The status of each policy is explained, although they are not classed according to IPCC guidelines
Implementation body specified	+++	The implementing body or bodies for each policy are listed
Quantitative assessment of implementation	+	Some quantification of the impacts of implementation is provided. For other measures qualitative estimates of the impacts of implementation are provided.
Interaction with other policies and measures discussed	o	There is no mention of interaction with other policies

Table 2. Information provided on projections

Category of Information	Level of information provided	Comments
Scenarios considered		"With measures" projection scenario. Also quantification of "with additional measures" policies and measures.
Expressed relative to base year	++	Base year is clearly expressed, and historic data differentiated from projections
Starting year	+++	Projections start in 2005
Split of projections	+++	Projections are split by gas (CO_2, CH_4, N_2O, HFCs, PFCs and SF_6s), and by sector, following IPCC guidelines for sectors. Projections provided for 2005, 2010, 2015 and 2020.
Presentation of results	+++	Results clearly presented in tables and graphs
Description of model (level of detail, approach and assumptions)	+++	Excellent description of the models used and of the assumptions made for these.
Sensitivity analysis (key inputs to model / high, central and low projections scenarios / robustness of model)	+++	There is a good discussion of sensitivity analysis

Discussion of uncertainty	++	Key model uncertainties are discussed
Details of parameters and assumptions	++	Assumptions are detailed for each sub-sector model

4. ASSESSMENT OF POLICIES AND MEASURES

Table 3. Summary of the effect of policies and measures included in the 2010 projections (Mt CO_2–eq.)

	With measures	With additional measures
Incentive CO_2 tax on heating and process fuels	NE	0.7
"Climate cent": domestic projects	NE	0.2
Bonus/penalty system + preferential treatment of alternative fuels	NE	0.4
Total (excluding LULUCF)	NE	1.3

Switzerland did not provide an estimation of the impact of individual policies and measures for any of those to be implemented under the *with measures* scenario. Nor was there a *without measures* emission projection for 2010 which would allow us to calculate the effect of these measures. Hence the table above only includes quantification of the effect of specific policies and measures considered *additional* policies and measures.

Source: Switzerland's 4th National Communication

Table 4. Detailed information on policies and measures

Table 4a. Measures implemented (situation as in June 2005)

Policies and measures in the "with measures" projection

Name of policy or measure	Objective and/or activity affected	GHGs affected	Type of instrument	Status	Implementing entity or entities	Impact indicators
1 CO_2 Act	Setting targets and timeframe for reduction of energy-related CO_2 emissions (overall target: minus 10% by 2010 compared to 1990)	CO_2, precursors	Legal Voluntary, with option for economic incentive tax	In force since 1 May 2000; guidelines for voluntary action issued in July 2001, superseded by CO_2 Ordinance adopted in June 2005	SAEFL	Fulfilment of CO_2 requirements according to CO_2 Act (periodic monitoring of overall emissions; progress reports by players engaged in voluntary agreements)
2 Kyoto Protocol flexible mechanisms	The flexible mechanisms are understood to be primarily an instrument for the private sector. The major buyer of certificates in Switzerland is expected to be the "Climate cent" foundation.	CO_2	Economic	The necessary institutions have been established (legal framework, secretariat). For the time being, no budget allocated for investment in CDM/JI projects.	SAEFL and SFOE with the aid of the Energy Agency for the Economy (EAEc)	Entities with binding commitments are allowed to cover up to 8% of their reduction target with emission certificates. Other actors (e.g. "climate cent") are allowed to cover up to 1600 Gg CO_2 eq./year through the flexible mechanisms. The total admissible contribution from flexible mechanisms corresponds to approx. 50% of the difference between base year and target.
3 Energy Act	Ensure secure energy supply, contribute to rational and efficient energy use	CO_2	Framework legislation - institutional - economic - regulatory	Implemented since 1998	SFOE, cantons	Development of overall energy consumption. Fossil fuel savings through mandatory measures in 2004: 17.6 PJ (1.2 million tonnes CO_2)
4 "SwissEnergy" action plan (successor to "Energy 2000" programme)	10% reduction in fossil fuel consumption from 2000 to 2010	CO_2	Voluntary agreements	Implemented since 2001 (follow-up to "Energy 2000").	SFOE, cantons and partners in the public and private sectors	Direct and indirect effects of the programmes since 1990 measured in terms of energy saved and reduction in CO_2 emissions (2004: 23.7 PJ and 1.6 million tonnes CO_2 respectively)
5 Cantonal and communal energy laws	Bring cantonal/communal energy legislation in line with the federal Energy Act	CO_2	Framework legislation - institutional - economic - regulatory	Continuously implemented	Swiss cantons and local authorities	Status of cantonal/communal energy legislation
6 Energy efficiency programmes in the buildings sector, MuKEn modules (model cantonal energy provisions)	Introduce/promote SIA standards, MINERGIE label etc.	CO_2	Institutional Regulatory	Implemented since 2001 (follow-up to "Energy 2000")	SFOE, cantons and partners in the public and private sectors	Energy consumption in new and renovated buildings. Quantitative impact of activities largely corresponding to the effects of the Energy Act (see measure 3 above)

Name of policy or measure	Objective and/or activity affected	GHGs affected	Type of instrument	Status	Implementing entity or entities	Impact indicators
7 Energy efficiency programmes in the commercial and industrial sector	Voluntary agreements, models for large-scale consumers to fully exploit technological potential	CO_2	Voluntary agreements	Implemented since 2001	SFOE, partners in the public and private sectors	Energy consumption in commercial and industrial sector. 2.7 PJ of final energy saved in the period 2001–2004
8 Energy efficiency programmes in the transport sector	Agreement on targets with Association of Swiss Automobile Importers Energy efficiency label for cars	CO_2	Voluntary agreements	Implemented since 2001 (follow-up to "Energy 2000")	SFOE, partners in the public and private sectors	Energy consumption in transport sector 0.77 PJ of final energy saved in the period 2001–2004
9 Amendment to the Energy Act	Improved feed-in tariffs for renewable energy Guarantee of origin for electricity	CO_2 (at the global level*)	Regulatory	Implemented since 2005	SFOE, cantons and partners in the public and the private sectors	Increased generation of renewable electricity
10 Heavy vehicle fee (HVF)	Transfer of freight traffic from road to rail, reduction in trans-alpine road traffic	CO_2, precursors	Economic	Implemented since 2001	Customs authorities, Federal Roads Authority	Load factors, change in road/rail vehicle-kilometres Expected reduction in vehicle-kilometres for HGVs in 2005: 13.6–17.2%
11 Modal shift measures in the transport sector	Transfer of freight traffic from road to rail, reduction in trans-alpine road traffic (supporting the HVF); expansion of railway infrastructure and services	CO_2, precursors	Institutional Subsidies (combined transport)	Implemented since 2000	Federal Office of Transport	Reduction in vehicle-kilometres for HGVs, increase in combined transport, transalpine truck traffic volume Expected reduction in vehicle-kilometres for HGVs in 2005 (including effects of HVF): 18–21.7%
12 Sustainability and protection of forested area	Sustainable forest management, no reduction in forested area	CO_2	Regulatory	Implemented since 1993	SAEFL	Number of trees, and their CO_2 absorption
13 GHG gas mitigation in agriculture	Promotion of ecological practices on farms	CH_4, N_2O	Economic Voluntary	Implemented since 1993	FOAG	Reduction in cattle population, and in the use of mineral fertilizers
14 Amendment of the Ordinance relating to Environmentally Hazardous Substances	Reduction in use and emissions of synthetic GHGs in all main sectors	HFCs, PFCs, SF_6	Regulatory Voluntary	Implemented since 2004	SAEFL, cantons	Expected reduction of emissions growth: 100–600 Gg CO_2 eq. in 2010
15 NMVOC tax	Reduction in fugitive fuel emissions	Precursors	Economic	In force since 1999	SAEFL	Expected reduction: 27,000 tonnes of NMVOCs

*Since power generation is almost carbon-free in Switzerland, renewable energy does not reduce CO_2 emissions directly in this country, but at the global level, e.g. if it is used to replace coal-based power.

Source: Switzerland's 4th National Communication.

Policies and measures in the "with additional measures" projection

Table 4b. Measures adopted or planned (situation as in June 2005)

Name of policy or measures	Objective and/or activity affected	GHGs affected	Type of instrument	Status	Implementing entity or entities	Impact indicators
1 CO_2 tax	Reduction of CO_2 emissions from heating process fuels	CO_2, precursors	Economic	Adopted by Federal Council and submitted to Parliament for adoption	SAEFL	Fulfilment of CO_2 reduction target for non-transport fuels
2 "Climate cent"	Mitigation projects within and outside Switzerland	CO_2, precursors	Voluntary	Agreement concluded in 2005	"Climate cent" foundation	Fulfilment of CO_2 reduction target for transport fuels
3 Emissions trading	Scheme for companies engaged in legally binding reduction commitments	CO_2	Economic	Ordinance adopted by Federal Council, due to enter into force after adoption of CO2 tax rate by Parliament	SAEFL	Trading volume monitored in national registry
4 Bonus/penalty system for cars	Reduction in fuel consumption of new cars Improvement of general environmental performance	CO_2, precursors	Economic	Evaluation of models	SFOE, Swiss Customs Swiss Federal Roads Authority	Fuel consumption of new cars: general environmental performance of cars
5 Programmes in the transport sector	Infrastructure expansion in agglomerations; reduction of traffic growth, new attempts to shift from road to public/non-motorized transport	CO_2, precursors	Infrastructure	New financing options for infrastructure financing (road, rail) in consultation	DETEC	Implementation of infrastructure programmes in agglomerations
6 Electricity Market Act	Measures supporting the liberalization of electricity markets: promotion of renewable forms of energy	CO_2 (at the global level*)	Institutional Regulatory	Public consultation concluded; expected entry into force in 2007	SFOE	Share of renewable electricity
7 Revision of mineral oil tax legislation	Promotion of alternative fuels by tax reduction, and tax increase for petrol	CO_2, precursors	Economic	Public consultation concluded; expected entry into force in 2007	Swiss Customs	Share of alternative fuels
8 Decision by Parliament to account for sinks	Forest management to enhance and conserve sinks	CO_2	Not yet defined	Decided in 2004, Implementation starting in 2008	SAEFL	Maximum contribution to Kyoto reduction objective: 1,835 Gg CO_2 per year (Decision 11/CP.7, Appendix)
9 Ecological tax reform	Shifting tax burden from labour to energy use	CO_2, other emissions	Economic	Suspended and reconsidered for post-2012 period	Federal Department of Finance	Model calculations

*Since power generation is almost carbon-free in Switzerland, renewable energy does not reduce CO_2 emissions directly in this country, but at the global level, e.g. if it is used to replace coal-based power.

Source: Switzerland's 4th National Communication

The following **additional** measures are also planned:

- An incentive tax of CHF 35 per tonne of CO2 on heating and process fuels (light and heavy fuel oil, coal and natural gas). The revenues will be redistributed to the population and companies.
- "Climate cent" to be levied on transport fuels (petrol and diesel). The revenues will be used for national projects to reduce CO2 emissions and for buying emission certificates abroad under the flexible mechanisms of the Kyoto Protocol.
- Bonus/penalty system for energy-efficient and environmentally friendly cars.
- Preferential treatment of alternative transport fuels (biogas, bioethanol, natural gas, etc.) in mineral oil tax legislation.

5. EVALUATION OF PROJECTIONS

Table 5. Summary of projections by gas in 2010 (Mt CO_2–eq.)

	Base-year*	With measures	With additional measures**
Carbon dioxide (excl. LULUCF)	44.4	43.5	42.2
Methane	4.5	3.5	3.5
Nitrous oxide	3.3	2.9	2.9
HFCs	0.0	0.7	0.7
PFCs	0.1	0.1	0.1
SF_6	0.2	0.2	0.2
Total (excl. LULUCF)	**52.5**	**50.8**	**49.5**
% change relative to base year (excl. LULUCF)		-3.2%	-5.5%

* Base year is 1990 for all gases.
** A *with additional measures* projection is not presented in Switzerland's 4th National Communication but total emission savings can be calculated from the quantification of individual *additional measures* provided by Switzerland.

Table 6. Summary of projections (6 gas basket) by sector in 2010 (Mt CO_2–eq.)

	Base year	with measures	% change relative to base year	with additional measures	% change relative to base year
Energy (total, excluding transport)	26.6	25.6	-4%	NE	NA
Energy supply	1.8	2.0	8%	NE	NA
Energy – industry, construction	6.2	5.9	-4%	NE	NA
Energy – other (commercial, residential, agriculture)	18.6	17.7	-5%	NE	NA
Transport (energy)	14.4	15.4	7%	NE	NA
Industrial processes	3.3	3.1	-8%	NE	NA
Waste	2.1	1.5	-26%	NE	NA
Agriculture	6.1	5.2	-14%	NE	NA
Total (excl. LULUCF)	52.5	50.8	-3%	49.5*	-6%

* A *with additional measures* projection is not presented in Switzerland's 4th National Communication but total emission savings can be calculated from the quantification of individual *additional measures* provided by Switzerland.

Table 7. Summary of projections by sector and by gas in 2010 (Mt CO_2–eq.) compared to base-year emissions

	Carbon dioxide			Methane			Nitrous oxide			F-gases (SF6, 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)	26.08	25.14	22.24	0.37	0.32	NE	0.13	0.13	NE	NO	NO	NO
Transport (energy)	14.19	15.26	14.86	0.1	0.02	NE	0.1	0.09	NE	NO	NO	NO
Industrial processes	2.84	1.86	1.86	0.01	0.01	NE	0.21	0.23	NE	0.28	0.99	0.99
Waste	1.26	1.19	1.19	0.74	0.24	NE	0.05	0.09	NE	NO	NO	NO
Agriculture	*	*	*	3.22	2.86	NE	2.86	2.35	NE	NO	NO	NO
Total (excl. LULUCF)	44.37	43.45	40.15	4.44	3.45	3.45	3.35	2.89	2.89	0.28	0.99	0.99

*CO_2 emissions from agriculture are included in the energy sector.

Figure 1. Share by sector of 2010 greenhouse gas emissions according to the "with measures" projection

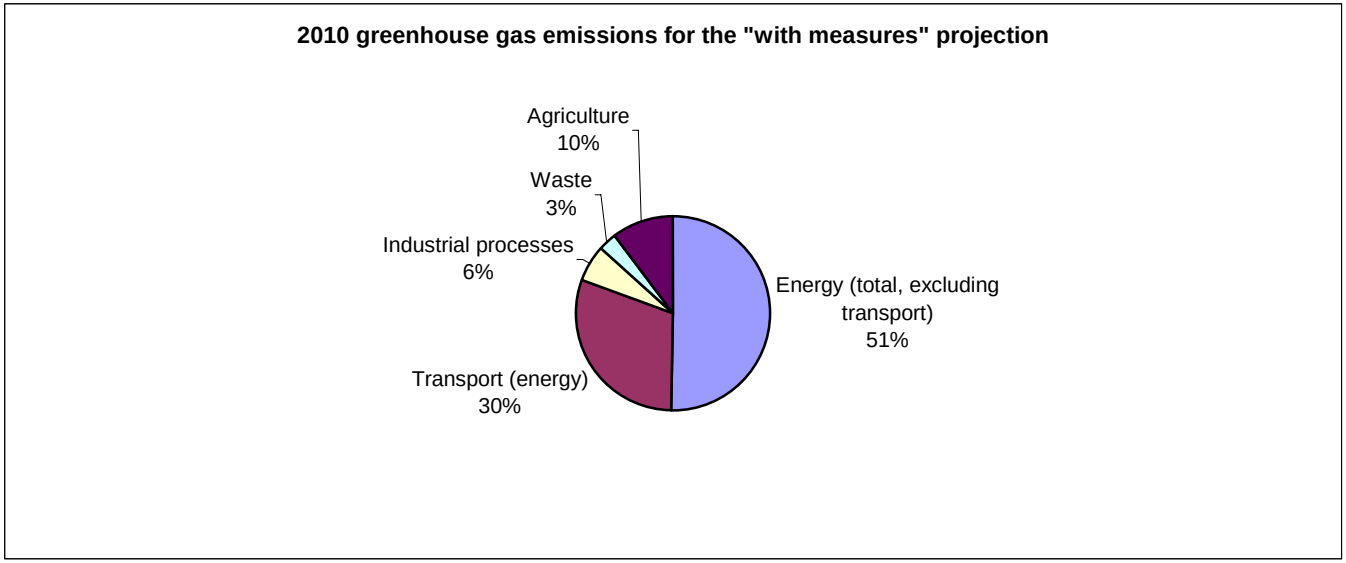


Table 8. Summary of projections (6 gas basket) in 2010, 2015 and 2020 (Mt CO_2–eq.)

	Base year*	2010	2010, % of base year level	2015	2015, % of base year level	2020	2020, % of base year level
Total (excluding LUCF)	52.5	49.5	94.4%	50.0	95.4%	49.3	94.0%

*Base years is 1990 for all gases, including F-gases.
** The emissions projection for 2010 is with additional measures calculated as explained above by adding up the effects of individually quantified future additional policies. The data for 2015 and 2020 however is for the with measures projections.

Table 9. Assessment of the target (6 gas basket), with a comparison of 2010 projections in 2005, 2006 and 2007 national reports*

	Emissions in MtCO2-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	NA	52.5	52.5	100%
Kyoto Commitment/burden sharing	NA	48.3	48.3	-8.0%
With existing P&Ms projections	NA	50.8	50.8	96.7%
Gap (-ve means overachievement of target)	NA	2.5	2.5	4.7%
With additional P&Ms projections	NA	49.5	49.5	94.3%
Remaining gap	NA	1.2	1.2	2.3%
Effect of flexible mechanisms	NA	1.6	1.6	3.0%
Remaining gap (with use of flexible mechanisms)	NA	-0.4	-0.4	-0.8%

Above table excludes LULUCF. LULUCF will be covered in the main report, based on the questionnaire submissions.
*Because the only information available for Switzerland is from its 4th National Communication, we cannot compare the emissions projections between 2005, 2006 and 2007.
** Base year data is 0.25 MtCO2-eq lower than data reported in Switzerland's Initial Report under the Kyoto Protocol, dated 2005. This data is currently undergoing a review procedure by UNFCCC and is therefore subject to change.

6. DESCRIPTION OF MODELLING APPROACH

Overview of modelling approach

The Swiss 4th NC used a bottom-up modelling approach to calculate the various scenarios.
Description of the technical aspects of the modelling approach is not provided
A number of economic and demographic assumptions (projected to 2020) is presented.

Sensitivity analysis

There is a good explanation of sensitivity analyses applied to the projections and margins of uncertainty.

Details of the uncertainty assessment

The key uncertainties in the model are discussed.

7. PROJECTION INDICATOR REPORTING

No information was provided on projection indicator reporting

8. REPORTING OF PARAMETERS ON PROJECTIONS

No information provided on any projection parameters.

Table 10. Indicators for projections to monitor and evaluate progress with policies and measures (2005/166/EC) Annex III

Not provided.

N°	Eurostat Sectors	Indicator	2005	2010	2015	2020	Numerator/denominator	2005	2010	2015	2020
1	Macro	CO_2 intensity of GDP, t/Euro million					Total CO_2 emissions, kt				
							GDP, bio Euro (EC95)				
2	Transport C0	CO_2 emissions from passenger cars, kt									
		Number of kilometres by passenger cars, Mkm									
3	Transport D0	CO_2 emissions from freight transport (all modes), kt									
		Freight transport (all modes), Mtkm									
4	Industry A1	Energy related CO_2 intensity of industry, t/Euro million					CO_2 emissions from fuel consumption industry, kt				
							Gross value-added total industry, Bio Euro (EC 95)				
5	Households A1	Specific CO_2 emissions of households, t/dwelling					CO_2 emissions from fossil fuel consumption households, kt				
							Stock of permanently occupied dwellings, 1000				
6	Services A0	CO_2 intensity of the services sector, t/Euro million					CO_2 emissions from fossil fuel consumption services, kt				
							gross value-added services, bio Euro (EC95)				
7	Transformation B0	Specific CO_2 emissions of public and autoproducer power plants, t/TJ					CO_2 emissions from public and autoproducer thermal power stations, kt				
							all products-output by public and autoproducer thermal power stations, PJ				
8	Agriculture	Specific N_2O emissions of fertilizer and manure use, kg/kg					N_2O emissions from synthetic fertilizer and manure use, kt				
							use of synthetic fertiliser and manure, kt nitrogen				
9	Agriculture	Specific CH_4 emissions of cattle production,					CH_4 emissions from cattle, kt				

		kg/head					cattle populations, 1000 head					
10	Waste	Specific CH_4 emissions from landfills, kt/kt					CH_4 emissions from landfills, kt Municipal solid waste going to landfills, kt					

Table 11. List of parameters on projections (Annex IV of Implementing Provisions[1])

Not provided.

1. Mandatory parameters on projections	2005	2010	2015	2020
Assumptions for general economic parameters				
GDP (value at given years or annual growth rate and base year)				
Population (value at given years or annual growth rate and base year)				
International coal prices at given years in euro per tonne 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				
Assumptions for the energy sector				
Total gross inland consumption (PJ) (split by oil, gas, coal, renewables, nuclear, other)				
Total electricity production by fuel type (oil, gas, coal, renewables, nuclear, other)				
Energy demand by sector split by fuel (delivered)				
Assumptions on weather parameters, especially heating or cooling degree days				
Assumptions for the industry sector				
For Member States using macroeconomic models:				
The share of the industrial sector in GDP and growth rate				
For Member States using other models:				
The production index for industrial sector				
Assumptions for the transport sector				
For Member States using macroeconomic models:				
The growth of transport relative to GDP				
For Member States using other models:				
The growth of passenger person kilometres				
The growth of freight tonne kilometres				
Assumptions for buildings (in residential and commercial or tertiary sector)				
For Member States using macroeconomic models:				
The level of private consumption (excluding private transport)				
The share of the tertiary sector in GDP and the growth rate				
For Member States using other models:				
The rate of change of floor space for tertiary buildings and dwellings				
The number of dwellings and number of employees in the tertiary sector				
Assumptions in the agriculture sector				
For Member States using macroeconomic models:				
The share of the agriculture sector in GDP and relative growth				
For Member States using other models:				
Livestock numbers by animal type (for enteric fermentation beef, cows, sheep, for manure management pigs and poultry)				
The area of crops by crop type				
Emissions factors by type of livestock for enteric fermentation and manure management (t)				
Assumptions in the waste sector				
Waste generation per head of population or tonnes of municipal				

[1] 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

1. Mandatory parameters on projections	2005	2010	2015	2020
solid waste				
The organic fractions of municipal solid waste				
Municipal solid waste disposed to landfills, incinerated or composted (in tonnes or %)				
Assumptions in the forestry sector				
Forest definitions				
Areas of:				
managed forests				
unmanaged forests				

2. Recommended parameters on projections	2005	2010	2015	2020
Assumptions for general economic parameters				
GDP growth rates split by industrial sectors in relation to 2000				
Comparison projected data with official forecasts				
Assumptions for the energy sector				
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				
Assumptions for the industry sector				
Assumptions fluorinated gases:				
Aluminium production and emissions factors				
Magnesium production and emissions factors				
Foam production and emissions factors				
Stock of refrigerant and leakage rates				
For Member States using macroeconomic models:				
Share of GDP for different sectors and growth rates				
Rate of improvement of energy intensity (1990 = 100)				
For Member States using other models:				
Index of production for different sectors				
Rate of improvement or index of energy efficiency				
Assumptions for buildings (in residential and commercial / tertiary sector)				
For Member States using macroeconomic models:				
Share of tertiary and household sectors in GDP				
Rate of improvement of energy intensity				
For Member States using other models:				
Number of households				
Number of new buildings				
Rate of improvement of energy efficiency (1990 = 100)				
Assumptions for the transport sector				
For Member States using econometric models:				
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				

2. Recommended parameters on projections	2005	2010	2015	2020
Assumptions for the agriculture sector				
For Member States using econometric models:				
Agricultural trade (import/export)				
Domestic consumption (e.g. milk/beef consumption)				
For Member States using other models:				
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				

9. COUNTRY CONCLUSIONS

Switzerland is an Annex-I party signatory to the Kyoto Protocol, and has a target to reduce its emissions by 8% in 2010, from the baseline of 1990.
The *with measures* and *with additional measures* projections show a 3.2% and 5.6% reduction from base year emissions respectively, against a target of an 8% reduction. The use of flexible mechanisms to account for 1.6 $MtCO_2$ eq results in an overachievement of the target by 0.4 Mt CO_2 eq.

Use of flexible mechanisms: a national secretariat for flexible mechanisms (Designated National Authority) was established in 2004. The Swiss government has *not* set aside any budget for the acquisition of certificates from CDM/JI projects, however it anticipates that the private sector will participate in CDM and JI through the "Climate cent" foundation, and estimates the effects of this to be a 1.6 $MtCO_2$ eq reduction in Switzerland's emission projections in 2010.