Czech republic

Sources of information

Czech Republic's Third National Communication under the United Nations Framework Convention on Climate Change, 2001.

Reporting

Table 1: Information provided on policies and measures

Information provided	Level provided	Comments
Name of measure	+++	
Target and/or affected activity	+++	
Type of measure	++	
Which GHGs?	CO_2, CH_4, N_2O, all GHGs	
Status of implementation	+++	
Implementation body specified	+++	
Quantitative assessment of implementation	+	Only some measures are quantified
Interaction with other P&Ms discussed	++	In some cases

+, ++, +++ level of information available increases as the number of + signs increases

Table 2: Information provided on projections

Category of information	Level of information provided	Comments
Scenarios considered	Reference and High scenarios Without, With measures, With additional measures	Scenarios are given for key parameters, and national totals of CO_2, CH_4 and N_2O, sectors *with measures* only
Expressed relative to inventory for previous years	No	
Starting year	2000 (1999)?	Not clear from the text
Projections	2005, 2010, 2015, 2020	
Split of projections	++	Projections split by IPCC main sectors and gases.
Presentation of results	++	Results presented in both tabular and graphical form
Description of model (level of detail, approach and assumptions)	+++	Description of the models and further references provided
Discussion of uncertainty	+	Sensitivity analyses on trends in GDP, Sensitivity analyses on implementation measures discussed
Details of parameters and assumptions	+++	Information on type of indicators used in scenarios provided

+, ++, +++ level of information available increases as the number of + signs increases

Policies and measures

A number of measures are carried out in the Czech Republic to mitigate emissions of greenhouse gases. These measures are concentrated on a specific aspect or sector and also include framework measures. The targets and consequences of a number of adopted measures can, however, be much broader, because it is particularly necessary to decrease detrimental impacts on the environment as a whole. Key measures with the greatest expected benefit include the following framework multi-sectoral measures:
- adopting a Strategy for protection of the earth's climate system in the Czech Republic,
- inclusion of the aspect of protection of the climate and incorporation of a national program to mitigate changes in the climate of the earth in the newly prepared air protection legislation,
- adopting a new energy act and new act on energy management.

Measures included in the Third National Communication can be divided into (a) implemented measures and (b) measures being prepared, classified according to the relevant sector into:
- framework/multi-sector measures,
- measures in the sector of energy production and energy consumption,
- measures in the transport sector,
- measures in the industrial sector,
- measures in the sector of agriculture and forestry,
- measures in the waste management sector.

Additional measures should contribute to decreased emissions through implementation of the new Air Act (01.01.2002), implementation of Directive 96/61/EC on IPPC and new act on waste and packaging

Table 3: Summary of the effect of policies and measures by 2010 included in the projections (MtCO$_2$ eq.)

	With measures[a]	With additional measures[b]
CO$_2$		
CH$_4$		
N$_2$O		
F-gases		
Energy (IPCC Sector 1)		
Industry (IPCC Sector 2)		
Agriculture (IPCC Sector 4)		
Forestry (IPCC Sector 5)		
Waste (IPCC Sector 6)		
Total		

a The effect of policies implemented or adopted is derived from the sum of the potentials of the individual scenarios comparing *without* ant *with measures*

b The effect of planned policies is derived from the difference between the *with measures* and the *with additional measures* scenarios

Note: *No summary tables were provided in the 3rd NC on projections.*

Table 4 gives details of individual policies and measures.

Table 4: Detailed information on polices and measures (estimated mitigation effect in 2010, in million tons CO_2 equivalent)

Name of measure	Target and/or affected activity	Affected greenhouse gases	Type of measure	State	Implementation authority	Expected benefit in decreasing emissions of greenhouse gases (for each year, not accumulated, in CO_2 equiv.)			
						1995	2000	2005	2010
Framework / multisectoral measures									
Strategy of protection of the climate system of the Earth in the Czech Republic	Provision for meeting commitments following for CR from the Kyoto Protocol	All greenhouse gases	Policy, framework	Implemented	Government of CR and entrusted Ministries	0	n/a	n/a	n/a
Preparation of the new Clean Air Act	Harmonization of CR legislation with the European Union legislation	CO_2	Legislative	Prepared	Ministry of the Environment and other bodies of the state administration in the area of air protection	New Act on Energy	n/a	n/a	n/a
New Energy Act	Harmonization of CR legislation with the European Union legislation	CO_2	Legislative	Implemented	Ministry of Industry and Trade and the Energy Regulation Authority	0	n/a	n/a	n/a
The Act on energy management	Harmonization of CR legislation with the European Union legislation	CO_2	Legislative	Implemented	Ministry of Industry and Trade	0	n/a	n/a	n/a
AIJ Project – Škoda Mladá Boleslav [a]	*Energy savings and decreasing emissions in the framework of the AIJ project*	*CO_2*	*Economic, voluntary activities*	*Implemented*	*German Government in cooperation with Bavaria-werk AG and RWE Energie*	*0*	*272*	*272*	*272*
AIJ Project – Hostětín [a]	*Energy savings and decreasing emissions in the framework of the AIJ project*	*CO_2*	*Economic, voluntary activities*	*Implemented*	*Government of the Netherlands in cooperation with BTG Group*	*0*	*49*	*49*	*49*
Proposed JI project – biomass sources portfolio [a]	*Energy savings and decreasing emissions in the framework of the AIJ project*	*CO_2*	*Economic, voluntary activities*	*Prepared*	*Government of the Netherlands in cooperation with BTG Group*	*0*	*0*	*263*	*244*

Name of measure	Target and/or affected activity	Affected greenhouse gases	Type of measure	State	Implementation authority	Expected benefit in decreasing emissions of greenhouse gases (for each year, not accumulated, in CO_2 equiv.)			
						1995	2000	2005	2010
Sector of energy production and energy consumption									
State program of support for savings of energy and use of renewable energy sources – Part A Program of the Czech Energy Agency	Decreasing the energy intensity of the economy, savings in energy production materials and minimization of the burdening of the environment by emissions and decreasing emissions of greenhouse gases	CO_2	Economic Information Educational Research	Implemented	Czech Energy Agency	150	222	297	336
State program of support for savings of energy and use of renewable energy sources Part B – Programs of the State Environmental Fund	Decreasing the energy intensity of the economy, savings in energy production materials and minimization of the burdening of the environment by emissions and decreasing emissions of greenhouse gases	CO_2	Economic Information Educational Research	Implemented	State Environmental Fund	n/a	73	n/a	n/a
Support from the State Environmental Fund in the area of air protection	Decreasing emissions of pollutants into the air	CO_2	Economic	Implemented	State Environmental Fund	n/a	1 160	n/a	n/a
GEF Efficient lighting initiative	Decreasing emissions of greenhouse gases through accelerated introduction of energy-saving lighting technology	CO_2	Economic Information Educational	Implemented	Global Environment Facility (GEF), SEVEn (local coordinator)	0	0	425	425
Program of support for reconstruction and recovery of concrete panel buildings	Repair and reconstruction of concrete panel buildings	CO_2	Economic	Implemented	Ministry for Regional Development	0	n/a	n/a	n/a

Name of measure	Target and/or affected activity	Affected greenhouse gases	Type of measure	State	Implementation authority	Expected benefit in decreasing emissions of greenhouse gases (for each year, not accumulated, in CO₂ equiv.)			
						1995	2000	2005	2010
Transport									
Set of measures in the transport sector	Decreasing emissions of pollutants	CO_2, methane, N_2O	Regulative Legislative Economic Fiscal Information	Implemented	Ministry of Transport and Communications in cooperation with other sectors	1 334	1 843	2 797	3 917
Industry									
Introduction of Directive 96/61/EC concerning Integrated Pollution Prevention and Control (IPPC)	Harmonization of the CR legislation with the EU legislation	CO_2, methane, N_2O	Legislative	Implemented/ prepared	Ministry of the Environment Ministry of Industry and Trade	0	0	n/a	n/a
Agriculture and forestry									
Support for afforestation of unused agricultural areas	More rational use of agricultural land	CO_2	Economic	Implemented	Ministry of Agriculture	84	84	84	84
Support for the production of alternative motor fuels	Non-foodstuff use of domestic agricultural production	CO_2	Economic	Implemented	Ministry of Agriculture	n/a	60	n/a	n/a
Waste management									
Draft Act on waste and Draft Act on packaging	Harmonization of the CR legislation with the EU legislation	CO_2, methane, N_2O	Legislative	Implemented / prepared	Ministry of the Environment Ministry of Industry and Trade	0	0	n/a	n/a
Utilization of landfill gas and biogas from waste water treatment plants	Decreasing emissions of methane from landfills and waste water treatment plants	methane	Technical	Implemented	Operators of landfills and waste water treatment plants	n/a	n/a	n/a	n/a

n/a data not available or cannot be estimated at the present time
a) benefits of AIJ and JI projects are not included in the overall benefit for the Czech Republic

Projections

The *reference scenario* for trends in the economy of the Czech Republic is constructed as an extrapolation of the long-term trends in the Czech economy, which can be observed over the past 80 years. On the basis of analysis of long-term trends, it can be expected that there will be a long-term average inter-annual growth in GDP of about 3 %. This trend would mean no, or only very slow, approximation to the developed countries of the world, as most of these countries expect an annual growth in the GDP of 2–3 %.

In the *high scenario*, the Strategy of strengthening the growth in the national economy prepared by the Ministry of Industry and Trade of CR (strategy) anticipates that, with substantial support for the economy on the part of the state, there would be a gradual starting up of rapid economic growth, at the level of 4–6.6 % annually. This scenario anticipates a gradual increase in the rate of increase of GDP from 3.1 % (in purchase prices) in 2000 to 4.1 % in 2001, and up to 6.4 % in 2003. CR is expected to gain full membership in EU in 2004 and it is expected that the high rate of growth of GDP will continue or possibly increase slightly to up to 6.6 % annually in 2004 and 2005. The high scenario is based on the fact of starting up of significant recovery of the economy in 2000, on the existence of a number of adopted strategic and conceptual national economy documents, acting on intensification of the economy, and on the government strategy to accelerate legislative steps to prepare CR for accession to EU.

Table 5:   Summary of projections by gas in 2010 (MtCO$_2$ equivalent)

	Base year	With measures reference scenario	With measures high scenario
CO$_2$ without LUCF	164	107.1	125.9
CH$_4$	16.7	10.6	10.3
N$_2$O	11.3	8.0	8.2
F-gases		0.7	0.9
PFC			
SF$_6$			
Total	192	131.7	145.2
% change relative to base year		−31 %	−23 %

The *with measures* projection shows that the currently implemented or adopted measures in Czech Republic could reduce greenhouse gas emissions by 2010 by 31 % in the reference scenario, thus meeting their commitment. Even if high growth in the economy is achieved, emissions are projected to decrease in 2010 by 23 % compared to 1990. Additional measures have been identified that would deliver savings of 6.4 MtCO$_2$ in the high scenario.

Table 6:   Summary of projections by sector in 2010 (MtCO$_2$ eq.)

	Base year	With measures	% change relative to 1990	with additional measures	% change relative 1990 (additional measures)
Energy (IPCC Sector 1)					
Industry (IPCC Sector 2)					
Agriculture (IPCC Sector 4)					
Forestry (IPCC Sector 5)					
Waste (IPCC Sector 6)					
Total					

Note: No summary tables were provided in the 3rd NC on projections.

Table 7:   Assessment of the target

	MtCO$_2$ equiv. *Ref. scenario*	% of 1990 level (six gas basket)	MtCO$_2$ equiv. High scenario	% of 1990 level (six gas basket)
Base year emissions (from projections)	192		192	
Commitment (base year emissions)	176.6	−8.0 %	176.6	−8.0 %
2010 emissions with measures	131.7	−31 %	145.2	−23 %
2010 emissions with additional measures	125.3	−35 %	138.8	−28 %
Gap between with measures and commitment (-ve means no gap)	−44.9	−23 %	−31.4	−16 %
Effect of additional P&Ms	6.4	−3.3 %	6.4	−3.3 %

Description of modelling approach

Projection without measures is a projection that does not include measures that came into effect after 1995 inclusive. This projection is established on the basis of the calculated projection with measures, which is increased by the benefit of measures implemented after 1995.

Projection with measures includes measures that came into effect after 1995, including measures approved in 2000 . This projection is calculated using the MARKAL model and a tabular processor.

Projection with additional measures includes the expected effects of additional measures that are currently being prepared and are expected to be approved in the coming years, and also measures planned in connection with harmonization with EU regulations. This projection is derived from the projection with measures, decreased by the expected effect of these additional measures.

Summary of key variables and assumptions in the projection analyses

	Statistics			Projection			
	1990	1995	2000	2005	2010	2015	2020
Inter-annual change of GDP (%)							
High scenario	—	–0.2	1.0	5.8	4.8	5.5	5.5
Reference scenario				3.0	3.0	3.0	3.0
World prices of crude oil (USS/barrel)							
High scenario	24.18	17.10	27.59	26.04	26.66	28.23	28.42
Reference scenario				20.83	21.37	21.89	22.41
Population (mil.persons)							
Both scenarios			10.268	10.247	10.244	10.200	10.098
Net expert of electric power (TWh)							
Both scenarios			10.016	5.0	5.0	5.0	5.0

Country conclusions

The Czech Republic project that with existing measures the Kyoto Commitment will be exceeded, even with assumptions of high growth.

Nevertheless, additional measures to deliver further emissions reductions have been identified.