Audit Preparation and Development

Proposals to perform the Coordinated Audit of Air and Ozone Layer Protection and Implementation of Related International Agreements were brought up in 2006 during the working meetings between the Supreme Audit Office of the Slovak Republic (SAO SR) and the Supreme Audit Office, Czech Republic (SAO, CR), State Audit Office of the Republic of Croatia and Court of Audit of the Republic of Slovenia (CA Slovenia). Subsequently, SAO SR together with SAO, CR and CA Slovenia started the audit preparation.

In April 2007, the 1st working meeting of the representatives of SAO SR, SAO, CR and CA Slovenia was held in Bratislava. During this meeting the representatives of the participating parties discussed the audit objective, draft national audit programs, draft Cooperation Agreement, time schedule of further cooperation and shared information and experience in the field of air and ozone layer protection in national conditions. The Cooperation Agreement was signed by the presidents of the participating SAIs and set the legal framework of this international cooperation. SAO SR became the coordinator of the audit project.

The SAIs progressively initiated to carry out national audits in March 2007 and in the course of the year 2007 in compliance with the Cooperation Agreement.

During the 2nd meeting of the representatives of SAO SR, SAO, CR and CA Slovenia together with the representative of the Court of Audit of Austria (CA Austria), which took place in July 2007 in Kutna Hora, Czech Republic, the representatives of the participating parties evaluated the achieved tasks, compared performed audit programs, shared information and experience on the audit development in national conditions and discussed the draft structure of the Communiqué on the Results of the Coordinated Audit. In addition, proposals on cooperation presented by the representative of CA Austria were propounded, whereas the Austrian side focused only on the sphere of climate change and Kyoto Protocol and contributed with information on funds allotted for the Slovak Republic, Czech Republic and Slovenia in the field of air protection. The Austrian side participated as an observer at the meeting, whereas consequently joined the Coordinated Audit after delivering an official letter from the President of CA Austria to the President of SAO SR.

At the 3rd working meeting held in January 2008 in Casta Papiernicka, Slovak Republic, the achieved tasks were evaluated, national audit findings were compared and the final structure of the Communiqué on the Results of the Coordinated Audit was approved.

The Communiqué on the Results of the Coordinated Audit was discussed and approved at the 4th meeting of the representatives of the participating parties in April 2008 in Strunjan, Slovenia.

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Der Rechnungshof

Implementation of the Austrian Climate Strategy on the Federal Level and Austrian Emissions Trading Scheme

Coordinated Audit of Air and Ozone Layer Protection and Implementation of Related International Agreements

Contents

Introduction

1.1 In autumn 2007 the Austrian Court of Audit (ACA) audited the implementation of the Austrian Climate Strategy on the federal level and the Austrian Emission Trading Scheme (ETS). Main audit objectives were to investigate, whether the obligations of the Kyoto Protocol can be fulfilled and whether the specifications and targets of the Austrian Climate Strategies and the ETS were realistic. The contribution of the ETS to reaching the Kyoto targets by allocating certificates was to be evaluated.

1.2 The ACA emphasizes the fact, that the reduction of greenhouse gas emissions is not only a duty laid down in international agreements, but according to the current state of knowledge is essential to prevent or at least mitigate the disastrous consequences of climate change. Climate change is not a future scenario, but is a fact already taking effect on Austria as living space, business location and target of international tourism.

Implementation of the Climate Strategy

2.1 Austria committed itself to reduce its greenhouse gas emissions by 13 % compared to the base year 1990. If the reduction commitment is not achieved, the Kyoto Protocol provides sanctions. Within the European Union non-compliance with the target can lead to an infringement procedure.

In 2002 the Federal Government decided the "Austrian Strategy to reach the Kyoto Target" (Climate Strategy). Since this turned out to be insufficient for reaching the Kyoto target, in 2007 the Council of Ministers decided the "Adaptation of the Austrian Climate Strategy to reach the Kyoto Target 2008 – 2012". Emission reductions were assigned to several sectors:

Table 1: Greenhouse Gas Emissions (million tons CO_2 equivalents) in Sectors, Target Values of Climate Strategies – Actual Values

	Actual 1990	Actual 2000	Target Climate Strategy 2002	Actual 2006	Target Climate Strategy 2007
Housing	15.1	13.7	10.5	14.2	11.9
Energy production	13.8	12.4	12.4	15.5	13.0
Waste management	3.7	2.7	3.7	2.2	2.1
Traffic	12.7	18.1	16.3	23.2	18.9
Industry	22.1	23.4	20.8	25.3	23.3
Fluorinated gases	1.6	1.3	1.8	1.5	1.4
Miscellaneous	1.0	1.1	0.7	1.3	0.9
Agriculture	9.2	8.4	4.4	7.9	7.1
LULUCF					- 0.7
Total	79.2	81.1	70.6	91.1	77.8
Contribution JI/CDM					- 9.0
Kyoto target					68.8

Important sectors or the scopes for the implementation of the Climate Strategy are within the competence of the laender. Despite their assistance, greenhouse gas emissions rose from 2002 to 2006. No consensus could be reached so far between the Federal Government and the laender on the adaptation of the Climate Strategy 2007.

2.2 The ACA states, that the measures laid down in the Climate Strategy 2002 and taken by all authorities were not sufficient to achieve a trend reversal of emissions. Especially the development of housing, traffic and industrial plants not covered by the ETS raise doubts as to the achievement of the Kyoto target. From the point of view of the ACA an increased involvement of the provinces would be key for the implementation and success of the Austrian Climate Strategy.

Greenhouse Gas Emissions in Austria

3.1 In 2006 greenhouse gas emissions attributed to Austria reached 91.1 million t CO_2 equivalents. Regarding the reduction target of 68.8 million t there was a discrepancy of 22.3 million t (32.4 %).

The sector housing deviated from the target by 2.3 million t. A substantial reduction of heating demand can only be achieved by an accelerated thermal renovation of existing buildings. From a total of 2.63 billion EUR of housing subsidies only 0.35 billion EUR were applied for the reduction of heating demand by thermal renovation.

The Climate Strategy assigned a reduction target of 2.5 million t to industrial plants not covered by the ETS, which represents a reduction by 40 %.

The sector traffic not only showed the highest increase of emissions from 1990 to 2006 (83 %), its share in total emissions also rose from 16 to 26 %. The discrepancy to the target value of the Climate Strategy was 4.4 million t. The measures taken by the Federal Government up to now such as the admixing of fuels produced from biomass, the increase of the tax on mineral oil in 2007 and the forthcoming graded tax on the initial registration of cars and motorbikes depending on emissions will show effect, albeit only marginal in some parts.

3.2 The ACA considers that the Kyoto target is unlikely to be achieved regarding the currently sluggish implementation of measures laid down in the Austrian Climate Strategy. In the relevant sectors there was no evidence of a significant emission reduction. Therefore the ACA doubts the Kyoto target achievement. Quantitatively effective measures with relevant impacts in the short- or long-term were not provided.

Even when making use of flexible mechanisms to the maximum allowable extent there is an urgent need of action for inland measures to be taken. Efficient measures have to be taken in the sectors more quickly and intensely and an enhancement of flexible mechanisms has to be provided for compensation.

Funding

4.1 The Kyoto Protocol stipulates, that national measures contribute with a significant share to the emission reduction, and that flexible mechanisms only support the target achievement. In addition to the JI/CDM-programme already being carried out only 11 million t CO_2 equivalents more (2.2 million t per year) can be covered by

flexible mechanisms according to international agreements, which would require an estimated amount of 275 million EUR. But even the funding provided for the current programme for flexible mechanisms is insufficient to reach the objective of buying 45 million t CO_2 equivalents in the period 2008 – 2012.

34.5 million t CO_2 equivalents (6.9 million t per year) remain, which have to be reduced by national measures.

The Austrian environmental support scheme, which is focussing on trade and industry, was extensively aligned with projects reducing greenhouse gas emissions. The emission reduction initiated by the scheme accounted for approx. 4 million t CO_2 equivalents since 2002. Because of the limited funding of the scheme project proposals submitted and not yet decided represented twice the annual funding.

4.2 From the point of view of the ACA flexible mechanisms are no alternative to reducing greenhouse gas emissions by national measures, but represent a measure effective only in the short-term to prevent sanctions. National emission reductions can be achieved by relatively inexpensive regulatory and fiscal policies or by extensively funding new and costly environmental technologies. The costs for national measures cannot not be quantified by the ACA from today's prospect. At the time of the audit the costs per t CO_2 equivalent in the Austrian environmental support scheme were significantly lower than those for flexible mechanisms. Regarding the efforts necessary to reach the Kyoto target the ACA recommends providing appropriate funding of the existing support scheme.

Emissions Trading Scheme (ETS) in Austria

5.1 An essential instrument to reduce greenhouse gas emissions is the trading with emission allowances (EA). In October 2003 the European Commission released the Emission Allowance Trading Directive. It forms the statutory framework concerning EA, plants and gases to be included, the allocation of EA to the plants, the registration of EA, emission monitoring and sanctions. In some areas such as the auctioning of EA, the allocation process or the reserve for new ETS participants the directive allowed diversity in interpretation for the national implementation.

5.2 The ACA recommends the Austrian Federal Government to aspire to a reduction of the wide scope of interpretation of the directive at EU level to eliminate any distortion of competition.

Characteristics of the Austrian ETS

6.1 In the first period (2005 to 2007) 197 plants were included in the Austrian ETS. From 33 million EA annually distributed (average 2005 – 2007) 38 % were allocated to plants of the energy sector and 62 % to plants of the industry sector. Generally speaking the allocated EA corresponded to the CO2 emissions. But while industrial plants received a surplus of EA, the plants of the energy sector received less EA than they would have needed to cover their emissions. The relative amount of CO_2 emissions of the specific plants differed significantly. In 2006 the biggest plant emitted approx. 13 % of the total emissions, while all plants with emissions of less than 10.000 t CO_2 per year (about one third of all plants included in the ETS) emitted less than 1 % thereof. In Austria the ETS covered about 42 % of the total CO_2 emissions.

6.2 The ACA considers the coverage of 42 % of the Austrian CO_2 emissions by the ETS positive. To extend the effect of the system, the ACA recommends the inclusion of other relevant emitters such as air traffic or chemical industry. Also the inclusion of other gases beside CO_2 (e.g. N_2O) should be considered. In terms of an efficient use of resources the ACA appreciates the exemption of plants with insignificant emissions aspired by the European Union. For these small plants not any longer covered by - and for plants generally not included in - the ETS, alternative control measures should be taken.

National Allocation Plans – First Period 2005 – 2007 (NAP 1)

7.1 In the first period all EA were allocated free of charge, no EA were auctioned. The allocation of the EA to every single plant was carried out by using a complex model in which historic CO_2 emissions, branch specific growth rates, sectional reduction contributions and the plant specific reduction potential were considered.

In the first period the EU member states altogether allocated a surplus of 171 million EA compared to the demand to cover actual emissions. In Austria there was almost a match of allocated EA and emissions regarding both sectors – industry and energy production - together. The emissions caused by energy production were covered by allocated EA by little less than 90 %, the emissions of the industry sector were significantly lower than the EA allocated for the sector.

As a result of the excess supply on the European level the price for one EA fell from over 20 down to 0,07 EUR in October 2007. There was no incentive for plant operators to reduce emissions. The low prize for EA caused little additional costs for those plant operators forced to buy EA. There was no incentive to reduce emissions.

7.2 The ACA honours the efforts of the Austrian Federal Ministry of Environment to organize the allocation process in an objective and transparent manner. In its opinion the emission reduction potential of every specific plant was weighted too little in the first period. To achieve an allocation as appropriate as possible different states of art of the plants should increasingly be considered ("benchmarking").

From the point of view of the ACA the presetting of the European Commission for the preparation of the national allocation plans were insufficient in the first period. This resulted in comparable plants getting different amounts of EA free of charge in different countries. Actual effects of market distortion nevertheless were negligible according to the excess supply of EA in the first period.

National Allocation Plans – Second Period 2008 – 2012 (NAP 2)

8.1 The original allocation plan for the second period delivered to the European Commission by Austria provided an overall allocation of 32.8 million EA per year. The European Commission rejected the plan and demanded a reduction to annually 30.7 million EA, 1.3 % of which will be auctioned. In the allocation process the sort of fuel applied for energy production was increasingly considered. For the plants of the energy production sector a benchmarking approach was chosen.

To consider new ETS participants (plants opening during the period) a fixed reserve of 1 % of the total amount of EA was created. In case that this reserve is insufficient a unit assigned for this purpose will buy the needed EA and will provide them to the new ETS participant free of charge (flexible reserve). In the third period the equivalent amount of EA will be allocated free of charge to the assigned unit in return from the reserve for this period.

8.2 The ACA expects that especially the energy production sector will be forced to buy a significant amount of EA on the market, as allocated EA were reduced by 20 %. The reduction in allocation corresponded to the approach chosen also in other Member States of the EU (e.g. Germany).

The ACA supports the increased weighting of output specific parameters in the allocation process. The flexible reserve constitutes an anticipation of the following ETS period with the effect that an EA quantity additionally reduced will be available related to the general decrease from one period to the next. The ACA states that the flexible reserve might cause a significant financial disadvantage for plant operators in the third period.

Emission Monitoring

9.1 Every emission report had to be checked by an independent certified auditor prior to submission to the Federal Ministry of Environment. The Ministry optionally checked the report in case of well-founded doubt. To evaluate the system a random sample of the reports from 2005 and 2006 was checked by the Austrian Environmental Agency. The quality of reports significantly improved from 2005 to 2006, the share of reports with well founded doubt and the extent of necessary report modifications significantly decreased.

9.2 The check of the emission reports considerably improved monitoring methods and contributed to the reliability of the emission reports.

Costs of the ETS

10.1 For the ETS costs incur for the allocation process, for the authorization and monitoring of emissions, for the installation and operation of the emission trading registry and for the contacts to the European Commission. Including the allocation for the second period costs of approx. 1.95 million EUR incurred for Austria at the federal level from 2004 to 2007.

Unlike in other European countries Austrian plant operators bore the costs for the emission trading registry by paying user fees. The plant operators also paid for the emission monitoring and for the verification of the emission reports.

10.2. For the ACA the bearing of costs by the plant operators represented an implementation of the polluter pays principle.

Benefits and Target Achievement

11.1 The main objectives of the ETS are establishing of a quantitative upper limit for greenhouse gas emissions and making a contribution to the achievement of the national Kyoto target.

11.2 The ACA states that the Austrian ETS was successfully established. The objective to reduce emissions was not achieved in the first period because of the oversupply of EA available on the market. The adaptation of the Austrian Climate Strategy 2007 set targets for the sectors energy production and industry, which approximately correspond to the emissions in 1990. The allocation of the second period therefore complies with the objective of emission stabilization. But even this shortage makes the sector targets of the Climate Strategy unlikely to be achieved, as emissions from industrial plants not covered by the ETS are rising significantly.

Summary of the Audit Report of the Supreme Audit Office, Czech Republic on Financial Means Expended on Air Quality Protection

Coordinated Audit of Air and Ozone Layer Protection and Implementation of Related International Agreements

Contents

Introduction

The audit was listed in the audit plan of the Supreme Audit Office (SAO) for 2007 under number 07/02. The aim of the audit was to check the management of finances levied and used in the field of air protection. The audited period were the years 2003 to 2006; in case of factual connections, the preceding and/or subsequent periods were also scrutinised.

The audited entities were: Ministry of the Environment (MoE); State Environmental Fund of the Czech Republic (SEF); Czech Environmental Inspectorate (CEI); selected regions and selected recipients of financial means from SEF.

I. Implementation of international treaties, Community law and fulfillment of limits and targets

1. Air pollution

1.1. Convention on Long-range Transboundary Air Pollution (CLRTAP), attached protocols and related Community law

The Convention entered into force for former Czechoslovakia in 1984. It is a framework convention and a number of obligations are rather general in nature. The parties undertake to pursue policies and strategies to combat the discharge of air pollutants; they are to exchange information and review measures to combat the discharge of air pollutants. The Convention focuses on reducing emissions[1] of pollutants, taking into consideration technical and economic feasibility and the impact on the environment, with a view to reducing long-range transboundary air pollution.

The Convention was followed up by eight protocols focusing on the monitoring and valuation of long-range transmission of pollutants, the reduction of emissions of sulphur and nitrogen oxides, volatile organic compounds (VOC), heavy metals and persistent organic pollutants. The protocols were implemented into national regulations.

The most recent – the Gothenburg Protocol – was concluded in 1999; the Czech Republic ratified it in 2004, and it entered into force in 2005. Its objective is to restrict emissions of sulphur oxides, nitrogen oxides (NO_x), NH_3 and VOC which are the result of human activity and which, after long-range transmission, have a negative effect on human health and natural ecosystems. The principal means of achieving this goal is setting national emission ceilings for these substances. The Gothenburg Protocol's national emission ceilings were applied by the Government in advance in its Order No. 351/2002 Coll., setting forth mandatory emission ceilings for certain air pollutants and preparation methods and performance of emission inventories and emission projections, in the wording as effective until 9 December 2003. The up-to-date emission inventories and emission projections indicate that the Czech Republic is implementing its commitments and that its commitments can also be expected to be fulfilled in the target year 2010.
In connection with the Czech Republic's accession to the European Union (EU), the Government adopted Order No. 417/2003 Coll., amending Government Order No. 351/2002 Coll. and implementing Directive 2001/81/EEC of the European Parliament (EP) and the Council on national emission ceilings for SO_2, NO_x, VOC and NH_3 up to

[1] Emission means the discharge of substances into the air expressed in units of mass.

2010. Implementing the commitments is one of the fundamental goals of the *Integrated National Emission Reduction Program of the Czech Republic* and is also a part of the *National Program for Reduction of Emissions of the Czech Republic.* **MoE documented that the Czech Republic is implementing the Convention's framework tasks, fulfilling commitments of all the protocols and the requirements of the directive.**

1.2. Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management

The directive was implemented into national legislation by Act No. 86/2002 Coll., on air protection and amending some other laws (the Air Protection Act) and by its amendment - Act No. 92/2004 Coll. and by Government Order No. 597/2006 Coll., on air quality monitoring and assessment. In the case of this directive, monitoring found out that the conditions laid out therein were not being met. It was stated that the failure to implement obligations dates back to 1 January 2005; discharges exceeding limit values of certain pollutants in ambient air are monitored and duly reported in line with the procedures required by Council Directive 96/62/EC.

In the territory of the Czech Republic this monitoring detects exceeding of thresholds of certain pollutants, specifically PM 10[2] particles and benzo(a)pyrene. MoE paid suitable attention to the problem of excess levels of certain pollutants in the air and approaches to tackle them are a priority in conceptual documents.

1.3. Directive 2001/80/EC of the EP and of the Council of the 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants

The directive was implemented by Government Order No. 112/2004 Coll., on national program for reduction of emissions of solid pollutants, sulphur dioxide and nitrogen oxides from existing particularly large combustion stationary sources of air pollution. This government order lays down SO_2 emission ceilings for individual particularly large sources. It also defines regional emission ceilings for solid pollutants, SO_2 and NO_x. The order also defines emission ceilings for solid pollutants, SO_2 and NO_x of particularly large combustion plants for the Czech Republic as a whole. The regions issue decisions instructing individual operators to comply with the emission ceilings restrictions in the form of emissions reduction plans. The drafting and implementation of these plans and the duty to comply with emission limits are the key instruments of this national program.

SO_2 emission ceilings for particularly large combustion plants will be in effect from 1 January 2008. MoE documented that at the time of the SAO audit it was drawing up an estimate of future compliance with emission ceilings. This estimate is based on an assessment of updated emission projections that operators were obliged to submit to the regions by 30 June 2007 under a decision on approval of emission reduction plans.

[2] PM 10 are particles that are defined in Government Order No. 350/2002 Coll., defining limits for concentration of pollutants in ambient air and the conditions and manner of monitoring, judging, assessing and managing air quality.

2. Climate protection - UN Framework Convention on Climate Change and Kyoto Protocol to the UN Framework Convention on Climate Change

The Convention focuses on the monitoring and reduction of greenhouse gas emissions, in particular CO_2, and the Czech Republic acceded to it in 1993. The Convention's aim is to put in place the right conditions for the rapid stabilization of the concentration of greenhouse gases in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. In 2001 the Czech Republic already ratified the *Kyoto Protocol to the UN Framework Convention on Climate Change*, which aimed, for the first 2008-2012 "commitment period", to reduce greenhouse gas emissions by 8% compared to 1990 levels.

On 25 April 2002 the Council adopted Decision 2002/358/EC concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the UN Framework Convention on Climate Change and the joint fulfilment of commitments thereunder. In line with this decision, the Commission adopted Decision 2006/944/EC of 14 December 2006 determining the respective emission levels allocated to the Community and each of its Member States under the *Kyoto Protocol* pursuant to Council Decision 2002/358/EC. This ceiling is a realistic target for the Czech Republic, as, according to the 2004 inventory, the total quantity of the Czech Republic's emissions converted to CO_2 was approx. 147 million tons, whilst the average annual limit in the Community decisions is greater than 180 million tons in the years 2008-2012.

Total greenhouse gas emissions in the Czech Republic fell by 27.5% from 1990 to 2005. The development of emissions indicates that the stabilization trend will continue and total greenhouse gas emissions in the 2008-2012 period should be more than one third lower than in 1990. **It is therefore reasonable to assume that the Czech Republic will meet its national reduction target of 8%.** Nevertheless, indicators correlating aggregated emissions to population size or unit of gross domestic product (GDP) remain very unfavourable for the Czech Republic, despite the mentioned fall in emissions since 1990.

3. Protection of the ozone layer

The Czech Republic is a state signatory of the *Montreal Protocol on Substances that Deplete the Ozone Layer* from 1987 and all its amendments. Obligations when handling substances that deplete the ozone layer (regulated substances) are also set out by Regulation 2037/2000/EC of the EP and of the Council of 29 June 2000 on controls of ozone-depleting substances, as amended by Regulations 2038/2000/EC and 2039/2000/EC of the EP and of the Council of 28 September 2000. In the Czech Republic this area is governed mainly by the Air Protection Act. Government Order No. 117/2005 Coll., on some measures for the protection of the ozone layer, is this act's implementing regulation in the matter of the ozone layer protection.

Obligations and bans established by the air protection act are checked mainly by CEI, which may also impose measures and penalties. The SAO's audit at CEI found out that it was fulfilling its obligations. Any air protection authority mentioned in the Air Protection Act may seize regulated substances or products containing them. A penalty was not imposed by either CEI or MoE in the audited period.

The SAO's audit of SEF found out that it spent a total of CZK 106.8 million on protection of the ozone layer in the years 2003-2005, mainly in the form of subsidies.

That represented 0.2% - 2.0% of all SEF expenditures in individual years; 21 projects were supported.

The documents presented by MoE for the audit indicate that the Czech Republic is fulfilling the requirements of both the Montreal Protocol and Community law on the ozone layer protection.

II. System of responsibilities and obligations implemented to national conditions – measures, national strategies and action programs

1. The State Environmental Policy of the Czech Republic (SEP)

SEP was approved by Government Resolution No. 235 of 17 March 2004. The assessment of SEP submitted by MoE as of 30 June 2007 was done in the form of showing different indicators and their development. Air quality indicators show different developments depending on what they are related to. Whereas CO_2 and NO_x emissions have developed positively relative to GDP and domestic consumption of primary energy sources, they have not improved in relation to population size or territorial unit. **One explanation for this stagnation is the considerable amount of electricity generated for export.** Although the monitored indicators do not cover all important problems, e.g. that a considerable part of the population suffers from excess concentrations of certain pollutants in the air, in MoE's opinion SEP is expected to remain the fundamental policy document until 2010 as planned.

The pace of environmental improvement slowed down in the period under scrutiny. That is largely due to strong economic growth that is not accompanied by reductions in energy and material consumption.

2. Integrated National Emission Reduction Program of the Czech Republic

The Program was approved by Government Resolution No. 454 of 12 May 2004 and MoE updated it in 2005. It can be regarded as a specific Program with goals that can be assessed, especially where the limits, ceilings and time limits are set down in legislation. The most important instrument for improving macro emission and also ambient air quality indicators are normative, legislative measures. Additionally, the Program contains a number of other instruments, including economic ones. The Program focuses on all pollutants for which national legislation sets emission ceilings or limit values in the ambient air (SO_2, NO_x, NH_3, CO, Pb, Cd, Ni, As, Hg, VOC, benzene, polycyclic aromatic hydrocarbons) and also covers greenhouse gases.

MoE presented materials containing assessments of implementation of the department's tasks and the Program's objectives in individual years; **the vast majority of tasks had been performed and the achievement rate of objectives was developing positively. The Program presented an optimistic assessment of the development of the emission situation from 1990 to 2003 – it is certain or at least highly probable that the emission ceilings for SO_2, VOC and NH_3 laid down by the protocols to the Convention (CLRTAP) in particular and by Community law should be met by 2010.** According to the Program, however, there was a high risk that the national NO_x emission ceiling would not be achieved; there were also problems indicated in exceeding NO_x limit values in ambient air.

3. National Program for Reduction of Emissions of the Czech Republic

The Program was approved by Government Resolution No. 630 of 11 June 2007, replacing the *Integrated National Emission Reduction Program of the Czech Republic* which had been valid for around three years. Although it adopted some of the previous program's conclusions, parts assessing the current state of affairs are highly critical – it states, for example, that after a significant reduction emissions are now stagnating (but not overstepping the defined ceilings) and air quality is if anything getting worse. Instead of talking about reducing emissions, it is now a question of stopping the increase in air pollution.

The Program's "global goal" is to reduce the presence of substances damaging ecosystems and human health in the environment. Besides the meeting of emission ceilings for the basic substances, "other goals" focus on compliance with the defined limits of pollutants in ambient air, in particular PM 10 particles and benzo(a)pyrene. Accordingly, the Program monitors quantitative emission and ambient air quality indicators. Emission indicators have a target set in 2010 and ambient air quality indicators in 2015. **The *National Program for Reduction of Emissions of the Czech Republic* can be regarded as a document with clearly defined goals and timed activities. It contributes to the protection of ecosystems and, most importantly, is in line with the population's interest in improving quality of life.**

4. Regional emission reduction and air quality improvement programs

The obligation to draw up regional (local) emission reduction programs and regional (local) air quality improvement programs is set down in the Air Protection Act as a significant means to achieve emission and ambient air quality targets and at the same time as an application of decision-making process at the local level. MoE drew up and published methodological instructions for preparation of programs and instructions to support the air protection authorities responsible for these programs. MoE also methodologically managed the preparation of emission reduction plans and plans for the introduction of good agricultural practice.

During the second half of 2004, MoE commissioned an external assessment of regional emission reduction programs and territorial energy policy. Among other things, it was found out that although the regional programs and territorial policies concurred in their general goals, the specific measures and targets were not aligned with other policies and programs. **Most programs and policies lacked specific measures and instruments for achieving the identified goals.** If any instruments were proposed, there was no way of assessing whether these will result in achieving goals in an effective and efficient way. The incurred costs were not quantified – it was not possible to assess whether the proposed goals were achievable.

Based on this assessment of regional programs MoE took steps to remedy their shortcomings. Above all, an amendment of the Air Protection Act made it obligatory to draw up program annexes containing specific measures as a part of the programs. Additionally, the regions could make use of other methodological materials prepared by MoE when updating their programs. In the future, SEF projects that will be supported should chiefly be those that are part of or in line with regional programs.

5. National Program to Mitigate the Impacts of Climate Change in the Czech Republic

The Program was approved by Government Resolution No. 187 of 3 March 2004 and is the updated *Strategy of the Protection of the Climate System of the Earth in the Czech Republic.* The purpose of the Program is to identify ecologically and financially acceptable measures to reduce greenhouse gas emissions to ensure that the *Kyoto Protocol* reduction targets are met. Another formulation of the Program's goals is that by 2020 all emissions and energy indicators will be stabilized at the average EU levels in the year 2000, whereby the gradual approximation to the EU level will take place so that most of these targets are achieved in 2012.

Energy, or rather the public energy sector, accounts for approx. 65% of all greenhouse gas emissions in the Czech Republic divided among production sectors, 68% of which is emissions caused by electricity generation. When setting measures for achieving the reduction targets in the *National Program to Mitigate the Impacts of Climate Change in the Czech Republic* the priority is to reduce energy intensiveness in the area of Czech production and consumption. The Program does nothing to reduce the high proportion of greenhouse gas emissions accounted for by electricity generation for export, even though the ratio between export and domestic electricity consumption was approx. 1:3.6 in 2004. Reducing emissions from electricity generating sources is not realistic unless it is accompanied by a corresponding adjustment of emission ceilings linked to the proportion of electricity generated for export.

III. Emission trading system

1. Directive 2003/87/EC of the EP and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC

Greenhouse gas emission allowance trading is one of the mechanisms the European Community created to make good its commitment to reduce greenhouse gas emissions within the framework of the *Kyoto Protocol*. It is based on the concept of tradable CO_2 allowances allocated by the state to significant greenhouse gas generators. Act No. 695/2004 Coll., on the conditions of greenhouse gas emission allowance trading and amending certain laws, and Government Order No. 315/2005 Coll., on the National Allocation Plan of the Czech Republic for the Years 2005 to 2007, regulate this issue in the conditions of the Czech Republic.

2. National Allocation Plans – greenhouse gas emission allowances

MoE is responsible for preparation of national allocations plans (NAP). A working group, made up from representatives of MoE, Ministry of Industry and Trade and their organizations and industrial associations representing businesses in all key sectors concerned, was set up in 2003 to prepare the first NAP for the first trading period 2005-2007. The key materials, NAP 1 was based on, were data on emission sources from the register of emissions and sources of pollution kept by the Czech Hydrometeorological Institute and data on greenhouse gas emissions in the years 1999-2001 provided by individual businesses. The European Commission defined an emission ceiling of 97.6 million tons of CO_2 per year for the Czech Republic for the first trading period (so-called allocation). NAP 1 divided allowances worth a total of approx. 91.4 million tons of CO_2 per year among companies classified by sectors. In line with

Act No. 695/2004 Coll., MoE entrusted a joint stock company called Operátor trhu s elektřinou, a.s. (Energy Market Operator) with the duty to establish and operate allowance trading register.

The SAO audit found out that no sector attained the basic allowance allocation in 2005; the sectors' total emissions were reported at 82.5 million tons of CO_2 in 2005 and 83.6 million tons of CO_2 in 2006. Additionally, differences were found from sector to sector as regards the basic allocation's conformity to the reported and verified actual state in 2005.

The original NAP 2 proposal for the 2008-2012 period – with an allocation of 101.9 million tons of CO_2 per year for the Czech Republic (increase of 3.4% when compared to NAP 1) – that was submitted to the Government by MoE - was approved by Government Resolution No. 1400 of 6 December 2006. The entire increase in CO_2 emission allowances from NAP 1 to the proposed NAP 2 and a part of the unused quantities in certain sectors were intended to cover the increase in the basic allowance allocation for the public energy sector in particular. This increased allocation was not supported by the corresponding expected growth in this sector. This proposed NAP 2 was not accepted by the Commission, which decided that the Czech Republic's annual allocation would be at most 86.8 million tons.

MoE subsequently drew up a new version of NAP 2 based on the allocation defined by the Commission. In this version of NAP 2 the allocation is no longer divided up among sectors but among emission originators, with the 2005 and 2006 averages used as the basic criterion. Compared to the first version of NAP 2, the allocation for individual plants in the second version is more transparent and particular sectors are not favoured.

IV. Financing air protection – the use of public financing

1. The use of state and regional budget finances

MoE is totally unable to influence expenditures on air protection reported in other state budget chapters in the framework of program financing expenditures. In the years 2003-2005 the environmental yearbook reported expenditures on air protection at approx. CZK 140 to 250 million per year (source: Ministry of Finance). MoE possesses no data as to what sums are spent on air quality protection from the state budget chapters other than its own and as to what programs or projects spending on air protection it is reported under.

The situation is the same with regional budgets, where spending of approx. CZK 230 to 330 million yearly was reported in the same period. MoE documented that it methodologically manages and guides the preparation of programs drawn up by the regions to reduce emissions and improve air quality. As part of this methodological work it had recommended specific goals, from which the regions selected specific projects and measures for financial support.

2. The use of SEF finances

As the administrator of SEF, MoE was responsible for formulating programs through which SEF supported air protection projects. In the years 2003-2006 the total SEF expenditure on air protection amounted to CZK 3,222 million, gradually falling from CZK

1,115 million to CZK 403 million (with the share of total expenditure falling from approx. 24% to 16%).

SEF supported a total of 1,396 air protection projects in the 2003-2006 period. For the execution period as a whole, a total of approx. CZK 4,580 million was spent on support of these projects. In addition, loans worth a total of approx. CZK 851 million were provided to different recipients; support of some projects is still ongoing. A sample of 60 projects was audited at SEF. Among other things, the audit found shortcomings in the way how eligible costs were defined and checked, in ambiguous definitions of some of the supported projects' parameters and in that documents linked to paid invoices were insufficiently checked by SEF.

The most important program in terms of the number of projects and level of support was the *Program of Development of Infrastructure in Small Municipalities* for full gasification of municipalities or parts thereof. 823 projects were supported in the period under scrutiny. Support of these projects amounted to approx. CZK 3.2 billion in total, which is 84% of total support towards air protection.

SEF presents ecological effects in its financial reports and annual reports that are based solely on documentation provided by the beneficiaries and on presumptions that can justifiably be questioned. SEF tolerates the fact that data on energy audits are not duly documented in applications (it accepts, for example, a declaration by municipality representatives) and that pre-gasification solid fuel consumption levels, which are cited as a yardstick for measuring environmental benefit, are evidently exaggerated. The specific financial cost/benefit of the project is thus also distorted. The basic criterion for SEF is the number of connections, in other words consumers, and the assessment of environmental effect is thus based on the flawed assumption that all consumers will immediately and fully switch to gas for heating and hot water. However, given the price of gas some consumers only occasionally use gas for heating. **The actual gas consumption in the concerned municipalities or parts of municipalities reveals that calculating the reduction in emissions solely on the basis of the number of people connected to the gas main is not objective.**

Actual gas consumption is then merely a fraction of the calculated consumption of gas as cited in both the energy audits and the final assessment of projects done by SEF. The audit found out that a municipality's gas consumption in the first year and second year after completion of the project was approx. 9% and 11% respectively of the figures cited in the assessment based on the municipality's declaration. In the same period after full gasification, another municipality consumed approx. 9% and 15% respectively of the natural gas that was mentioned in the energy audit. Under the funding agreement the association of municipalities was supposed to build 1,249 connections; in fact it completed 1,012, and approx. 2.5 years after building approval there were only 310 active consumers. In the first year after building approval was granted (excluding one municipality not yet connected) the actual gas consumption there was only around 2% of the figure given in the energy audit. In the case of another association of municipalities, gas consumption in the fifth year after the project was completed was approx. 20% of the level cited in the energy audit. By these standards, a municipality that in the third year after the project completion achieved approx. 23% of the gas given in the energy audit can be regarded as a success.

In at least 7 of the 14 full gasification projects audited, the project was overvalued in the case of inputs and undervalued in the case of outputs. The figures used to calculate the absolute reduction in annual emissions of basic pollutants before and after gasification were not mutually comparable. For these reasons in particular, both

the energy audits and the expertise that in many cases concur with them are not objective and are overvalued, both in applications and in assessments of completed projects.

SEF documented that it assesses projects carefully when applications are submitted. The calculation models used to assess air protection projects during the audited period underwent a development and were made more precise. If the emission parameters in the SEF's control calculation differed from the applicant's figures by more than 20%, the application was deemed unsatisfactory. Even so, as the gas consumption shows, there are significant differences between the calculations and the actual state.

However, the ecological effects calculated solely in terms of the number of consumers were not achieved either. In 2004, for example, support was definitively granted to 235 projects; according to SEF the support beneficiaries did not achieve the ecological effects in 146 cases (62.1%).

The Minister of Environment empowered SEF to extend the contractual project completion deadlines by at most one year for ongoing projects where the beneficiary was not able to achieve the ecological benefits by the contractual deadline. The empowerment was gradually widened to cover all projects, with up to 3-year extensions possible. At the same time, the penalties for not achieving the ecological effect were gradually reduced. SEF could only demand that the support was returned if the attainment of the ecological effect was lower than 50%; if 50-60% of the target effect was achieved, SEF usually reduced the support by 10%. As a result the penalties were not proportionate to the degree of non-fulfilment, but rather they took into account the municipalities' actual ability to influence this fulfilment. This policy of SEF is justifiable, but it also suggests that the entire support program is not well constructed. The receipt of applications for support for full gasification was terminated in 2003.

The audit scrutinized 17 beneficiaries of investment support from SEF, which had obtained a total of CZK 184,058,036 for 19 projects by the time of the audit. The principal findings were in the area of public procurement - tenders for suppliers displayed a number of shortcomings; shortcomings were also found in beneficiaries' cooperation with suppliers, the conditions for inclusion in the full gasification program were not met. It was found out that some contracts were violated as regards the use of separate accounts – the beneficiaries thus made it harder to check whether the support finances were spent effectively.

MoE merely presented the assessment of the program's results given in SEF annual reports. These assessments in reports intended for the public do not constitute the kind of analyses that could provide suggestions for correcting, broadening, or terminating funding programs. **They do not reveal how effective they are as instruments for implementing the MoE's air protection policy.**

3. Financing projects related to the improvement of air quality from EU funds

At the time of the SAO audit, MoE and SEF were preparing an *Operational Program Environment*, which is designed to use finances from the EU structural funds in the 2007 -2013 period. This program will enable substantially more funds to be used on air protection than what was provided in the years 2003-2006. It will also be possible to support measures equivalent to the previous full gasification programs out of these structural funds.

MoE documented that it had adopted measures designed, in particular, to specify the conditions for selecting supported projects (link to regional and local programs) and to improve the quality of these projects. Documents of the *Operational Program Environment* **do not address a fundamental problem – failure to achieve the envisaged ecological effects due to reduced public interest in gas heating as a result of the high price of gas.**

Summary of the Audit Report of the Supreme Audit Office of the Slovak Republic on Management and Utilization of State Financial Means Allotted for Air and Ozone Layer Protection and Implementation of Related International Agreements

Coordinated Audit of Air and Ozone Layer Protection and Implementation of Related International Agreements

Contents

1 Introduction

The audit mission was to verify the adherence to legal regulations in the course of use of the state budget funds allotted for air and ozone layer protection and execution of international obligations.

The audit period addressed the years 2005 and 2006.

The Supreme Audit Office of the Slovak Republic (hereinafter referred to as SAO SR) **carried out the audit in the following auditees:**

- Ministry of Environment of the Slovak Republic (hereinafter referred to as ME SR)[1]
- Slovak Inspectorate of Environment (hereinafter referred to as SIE)[2]
- Environmental Fund (hereinafter referred to as EF)[3]
- Slovak Hydrometeorological Institute (hereinafter referred to as SHI)[4]

2 International Obligations of the Slovak Republic in the Field of Air and Ozone Layer Protection and their Fulfillment, Meeting the Related Limits and Targets

1. Convention on Long-range Transboundary Air Pollution
2. Vienna Convention for the Protection of the Ozone Layer and Montreal Protocol
3. United Nation Framework Convention on Climate Change and Kyoto Protocol
4. EU directives relating to air protection

2.1 Convention on Long-range Transboundary Air Pollution

The Convention on Long-range Transboundary Air Pollution (hereinafter referred to as CLRTAP) was signed in Geneva in 1979 and has been amended by eight protocols.

The Slovak Republic (hereinafter may be referred to as SR) adopted CLRTAP on May 28, 1993. In compliance with CLRTAP and its protocols, SR is obliged to submit the results of emission inventory on selected air pollutants. The emissions are processed on the nationwide level in cooperation with external experts. Activities (amount of production) for the emission calculation are conciliated directly from the NEIS database (National Emission Inventory System) from operators or from the waste database.

[1] is a state authority responsible for formulation of national policy in the field of air and ozone layer protection; development of strategic documents and legal instruments on their implementation is in its competence

[2] is a specialized supervisory authority providing the state supervision and imposing fines on the matters concerning environment protection and carrying out the municipal administration in the field of integrated prevention and control on matters concerning environmental pollution

[3] is an autonomous corporate body governed by ME SR; established to carry out state assistance in the field of environment protection; main source of its income: fees, fines and penalties for environmental pollution; allocation and use of its funds has to be in compliance with priorities and objectives of the state environmental policy strategy approved by the Government of the Slovak Republic

[4] is an allowance organization of the ME SR; provides climate and meteorological information on quality of environment; responsible for evaluating and monitoring quality of environment

2.2 Vienna Convention for the Protection of the Ozone Layer and Montreal Protocol

The Vienna Convention for the Protection of the Ozone Layer (hereinafter referred to as Vienna Convention) assigned general measures on ozone layer protection to be undertaken by its signatory parties. This document entered into force for SR on January 1, 1993.

Vienna Convention has been followed by the Montreal Protocol on Substances that Deplete the Ozone Layer and its five amendments.

SR does not produce any of the regulated substances nor products manufactured or operated by any of the regulated substances.

- Fully halogenated chlorofluorocarbons (CFCs) – consumption has been eliminated since January 1, 1996. The use is possible only in compliance with the valid exemption concerning laboratory and analytical purposes.
- Halons – can be found in existing fire protection systems, fire extinguishers and fire equipment in accordance with the allowed exemption for the critical use of halons in sectors where no adequate alternative exists so far (aviation, army, petrochemical sector). In SR there are about 1,578 kg of halons in fire extinguishers for critical use purposes. The use in other cases has been eliminated since January 1, 1994.
- Methyl bromide – the use has been prohibited by the Act No. 76/1998 Coll. on ozone layer protection as amended (hereinafter referred to as Ozone Layer Protection Act) since January 1, 2001. SR was among the first countries to eliminate its use in 1999 (the Regulation 2037/2000/EC of the European Parliament and of the Council on controls of ozone-depleting substances – hereinafter referred to as Regulation 2037/2000/EC – stipulates the prohibition term since January 1, 2005).
- In addition, in 2006 SR eliminated the use of inhalants containing fully halogenated CFCs for asthmatics.

SR annually submits the respective reports to the European Commission in compliance with the Regulation 2037/2000/EC. The report was sent by SR on July 11, 2006.

2.3 United Nation Framework Convention on Climate Change and Kyoto Protocol

The United Nation Framework Convention on Climate Change (hereinafter referred to as UNFCCC) was adopted in 1992 with the aim to stabilize atmospheric concentration of greenhouse gases (GHGs) to a save level. Currently, there are 185 countries or international communities that are parties to UNFCCC. In 1997 the parties of UNFCCC agreed to endorse the Kyoto Protocol (hereinafter referred to as KP) that defined the reduction objectives and instruments to achieve them. SR committed to an 8% reduction of GHG emissions compared to the base year 1990 in the period 2008 – 2012.

UNFCCC entered into force for SR on November 23, 1994. SR ratified KP in 2002 and it entered into force on February 16, 2005. The legislative measures that led to the reduction or contain potential to lead to the reduction of GHG emissions were taken, e.g.

acts on air protection, on emission trading, on environmental fund, on energy, on regulation in energy sector, etc.

The National Focal Point (hereinafter referred to as NFP) at ME SR is the key expert and legal guarantor for the achievement of commitments and requirements of UNFCCC and KP.

2.4 Implementation of EU Directives Relating to Air Protection

1. Council Directive 96/62/EC of 27 Sept. 1996 on ambient air quality assessment and management;
2. Council Directive 1999/30/EC of 22 Apr. 1999 relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air;
3. Directive 2000/69/EC of the European Parliament and of the Council of 16 Nov. 2000 relating to limit values for benzene and carbon monoxide in ambient air;
4. Directive 2002/3/EC of the European Parliament and of the Council of 12 Feb. 2002 relating to ozone and ambient air;
5. Directive 2004/107/EC of the European Parliament and of the Council of 15 Dec. 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.

Full transposition of the directives in the points no. 1. – 4. was ensured by the Act No. 487/2002 Coll. on air protection as amended (hereinafter referred to as Air Protection Act) and ME SR Regulation No. 705/2002 Coll. on air quality and ME SR Regulation No. 408/2003 Coll. on emission and air quality monitoring.

- **Directive 2004/107/EC – in the time of audit the transposition was in progress.**

Member States should have transposed the Directive by February 2, 2007. The amendment of the Air Protection Act transposing the Directive was adopted and published in the Collection of Laws under the number 203/2007. In addition, the Directive was transposed by the amendment of ME SR Regulation No. 705/2002 Coll. on air quality.

Shortcomings were detected mainly in:

- **SR does not meet** the limit values for PM_{10} particles and O_3.
- National Monitoring Network on Air Quality is insufficient, SR does not monitor Hg, does not meet the requirements concerning the minimum number of monitoring stations in the respective areas and does not fulfill the conditions of data extraction.
- A proposed new directive restricts terms of meeting limit values and implements limit values on $PM_{2.5}$. This directive requires extension of the monitoring program as well as performance of strict measures relating to air quality.

The commitments should have been implemented by the entrance of SR to the European Union (EU) and implementation of new commitments should have followed the schedules determined by the directives. **SR fulfills this obligation partially**.

Implementation of commitments relating to other directives

- Directive **2001/80/EC** of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from large combustion

plants was fully transposed by the Air Protection Act and ME SR regulations No. 706/2002 Coll. and 408/2003 Coll.

SR fulfils main tasks and reports on the implementation of this Directive to the European Commission.

- Directive **2001/81/EC** of the European Parliament and of the Council on national emission ceilings for certain atmospheric pollutants was fully transposed by the Air Protection Act and ME SR Regulation No. 131/2006 Coll.

SR fulfils main tasks; a national program to progressively reduce national emissions of the mentioned pollutants with the aim to reach national emission targets by 2010 at the latest was elaborated.

3 Objectives and Principles of the Slovak Republic in the Field of Air and Ozone Layer Protection, Implementation of the International Obligations to National Conditions

The Slovak Government defined its priorities of environmental protection in the Manifesto of the Government of the Slovak Republic. Economic Strategy of the Slovak Republic presents the policy development for the period 2005 – 2013. The strategic goal for 2005 – 2013 is to ensure maximum economical growth under the conditions of sustainable development. The Environmental Policy, in which the main goal is achievement of high environmental quality and improvement of protection and utilization of natural resources and scenery, is a part of the Strategy.

Summary of commitments, targets and obligations of SR relating to CLRTAP and its protocols and their implementation

In 2006 there were 5 stations of National Monitoring Network on Air Quality operating in the territory of SR, serving for monitoring regional air pollution. The measuring program of the stations has operated since 1978. SR met its targets to reduce European sulfur dioxide (SO_2) emissions by 30% compared to the year 1980 by the end of 1993. The actual reduction was at 61.06%.

The target to reduce national annual NO_x emissions or their transboundary effects (obligation – 197 thousand ton, actual amount – 134.696 thousand ton) was achieved. Unleaded fuel became available, thus operation of vehicles equipped by clarifiers was enabled. SR was the 4th country in Europe and 6th country in the world with implemented unleaded fuel.

The target to reduce SO_2 emissions by 60% in 2000, by 65% in 2005 and by 72% in 2010 – all compared to the year 1980 – in fact, SR reached the target of 2000 by 84.94%, the target of 2005 by 89.44% and the reduction by 72% in 2010 is real.

The target to eliminate and reduce national volatile organic compounds (VOC) emissions or their transboundary effects by minimum 30% in 1999 in reference to the base year 1988 was achieved in SR; the actual reduction was at 39%.

The target to reduce total annual emission of heavy metals (cadmium, lead, mercury) in ambient air compared to the year 1990 was achieved in SR.

The target to reduce SO_2 emissions by 80% in 2010, NO_x by 42%, ammonia (NH_3) by 37% and VOC by 6% compared to the year 1990 was reached; whereas the actual SO_2 reduction was at 83.08%, the actual NO_x reduction was at 56%, the actual NO_3 reduction was at 58.57% and VOC at 42.20%.

Vienna Convention for the Protection of the Ozone Layer and Montreal Protocol

Slovak legislation stipulates substances that deplete the ozone layer in the Ozone Layer Protection Act and in ME SR Regulation No. 283/1998 Coll. on execution of the act on ozone layer protection. The amendment of the Ozone Layer Protection Act adopted in October 2000 meant a full transposition of the Regulation 2037/2000/EC of the EP and of the Council on controls of ozone-depleting substances, as amended by Regulations 2038/2000/EC and 2039/2000/EC of the EP and of the Council.

The **Action Program of SR to Progressively Eliminate the Use of Substances that Deplete the Ozone Layer**, which implementation was monitored and updated, was elaborated to ensure fulfillment of respective tasks and obligations. The 1st action program was prepared for the period 1996 – 2000. Following the 1st action program, ME SR submitted to the Government a proposal of the new **Action Program of SR to Eliminate the Consumption of Substances that Deplete the Ozone Layer in 2001 – 2008**, which was approved by the Government in June 2001. At the same time, the Minister of Environment was assigned to report on the Action Program execution to the Government every two years and update and amend the Program when necessary.

United Nation Framework Convention on Climate Change and Kyoto Protocol

The Strategy of SR to Achieve Commitments under the Kyoto Protocol is a comprehensive document that was adopted in 2002. It defines objectives to stabilize and reduce GHG emissions in three time horizons: short-term (by 2002), medium-term (2003 – 2007) aimed to reach the development of GHG emissions that would clearly allow to achieve the KP commitments and to complete the National Inventory System (hereinafter referred to as NIS) in compliance with Art. 5 KP and long-term (2008 – 2020) aimed to reduce GHG emissions in 2008 – 2012 by 8% compared to the year 1990, to establish prerequisites to reduce further in the second target period and to control the GHG emissions development so that stabilization after the year 2015 could be achieved gradually.

Following the Strategy, the proposal of the **Action Plan of Fulfillment of the Kyoto Protocol Commitments of the UNFCCC** has been developed, which has thoroughly analyzed direct and indirect measures in view of their GHG reduction potential, investment intensity and the time horizon to be implemented. These were mainly measures on the energy demand side and measures on the energy supply side.

4 Financing the Air Protection, Use of Budgetary Means, Audit Findings

4.1 Use of Budgetary Means in 2005 – 2006

Within the subprogram “Air Protection,” the budget for the year 2005 amounted to SKK **390,398 thousand**, out of which SKK 100,000 thousand were allotted from the state

budget, SKK 253,911 thousand were allotted from the European Regional Development Fund (hereinafter referred to as ERDF) and SKK 36,487 thousand were co-financed from the state budget. Total expenditures amounted to SKK **183,648 thousand**, which represented 47% of the approved budget and, after the budgetary correction, 100% of the corrected subprogram budget.

Within the same subprogram, the budget for the year 2006 amounted to SKK 672,258 thousand. The budget after corrections amounted to SKK **860,652 thousand**, out of which SKK 109,097 thousand were allotted from the state budget, SKK 324,303 thousand were the EU funds, SKK 169,576 were the government credits, SKK 71,287 thousand were co-financed from the state budget and SKK 186,390 thousand were allocated from the capitol General Cash Administration for ISPA co-financing. Total expenditures amounted to SKK **674,262 thousand**, i.e. 78.34% of the corrected budget. Funds (ISPA) at the sum of SKK **186,390 thousand** were allotted for the modernization of a heating plant in Zilina. The funds **were not used** as a tenderer had not been chosen in the public procurement process by the end of the year.

The EU funds were used for the improvement and development of infrastructure and air protection. **In 2005 and 2006, 32 projects were approved, out of which 11 were physically and financially implemented. Total expenditures cumulated by December 31, 2006 – EU funds and state budget – were at the sum of SKK 574,928 thousand.**

4.2 Slovak Hydrometeorological Institute

Activities of SHI. Creation of the National Inventory System in compliance with Article 5 KP and Decision No. 19/CMP.1.

According to the Art. 5, par. 1 of KP*, each Party included in Annex I of UNFCCC shall have in place, no later than one year prior to the start of the first commitment period, a national system for the estimation of anthropogenic emissions (NIS) by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. According to the Decision 19/CMP, NIS should be designed and operated to ensure the transparency, consistency, comparability, completeness and accuracy of GHGs inventories. In addition, NIS should meet the quality requirements via planning, preparation and management of activities relating to the inventory, implementing uncertainty assessment and quality assurance / quality control (hereinafter referred to as QA/QC) activities. Characteristics, general and specific functions and principles are defined in the Decision 20/CP.7 and Decision 19/CMP.1.*

The audit team detected that by December 31, 2006, **NIS partially existed, QA/QC plan was only partially implemented within several sectors; however, institutional, legal and procedural framework was not adopted in full measure. The GHGs inventory process was not certified, accredited and QA/QC system** for sector inventories as well as the overall inventory **was not implemented**.

According to the Decision 19/CMP.1, *„..each Party included in Annex I shall (a) designate a single national entity (SNE) with overall responsibility for the national inventory, (b) make available the postal and electronic addresses of SNE..“*

The audit team detected that by December 31, 2006, **SNE was not established. Its tasks were partially carried out by SHI in cooperation with NFP**. SNE is a part of

institutional framework established to provide input data and to report in compliance with the international conventions. It is formally connected to monitoring basic pollutants – NH_3, NMVOC, POPs, heavy metals and PM. **The requirement to establish an independent working unit was not met at the time of audit. The establishment of a working group is regarded to be only a temporary solution.** At the time of audit, a possible transition to an independent department within a new structure of SHI was envisioned. Material, technical and capacity issues (finances, technical equipment, human resources) remained unresolved.

Requirements to ensure and control the estimation of GHGs, including sinks are consistently covered by the Quality Management System (hereinafter referred to as QMS), applicable to the process as a whole as well as its particular components. The extent and requirements of QMS are currently defined, practical execution is anticipated after finalization of all necessary activities in the field of organizational provisions and data archiving system in individual IPCC sectors, including disclosure of information in compliance with 20/CP.7.

4.3 Environmental Fund

In 2005, EF received 1,294 applications for subsidies at the total sum SKK 7,072,551 thousand. 612 applications were successful and granted sum amounted to SKK 1,224,036 thousand. 86 applications were submitted on air and ozone layer protection, out of which 24 applications were successful and granted sum amounted to SKK 33,315 thousand (2.7% of total granted funds). 16 applications were verified by the audit team and it was detected that in three cases the original invoices submitted to EF were not in compliance with the Act No. 431/2002 Coll. on accountancy as amended (hereinafter referred to as Accountancy Act) and in one case the municipality did not act in compliance with the Act No. 523/2003 Coll. on public procurement as amended (hereinafter referred to as Public Procurement Act).

In 2006, EF received 1,255 applications for subsidies at the total sum SKK 6,583,402 thousand. In 2006, no applications for subsidies on credit were submitted. 591 applications were successful and granted sum amounted to SKK 1,469,764 thousand. 57 applications were submitted on air and ozone layer protection, out of which 12 applications were successful and granted sum amounted to SKK 12,500 thousand (0.9% of total granted funds). 7 applications were verified by the audit team and it was detected that in one case EF did not act in compliance with the Act No. 587/2004 Coll. on the environmental fund as amended, whereas EF did not verify completeness of the submitted application and funds were granted on the grounds of incomplete application. In one case an application was not accompanied by the tender documentation in compliance with the Public Procurement Act.

In 2005, EF carried out 5 audits on selected projects in the field of air and ozone layer protection, out of which 2 audits were planned (the subsidies were granted in the period 2002 – 2004) and 3 audits were unplanned. In 2006, EF carried out 3 audits on selected projects in the mentioned field, out of which 2 audits were planned (no infringements of contract conditions nor ineligible use of granted funds were detected).

4.4 Slovak Inspectorate of Environment – Activities in the Field of Air and Ozone Layer Protection

In 2005, air protection divisions of SIE (hereinafter referred to APDs) imposed 163 fines at the total sum SKK 4,594 thousand and in 2006 the number of imposed fines was 127 at the total sum SKK 2,622 thousand. In 2005, 135 imposed fines were reimbursed at the total sum SKK 3,668 thousand. In 2006, 115 imposed fines were reimbursed at the total sum SKK 2,294 thousand. SIE imposed corrective measures to correct shortcomings detected by its audits. In 2005, APDs imposed 154 measures and in 2006 129 measures.

Imposing fines and sanctions in compliance with the Air Protection Act

In 2005, the highest fines were at the sum SKK 1,400 thousand for running an operating unit in conflict with the valid documentation, failing to meet defined emission limits, failing to perform imposed measures; and at the sum of SKK 250 thousand for failing to meet the emission limits. In only 4 cases out of 163 decisions, the sum of the fine exceeded SKK 100 thousand. The lowest fines were imposed in accordance with the Air Protection Act – in 46 cases SKK 10 thousand, in 34 cases SKK 5 thousand, in 18 cases SKK 15 thousand (out of all decisions in accordance with the Air Protection Act). In other 11 cases, the fine was lower than SKK 15 thousand – the lowest imposed fine amounted to SKK 1 thousand.

In 2006, the highest fines were at the sum SKK 200 thousand for failing to meet defined SO_2 emission limits; and at the sum SKK 125 thousand for failing to meet the emission limits and to perform imposed corrective measures. In only 4 cases out of 127 decisions, the sum of the fine exceeded SKK 100 thousand. The lowest fines were imposed in accordance with the Air Protection Act – in 36 cases SKK 10 thousand, in 22 cases SKK 5 thousand, in 14 cases SKK 15 thousand (out of all decisions in accordance with the Air Protection Act). In 6 cases, the fine was lower than SKK 15 thousand – the lowest imposed fine amounted to SKK 2 thousand.

In 2005, SIE initiated a new audit activity in compliance with the Ozone Layer Protection Act. The activity consisted of regulated substances (RS) sample withdrawal for the purposes of analysis. In 2005, 37 audits were carried out, aimed at the compliance with the Ozone Layer Protection Act. In 2006, 24 audits were carried out. In cases of audits aimed at the withdrawal of RS, 33 samples were withdrawn at operators.

In 2005, SIE carried out 37 audits in the field of air protection at operators handling with substances depleting the ozone layer and detected 6 legal infringements. 7 fines amounting to SKK 70 thousand were imposed due to the detected shortcomings and 4 corrective measures. In 2006, 24 audits were carried out and 3 legal infringements were detected. SIE imposed 8 fines amounting to SKK 38 thousand and 3 corrective measures.

5 Emission Trading System

Market mechanisms are one of the means to reach the UNFCCC and KP objectives. In 2003, EU adopted the Directive 2003/87/EC of the EP and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community, which established the European GHG Emission Trading Scheme. The transposition of the Directive was executed by the Act. No. 572/2004 Coll. on emission trading as amended (hereinafter referred to as Emission Trading Act). The scheme

officially started to operate on January 1, 2005 and the first period lasts to December 31, 2007. Distribution of allowances is carried out in compliance with the national allocation plans (NAPs). National Emission Information System (NEIS) database, operated by SHI, served as the bases for individual allocation. Operators annually report on pollutants emissions. Final draft plan included 168 sources of emissions; the plan allocated 30,481,461 tons of CO_2 annually and the allowances for new sources of emissions amounted to 25,324 tons of CO_2 for the period 2005 – 2007 (NAP 1).

The allowances exist only as an electronic record in the National Register of GHG Allowances. Dexia Bank, a.s. acts as the administrator of the register (hereinafter referred to as Administrator). The operation of the register is stipulated in the Commission Regulation (EC) No. 2216/2004 for a standardized and secure system of registries pursuant to the Directive 2003/87/EC of the EP and Council and Decision No. 280/2004/EC of the EP and Council. The Slovak register was connected with EU Central Register on December 22, 2005 and started to operate on December 23, 2005. Reports for the years 2005 and 2006 were sent to the EC.

Emission Trading Act stipulates GHG emission trading in SR and EU, responsibilities of state authorities and the term of recording allocated allowances to the registry. The Administrator records the allowances to the register pursuant to the ME SR instructions annually by February 2.

- **In 2005, allowances were transposed to operators on December 23, 2005.**

The register was prepared and passed the compatibility tests on connection with the Community Independent Transaction Log (CITL) by April 2005. The register was evaluated as prepared for operation. Negotiations with EC were held since June 2005, concerning the corrections of the national allocation plan for 2005 – 2007 (NAP 1). These negotiations were finished on December 20, 2005. Consecutively, allowances were transposed to operators amounting to one third of the total amount quoted in NAP 1, as adopted by the EC.

- **In 2006, allowances were transposed to operators on February 28, 2006.**

Allowances were transposed to operators amounting to one third of the total amount quoted in NAP 1, as adopted by the EC.

6 Conclusion

SR is fulfilling its commitments relating to the international conventions in the area of air and ozone layer protection and there is the real presumption of their future implementation. Execution of measures taken to fulfill commitments relating to the international conventions will have impact on the amount of emissions. SR defined its priorities to reduce GHG emissions by 2020 in the "Strategy of SR to Achieve Commitments under the Kyoto Protocol". **It is necessary to improve cooperation and communication among environment, energy and transportation with regard to the institutional cooperation.**

Environmental legislative and its fiscal instruments play an important role in assessment of possible emission development. The area of air and ozone layer protection is stipulated by the whole system of legal regulations in SR. The effects of legislative measures with direct or indirect impact on GHG emissions also played an important role.

RAČUNSKO SODIŠČE
REPUBLIKE SLOVENIJE

Summary of the Audit Report of the Court of Audit of the Republic of Slovenia on Implementing Measures to Achieve Set Objectives for Air and Ozone Layer Protection and Tackling Climate Change

Coordinated Audit of Air and Ozone Layer Protection and Implementation of Related International Agreements

Contents

1 The subject and objectives of the audit

The Court of Audit of the Republic of Slovenia (hereinafter, the Court of Audit) performed an audit of achievement of objectives set to protect the air and the ozone layer and to tackle climate changes, determined by international agreements, the European Union directives and national policies. We determined whether the auditees successfully achieved the objectives set and whether they efficiently implemented the measures, which were planned so that the set objectives would have been achieved. We verified if comprehensive policies were created and adopted in Slovenia, on the basis of which it will be possible to successfully achieve the objectives set. We also assessed, whether based on the projections of the emissions flows it will be possible to achieve the objectives set, to what extent the planned measures were implemented, and what are their effects.

The audit was performed at the auditees responsible for the achievement of set objectives and implementation of individual measures to protect the ambient air, the ozone layer and to mitigate climate change:

- Ministry of the Environment and Spatial Planning,
- Ministry of Agriculture, Forestry and Food,
- Ministry of Transport,
- Ministry of the Economy, and
- the Environmental Fund of the Republic of Slovenia (hereinafter, the Environmental Fund).

We audited performance of the auditees in the years 2005 and 2006 and took into consideration also all actions in 2007 and in the beginning of 2008, which affected the achievement of set objectives.

2 The objectives set to protect ambient air and ozone layer and to mitigate climate change

Slovenia is the signatory of all important international agreements for air and ozone layer protection and tackling climate change, which set the objectives to reduce emissions of various harmful substances that the states signatories have to achieve in the agreed time period, as well as other obligatory actions of the signatories. Slovenia has to also observe the provisions of the European Union directives, which also bind the Member States to achieve the set objectives for air and ozone layer protection and mitigating climate change.

3 Achievement of objectives and implementation of measures to protect ambient air

The quality of ambient air is especially affected by the emissions of sulphur dioxide, nitrous oxide, volatile organic compounds, ammonia, carbon monoxide, particulate matter, and also heavy metals, lead, cadmium mercury and persistent organic pollutants. It is important that the countries ensure that the emissions do not exceed allowed yearly and daily limit and alert threshold values.

3.1 Comprehensiveness and completeness of the ambient air protection policy

In 2004 the Government of the Republic of Slovenia adopted an action plan, which determined measures to reduce total annual emission quantities of sulphur dioxides, nitrous oxides, volatile organic compounds and ammonia. It also adopted an action plan to reduce total annual emissions of sulphur dioxide, carbon monoxide and particulate matter (PM 10[1]) from large combustion plants. With regard to the determined actual state of emissions and unreal emission projections from 2004, revisions of both action plans were adopted in 2006.

A continuous exceeding of allowed daily limits and alert threshold values of particulate matter (PM 10) was determined on all densely populated areas in Slovenia in 2005 and 2006. The concentrations that exceed the allowed emission values were mostly affected by congested traffic in city centres. The measures to reduce excessive exceeding of allowed concentrations were not determined and adopted.

We assessed that the adopted policy to protect the ambient air quality was not comprehensive and complete. Only the measures to achieve yearly allowed emission quantities were determined and adopted, but not the measures to achieve daily and alarm threshold emission values of all important pollutants.

The Ministry of the Environment and Spatial Planning did not perform appropriate monitoring of adopted action plans for ambient air quality. In 2006 it prepared a revision of both adopted plans due to the changes of conditions, on the basis of which future emission projections were forecasted. However it did not assess and evaluate the effects, which were the result of performance of individual planned measures. It also didn't report to the public on the results of implementation of ambient air quality protection measures.

3.2 Assessment of achieving set objectives and efficiency of implementing measures

Based on the emission decreasing trend of sulphur dioxide, ammonia and volatile organic compounds emissions, we determined that the target emissions in 2010 shall not be exceeded. The emission trends of heavy metals and persistent organic pollutants show that the emissions of these substances are decreasing and that Slovenia does not exceed the reference values from the year 1990.

In the action plan it was forecasted that in 2010 Slovenia will not meet the emission ceiling for nitrous oxides. It was anticipated that the extent of measures implemented could not ensure reduction of emissions under the set ceiling. During the audit the Ministry of the Environment and Spatial Planning started to apply more contemporary and precise methodology to asses nitrous oxide emissions produced by the traffic (COPERT III methodology). According to the calculations of emissions evaluated under this methodology, the set objective of 45 thousand tons of nitrous oxide emissions in 2010 could be achieved. The Gothenburg Protocol and the Directive on National Emission Ceilings for Certain Atmospheric Pollutants, which specify the target value of nitrous oxide emissions, do not explicitly specify that the methodologies, which were used to determine the actual and the target emissions, have to be the same.

[1] Particulate matter 10.

Nevertheless, we believe that the reduction of emissions only due to the application of a different methodology does not present an actual reduction of emissions as the result of successful implementation of measures.

In accordance with the Gothenburg Protocol, the contracting parties have to continuously collect data on harmful effects of photo-oxidants (sulphur and nitrous compounds, ozone and heavy metals). We determined that the Ministry of the Environment and Spatial Planning did not ensure an appropriate institutional organization in order to carry out monitoring of the effects of polluted air on natural vegetation and agricultural plants as well as monitoring of critical values for individual pollutants regarding their effects. This information is not collected systematically in Slovenia.

The measures to improve the ambient air quality to reduce the frequency of exceeding of allowed daily and alarm threshold values of particulate matter emissions were not performed. Therefore, the exceeding of allowed daily concentrations of particulate matter (PM 10) continuously occurred in the most densely populated areas with regular traffic congestion in 2007 as well.

In 2005 and 2006 no funds from the state budget were intended to finance the measures to improve the ambient air quality.

4 Achievement of objectives and implementation of measures to protect the ozone layer

4.1 Comprehensiveness and completeness of the ozone layer protection policy

In 2003, the Ministry of the Environment and Spatial Planning prepared and the Government of the Republic of Slovenia adopted two plans on handling of substances that deplete the ozone layer, namely the Action plan on handling of halons and the Action plan on handling of hydrochlorofluorocarbons. The action planes specify the measures to abandon the use and to handle these substances, especially the mandatory measures for controlled capture of halons and hydrochlorofluorocarbons from the devices, which still contain these substances. An appropriate legislation was also adopted, which determined mandatory handling of substances that deplete the ozone layer, in accordance with the Montreal Protocol and the Regulation of European Union on Substances that Deplete the Ozone Layer.

We determined that the Ministry of the Environment and Spatial Planning did not regularly collect and monitor the data on controlled capture of hydrochlorofluorocarbons and report to the public of implementing the adopted measures.

4.2 Assessment of achieving set objectives and efficiency of implementing measures

Production, marketing and use of the substances that deplete the ozone layer (hydrochlorofluorocarbons, other fully halogenated hydrochlorofluorocarbons, halons, carbon tetrachloride, 1,1,1-trichloroethane and partially halogenated hydrobromofluorocarbons) are prohibited in Slovenia. The measures for mandatory handling, capturing, recycling, removal and destruction of halons and hydrochlorofluorocarbons were determined and adopted. They have to be performed

by the owners of devices that contain these substances and by authorised services of the equipment, which contains the substances that deplete the ozone layer.

There was no production, import, marketing and use of substances that deplete the ozone layer in Slovenia in 2005 and 2006, except the controlled allowed import of hydrochlorofluorocarbons for analytical, research and medical purposes, exclusively from the states signatories to the Montreal Protocol.

On the basis of the reports to the European Commission on the capture of substances from the waste devices that deplete the ozone layer, we determined that, according to the specified mandatory handling, in average only 31 percent of the hydrochlorofluorocarbon quantity from waste devices that contained these substances was appropriately captured. Almost 70 percent of the hydrochlorofluorocarbon quantity from the devices, which discontinued to be used in 2005 and 2006, were uncontrollably released into the atmosphere. The Ministry of the Environment and Spatial Planning does not have adequate data on the capture of hydrochlorofluorocarbons and did not perform suitable control of the capture of these substances.

Based on the inspections performed by the Inspectorate of the Republic of Slovenia for the Environment and Spatial Planning, it was determined that the holders of devices, which contain substances that deplete the ozone layer, do not perform regular leakage inspection of these devices, which is why their malfunctions may occur more often and as a consequence even uncontrolled release of the substances that deplete ozone layer. The Inspectorate of the Republic of Slovenia for the Environment and Spatial Planning proposed that the Ministry of the Environment and Spatial Planning amend the legislation on handling of substances that deplete the ozone layer, so that the device operators would be obligated to report all uncontrolled releases to the Ministry of the Environment and Spatial Planning. The Ministry of the Environment and Spatial Planning has not carried out yet the proposed harmonisation of legislation.

In 2005 and 2006, the measures to abandon the use of substances that deplete the ozone layer were not financed from the state budget.

5 Achievement of objectives and implementation of measures to tackle climate change

By signing the Kyoto Protocol, Slovenia undertook to reduce the greenhouse gas emissions by 8 percent in the period between 2008 and 2012 with regard to the base year. The emissions of these gases may not exceed 18.96 million tons of carbon dioxide equivalent emissions per year. Because of the carbon stocks bound in forests (carbon sinks), Slovenia can compensate for additional 1.3 million tons of carbon dioxide equivalent. Thus, Slovenia's emissions in the target period amount to the total of 20.28 million tons.

5.1 Comprehensiveness and completeness of the climate change mitigation policy

To achieve the Kyoto Protocol objectives the Government of the Republic of Slovenia adopted the Framework strategy to fulfil commitments under the Kyoto Protocol in 2002 and the Action Plan to reduce greenhouse gas emissions, which was amended in 2004 and 2006. By reviewing the mentioned strategic documents, we determined that:

- the selection of the proposed measures to reduce greenhouse gas emissions does

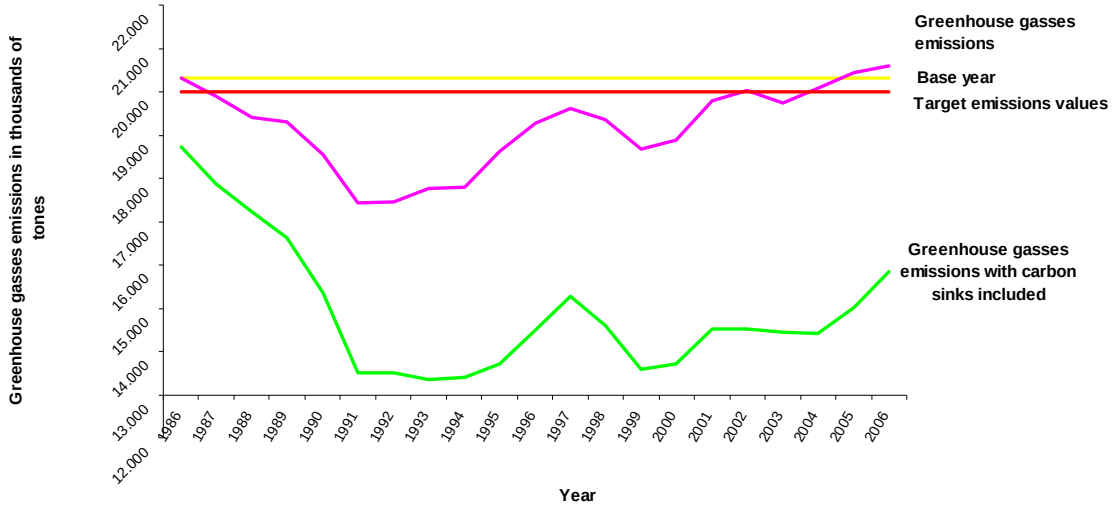
not base on cost -benefit analysis, therefore it is not clear, whether the most cost-efficient and economically justified measures were chosen;

- action plan does not contain long-term projections of greenhouse gas emissions thus it is not possible to plan and adopt a long-term policy to mitigate and adapt to climate change;
- national policy to tackle climate change does not contain measures to adapt to the already occurred consequences of climate change;
- the national policy on climate change is not adequately harmonised with national strategic development documents, as well as with sectoral policies in transport, energy and agriculture, which are of key importance to reduce greenhouse gas emissions;
- the Ministry of the Environment and Spatial Planning did not adequately monitor implementation of action plans to reduce greenhouse gas emissions in order to comprehensively assess and evaluate the effects of implementation of individual measures so far.

5.2 Assessment of achieving set objectives and efficiency of implementing measures

The greenhouse gas emissions in the base year in Slovenia amounted to 20,314 thousand tons. After 1986 they began to decrease due to the reduced scale of production and in 1991 reached the lowest point. Afterwards they began to increase again because of the revival of economic activity and the increase of production, so that in 2005 they exceeded the base year level from 1986. A smaller reduction of emissions was recorded in 1999 and 2000, but afterwards they started to increase again. The greenhouse gas emissions in 2006 amounted to 20,585 thousand tons and were higher by 3 percent than the target value for the period between 2008 and 2012. The emissions have increased by 18.14 percent since 1992 and have been increasing by the average annual rate of 1.12 percent. The flow of greenhouse gas emissions between 1986 and 2006, the greenhouse gas emissions with already included actual sinks, and the base and target emissions in Slovenia are shown in Figure 1.

Figure 1: The flow of greenhouse gas emissions in Slovenia between 1986 and 2006

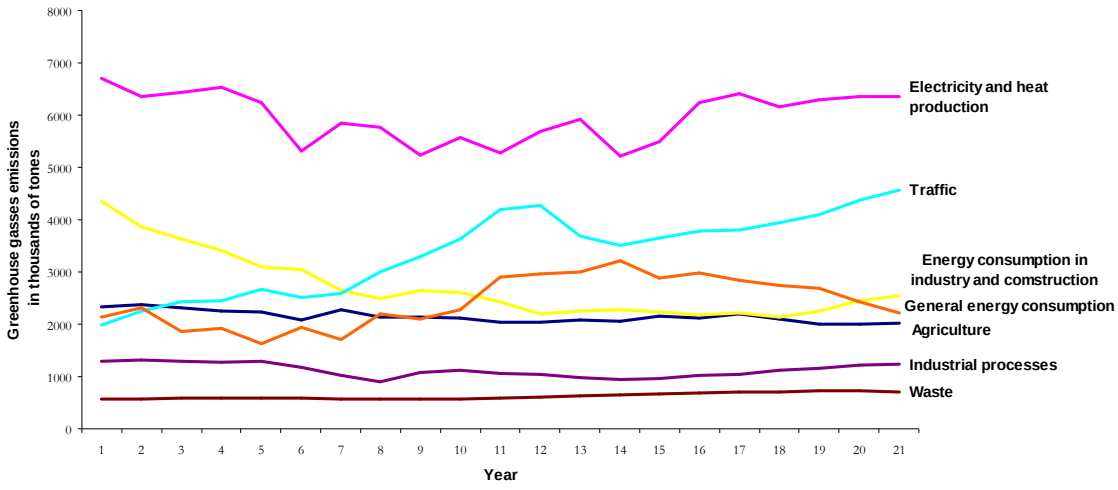


Source: GHG Inventory 2006, table 10: Emission trends, Environmental Agency of the Republic of Slovenia

After 1992 the greenhouse gas emissions have constantly increased. Their growth somewhat accelerated after the year 2000, because they have increased by the average annual rate of 1.45 percent. Projections referred to in the action plans that the emissions should begin to decrease after 2002 were not realised because of the inadequate extent of their implementation.

The emissions, which are the result of the fossil fuel combustion in energy production and its consumption, contribute more than three quarters of the total amount of greenhouse gas emissions. Because of fossil fuel combustion to produce electricity and heat, 31 percent of the total amount of greenhouse gas emissions is produced, during general consumption of energy[2] 14 percent, and during energy consumption in the industry and construction 11 percent. Because of the traffic approximately 22 percent of the total amount of greenhouse gas emissions are produced, and in the agriculture 10 percent of all emissions. The emissions, which are produced due to industrial processes, contribute 6 percent to the total amount of emissions, during waste disposal 3 percent of all greenhouse gas emissions are released, and the emissions from other sources contribute 3 percent. The flow of greenhouse gas emissions according to sectors is shown in Figure 2.

Figure 2: The flow of greenhouse gas emissions according to sectors between 1986 and 2006



Source: GHG Inventory 2006, table 10: Emission trends, Environmental Agency of the Republic of Slovenia

5.2.1 Implementation of measures in the energy and industrial processes sector

In the energy and industrial processes sector, mostly the measures to trade emission allowances and the measures to encourage efficient energy consumption and increase the share of energy consumption from renewable sources were carried out.

Emission trading scheme

The European Union introduced mandatory trading in greenhouse gas emissions for its

[2] Consumption of energy in households, service sectors, agriculture and forestry.

Member States at the European Union level and established the European Union Greenhouse Gas Emission Trading Scheme. The emission allowance trading scheme in Slovenia also presents part of the overall European trading scheme. The trading rules are regulated by the Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading. The emission allowance trading is performed in two periods, namely between 2005 and 2007 and between 2008 and 2012. By comparing the plans to allocate emission allowances for both trading periods, by comparing the data on the number of allocated emission allowances[3] and actual emissions for 2005 and 2006, and based on the results of the survey, which was conducted among installation operators that participate in emission allowance trading, we determined the following:

- The planned effect of operation of the emission allowance trading is the largest measure to reduce greenhouse gas emissions in Slovenia. It contributes one quarter to the total reduction of emissions and is therefore the most important measure.
- The allocation method of emission allowances between 2005 and 2007 enabled the allocation of a larger number of allowances to devices, which were technologically behind the best available technologies, because of considering historical emissions as the basis for the emission allowance allocation and merely symbolic consideration of the best available techniques. Such allocation was reflected also in the trading results, because most of the installation operators concluded the trading in 2005 and 2006 with allowance surplus with regard to the actual (verified) greenhouse gas emissions.
- The emission trading scheme in Slovenia is small and non-homogenous. 97 device operators participated in the market in 2005 and 2006. The largest operator was allocated 53 percent of all allowances during both years, the largest 10 operators 86 percent of all allowances, and 25 percent of the smallest participants received only 1 percent of all allowances. The described structure of emission allowance market participants limited the market operation to some extent, which is also evident from the questionnaire that we sent to the installation operators. Only 30 percent of all installation operators traded in emission allowances in 2005 and 2006. 64 percent of all traders traded in Slovenia, and the others in the frame of the European scheme. 80 percent of all who were active in the market traded to cover the deficit of emission allowances, and for 20 percent of all participants the allowances represented a financial investment.
- Based on the comparison of emission allowance allocation for both trading periods, we determined that the average annual quantity of allocated emission allowances for the period between 2008 and 2012 is lower than the average annual quantity of allocated emission allowances in the period between 2005 and 2007 by 6 percent. In the period between 2008 and 2012 the use of the best available techniques shall be taken more into account, and the impact of historical emissions shall have to be smaller. We believe that under such allocation of emission allowances the efficiency of market operation shall be greater.

The measures to increase efficient energy consumption and to increase the share of energy consumption from renewable sources

Reduction of emissions because of more efficient energy consumption and the increase in renewable energy consumption may be achieved especially by paying direct initiatives for such investments. Financial stimulations to investments were paid out by the Ministry of the Environment and Spatial Planning and favourable[4] loans by the Environmental Fund of the Republic of Slovenia. During verification of granting of

[3] One emission allowance is issued for the emission of 1 ton of carbon dioxide.
[4] Favourable loans mean that the loans are treated according to a more favourable interest rate than the market interest rate.

direct initiatives we determined the following:

- The funds are awarded by two different institutions, therefore there are two parallel decision-making systems on co-financing of investments with the same purpose. An individual recipient can receive non-refundable funds and also a favourable credit for the same investment. Because demand of non-refundable funds as well as favourable credits is much higher than the offered funds and because it is still increasing, such parallel stimulation of investments does not ensure the most efficient allocation of funds and therefore co-financing of a larger number of investments.
- The effects of carried out investments are determined by the Environmental Fund and the Ministry of the Environment and Spatial Planning with regard to non-refundable funds and granted favourable credits. The institutions do not have information, whether a particular applicant was granted also by the other institution, therefore both institutions determine the effects for the entire investment. Thus, the duplication of assessment of actual effects of carried out investments occurs, because of which the overall assessment of greenhouse gas emission reduction is overestimated.
- In 2005, EUR 4,335 thousand were intended to subsidise investments into efficient energy consumption and to increase the share of renewable energy, with which the greenhouse gas emissions were reduced by 24 thousand tons, and EUR 3,995 thousand in 2006, with which the emissions were reduced by 28 thousand tons. Compared to the annual amount of planned grants, in 2005 only 7.5 percent of all planned funds were intended for these investments, and in 2006 only 7 percent. In 2007, EUR 3,800 thousand (6.6 percent of planned amount) were intended to subsidise investments into efficient energy consumption and to increase the share of renewable energy. Inadequate co-financing of measures to increase the share of renewable energy was also reflected in the primary energy balance of Slovenia, whereby the share of renewable energy consumption in 2006 amounted to 10.7 percent and was lower by 1.2 percentage point compared to the year 2000.

5.2.2 Implementation of measures in the transport sector

The main effects of greenhouse gas emission reductions in transport could be achieved by redirecting the road transport to the railways and increasing the role of public passenger transport. During the audit of implementation documents, we determined that the objectives of measures, which also have indirect effects in reductions of greenhouse gas emissions, were not specified, the time schedule of implementation of individual measures was not determined, the implementation costs of measures were not assessed, as well as the effects of implementation of individual measures to reduce greenhouse gas emissions. The funds to implement measures to reduce greenhouse gases in transport were not planned in the 2008 and 2009 state budget drafts. We also determined that the method to determine and monitor the effects of implementation of individual measures in transport is inadequately detailed in order to successfully measure the effects of their implementation in the target period.

5.2.3 Implementation of measures in the agriculture sector

We determined that in agriculture for the years 2005 and 2006 it is not possible to determine the effects of implementation of measures to reduce greenhouse gas emissions and whether the planned effects were achieved, because adequate assessment and monitoring mechanisms of these effects were not established. It is possible to determine the flow of emissions in agriculture from the records of total emissions, but since no methodology was used and individual effects were not

monitored consistently, it is not possible to precisely determine and attribute the effect to a particular measure. The method to determine and monitor the effects of implementation of individual measures in agriculture was not adequately detailed in order to successfully measure the implementation effects of these measures in the target period.

5.2.4 The assessment of implementation of measures to reduce greenhouse gas emissions in 2005 and 2006 and the assessment of possible achievement of emission target values in the period between 2008 and 2012

The reduction of greenhouse gas emissions in the key sectors of energy and transport is not being carried out in accordance with the planned implementation dynamics of measures. On the basis of the described current implementation of planned measures, we assessed that the measures in energy, industry and transport sectors were not realistically planned, and if they are carried out inconsistently, the planned reduction of emission values shall not be achieved. The implementation of most planned measures is expected in the target period therefore the effects in most cases will occur afterwards. The lack of budget funds to finance the implementation of measures to reduce greenhouse gasses points to the fact that implementation of this policy in Slovenia does not present an adequate priority despite signing the international agreement to achieve agreed reduction of emissions.

6 Required corrective measures and recommendations to the auditees

On the basis of described findings we requested that the Ministry of the Environment and Spatial Planning prepares measures to protect the ambient air quality, especially measures to reduce particulate matter emissions (PM 10), and that it prepares a strategy and a plan to implement the tasks of the Climate Protection Office. Individual planned activities of the Office, holders of activities and the time schedule of their implementation have to be clearly defined, whereby it is necessary that system solutions for the preparation of the strategy to adapt to the consequences of climate change are adopted and the climate change aspect is integrated into the key national development and sectoral policies.

We recommended to the Ministry of the Environment and Spatial Planning to begin to monitor and control capture of the substances that deplete ozone layer, to prepare a new action plan to reduce greenhouse gas emissions based on long-term emission growth projections, to consistently evaluate the effects of the current implementation of measures and in case of probable future allocation of emission allowances examine the possibility of allocation of larger quantities of allowances through an auction. We recommended to all auditees to identify all sectoral measures which may contribute to the reduction of greenhouse gas emissions, determine their possible effects as the objective and to ensure consistent monitoring of this objective.

RAČUNSKO SODIŠČE
REPUBLIKE SLOVENIJE

NKÚ

RH Der Rechnungshof

Communiqué

of

the President
of the Supreme Audit Office of the Slovak Republic

and

the President
of the Court of Audit of the Republic of Slovenia

and

the President
of the Supreme Audit Office, Czech Republic

and

the President
of the Austrian Court of Audit

on the Results of the Coordinated Audit of Air and Ozone Layer Protection and Implementation of Related International Agreements

2008

RAČUNSKO SODIŠČE REPUBLIKE SLOVENIJE

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RH Der Rechnungshof

Preamble

The SAIs of the Slovak Republic, the Republic of Slovenia, the Czech Republic and Austria, concerned with the issues of air and ozone layer protection and the issues of climate change, submit these results of the Coordinated Audit of Air and Ozone Layer Protection and Implementation of Related International Agreements to the competent national and international authorities and institutions as well as to the general public.

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Austrian Court of Audit

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I.

Introduction

Air pollution has negative effects on human population and environment also beyond the borders of the countries producing pollution. In this regard, international cooperation is needed to tackle this problem. The Convention on Long-range Transboundary Air Pollution has been in force since 1984 and it has been a useful instrument for emission reduction. It focuses on reducing emissions of pollutants, taking into consideration technical and economic feasibility and the impact on the environment, with a view to reducing long-range transboundary air pollution. The Convention was followed up by eight protocols focusing on the monitoring and valuation of long-range transmission of pollutants, the reduction of emissions of sulfur and nitrogen oxides, volatile organic compounds, heavy metals and persistent organic pollutants. Protection of the ozone layer is not effective without common activities of all the countries that can contribute to its depletion. Ozone layer depletion has been reduced by the Montreal Protocol on Substances that Deplete the Ozone Layer and all its amendments. Climate change that can be caused by increasing emissions of greenhouse gases (GHG emissions) is one of the most serious global threats which human beings have to face. The international community has been trying to find ways of mitigating climate change for more then a decade. The main convention relating to this issue is the UN Framework Convention on Climate Change and the Kyoto Protocol to the UN Framework Convention on Climate Change. These create instruments used by countries all over the world to cope with climate change.

All these conventions have been transposed into European legislation.

Close cooperation among SAIs is thus needed for comprehensive evaluation of measures dealing with these problems internationally.

II.

Common Audit Topics

Having regard to global implications of issues relating to compliance with legal regulations in regard of the use of funds for air and ozone layer protection and the execution of measures to ensure the implementation of international obligations in the field of air, climate and ozone layer protection in accordance with the above mentioned international conventions, protocols and other related EU directives and guidelines, the following common audit topics were adopted:

- Compliance with international agreements - meeting limits and targets
- Implementation for national conditions - system of responsibilities and obligations, measures, legislation, national strategies and action programs
- Emission trading system
- Financing system

III.

Different Approaches of the Participating SAIs

Different legal backgrounds and different audit approaches of the Supreme Audit Office of the Slovak Republic (SAO SR), the Court of Audit of the Republic of Slovenia (CA of Slovenia), the Supreme Audit Office, Czech Republic (SAO, CR) and the Austrian Court of Audit (CA of Austria) resulted in a wide range of topics being covered by the performed audit of implementation of all international conventions and related protocols in the field of air and ozone layer protection.

The differences appeared in audit topics, audit scope as well as audit timeframes and selected auditees.

SAO SR performed the audit of management of funds spent for air and ozone layer protection and implementation of related international agreements in this sphere. Within the scope of audit, implementation of commitments of the Slovak Hydrometeorological Institute in the field of monitoring and measuring air quality and limit values of air pollution, ozone and GHG emissions was examined. In addition, the audit examined compliance with the stipulated conditions in granting air and ozone layer protection and use of these funds by selected beneficiaries. The audited period addressed the years 2005 and 2006.

CA of Slovenia examined air protection and measures taken to reduce emissions of important pollutants, ozone layer protection and measures taken to reduce emissions of ozone depleting substances and measures taken to cope with climate change. The audited period addressed the years 2005 and 2006.

SAO, CR focused on the audit of management of finances levied and used in the field of air protection. The audited period addressed the years 2003 to 2006. In addition, SAO, CR focused on the audit of funds used for assistance in air protection by the beneficiaries of financial aid from the State Environmental Fund.

CA of Austria aimed its audit at the implementation of Kyoto Protocol commitments, i.e. climate change issues and the emission trading system. The audited period addressed the years 2002 to 2007.

IV.

Common Audit Conclusions and Recommendations

The audits performed by the participating SAIs confirmed that commitments relating to international conventions on air and ozone layer protection were in principle fulfilled, only Directive 96/62/EC of the Council on ambient air quality assessment and management and related regulations were not being complied with. In the territory of the Czech Republic, Slovak Republic and Slovenia the monitoring detected exceeding of thresholds of certain pollutants, specifically PM10 particles.

The Slovak Republic and the Czech Republic are meeting the Kyoto targets. Both countries committed to reduce GHG emissions by 8% compared to the year 1990 in the period 2008 - 2012, which is achieved continuously and there are conditions created for the future achievement.

The Republic of Slovenia committed to reduce GHG emissions by 8% compared to the year 1986 in the period 2008 - 2012. Difficulties were detected in creation of comprehensive policy on climate change in Slovenia. The GHG emission mitigation principles were not incorporated into other key sectorial policies (e.g. agriculture, transport and energy). CA of Slovenia recommended establishing a responsible body on the governmental level to ensure forming comprehensive policy on climate change and to carry out continuously sectorial measures.

Austria is obliged to reduce GHG emissions by 13% compared to the year 1990. Following the current findings, the development of emissions in the sectors housing, industry and traffic made the Kyoto target unlikely to be achieved. CA of Austria recommended taking additional measures to meet the targets of the period 2008 - 2012, as well as commitments for the period after 2012. The first period of the national emission trading system showed no significant benefit for the environment, but enabled the participants of the system to start well prepared into the second period.

The audit findings were approved in individual national audit reports. The reports together with the proposal on measures to be taken were submitted to the respective involved ministries and to the legislative bodies of the participating countries. Brief versions of these reports on the results of audits performed by individual SAIs are contained in the annexes of the Communiqué.

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The main recommendations of the participating SAIs:

- Measures to fulfill the directives relating to ambient air quality assessment and management should be elaborated.
- Implementation of measures taken to meet objectives and targets relating to international regulations on air and ozone layer protection should be regularly revised by responsible bodies to meet set targets.
- All sectors involved in mapping all programs and projects for which funds are provided should cooperate closely.
- National measures for the mitigation of GHG emissions must have priority over buying certificates in the system of the flexible Kyoto mechanisms.
- There is a need for harmonization of the allocation process on the European level.
- The national emission trading systems should pay regard to the state of the art and energy efficiency of individual plants during the allocation process.

V.

Final Provisions

The Coordinated Audit endorsed the benefits of cooperation among SAIs in the field of environmental auditing and endorsed the importance of information and experience sharing in this field in compliance with the objectives and principles of international cooperation among SAIs. It enabled the participating SAIs to compare different approaches of the four neighboring countries to reach the targets of the international commitments. The results of the Coordinated Audit shall add value to the national work of the participating SAIs by increasing the level of information of national reporting and for decision makers.

The Communiqué together with its annexes were submitted to INTOSAI and EUROSAI working groups on environmental auditing and shall form the basis for discussions at international level. In addition, the Communiqué together with its annexes are published at the websites of the participating SAIs and are available to the general public.

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Annexes

Annex I
Table on Achievements of Objectives and Time Limits

Annex II
Table on the Emission Trading System

Annex III
National Audit Reports

Annex IV
Audit Preparation and Development

Supreme Audit Office of the Slovak Republic

Audit Coordinator

www.sao.gov.sk

2008

Table 1: The objectives and time limits to achieve the set objectives to reduce emissions of important pollutants to protect the ambient air, the ozone layer and manage climate changes

International agreement/ European Union directive	Harmful substance	Time limit to achieve the set objective	Slovak Republic		Slovenia		Czech Republic		Austria	
			Set objective	Assessment of achieving/ possibility to achieve set objectives	Set objective	Assessment of achieving/ possibility to achieve set objectives	Set objective	Assessment of achieving/ possibility to achieve set objectives	Set objective	Assessment of achieving/ possibility to achieve set objectives
Ambient air protection										
The Gothenburg Protocol, Directive of the EP and Council 2001/81/EC on National Emission Ceilings for Certain Atmospheric Pollutants	Nitrogen oxides	2010	130 thousand tons per year	high possibility	45 thousand tons per year	low possibility	286 thousand tons per year	medium possibility	/	/
	Volatile organic compounds	2010	140 thousand tons per year	high possibility	40 thousand tons per year	high possibility	220 thousand tons per year	high possibility	/	/
	Sulphur dioxide	2010	110 thousand tons per year	high possibility	27 thousand tons per year	high possibility	265 thousand tons per year	high possibility	/	/
	Ammonia	2010	39 thousand tons per year	high possibility	20 thousand tons per year	high possibility	80 thousand tons per year	high possibility	/	/
Directive of the Council 96/62/EC on Ambient Air Quality	Permitted daily values and alert thresholds for concentrations of sulphur dioxide	2005	350 micrograms per cubic metre per hour*; 125 micrograms per cubic metre per hour**	yes	350 micrograms per cubic metre per hour*;125 micrograms per cubic metre per hour**	yes	350 micrograms per cubic metre per hour*;125 micrograms per cubic metre per hour **	yes	/	/
	Permitted daily values and alert thresholds for concentrations of particulate matter (PM 10)	2005	50 micrograms per cubic metre per day***; 40 micrograms per cubic metre per year	no	50 micrograms per cubic metre per day***; 40 micrograms per cubic metre per year	no	50 micrograms per cubic metre per day***; 40 micrograms per cubic metre per year	no	/	/

International agreement/ European Union directive	Harmful substance	Time limit to achieve the set objective	Slovak Republic		Slovenia		Czech Republic		Austria	
			Set objective	Assessment of achieving/ possibility to achieve set objectives	Set objective	Assessment of achieving/ possibility to achieve set objectives	Set objective	Assessment of achieving/ possibility to achieve set objectives	Set objective	Assessment of achieving/ possibility to achieve set objectives
Ozone layer protection										
The Montreal Protocol with accompanying amendments and the Regulation of the EP and Council 2037/2000/EC on Substances that Deplete the Ozone Layer	Hydrochlorofluorocarbons, other fully halogenated hydrochlorofluorocarbons, halons, carbon tetrachloride, 1,1,1-trichloroethane, and partially halogenated hydrobromofluorocarbons[1]	1996 and following	Prohibition on production, imports, use and marketing	yes	Prohibition on production imports, use and marketing	yes	Prohibition on production imports, use and marketing	yes	/	/
	Halons and hydrochlorofluorocarbons	2002, 2005, 2006	Controlled capture	yes	Controlled capture	no	Controlled capture	yes	/	/
Climate change management										
The Kyoto Protocol	Greenhouse gases[2]	2008 - 2012	Reduction of annual emission quantities by 8 percent according to the base year****	high possibility	Reduction of annual emission quantities by 8 percent according to the base year****	low possibility	Reduction of annual emission quantities by 8 percent according to the base year****	high possibility	Reduction of annual emission quantities by 13 percent according to the base year****	low possibility

Source: The Gothenburg Protocol, the Montreal Protocol with amendments, the Kyoto Protocol, the Directive of the EP and Council 2001/81/EC on National Emission Ceilings for Certain Atmospheric Pollutants, the Directive of the Council 96/62/EC on Ambient Air Quality, and the Regulation of the EP and Council 2037/2000/EC on Substances that Deplete the Ozone Layer.

Legend:

* Hourly concentration may be exceeded 24 times per year.

** Daily concentration may be exceeded 3 times per year.

*** Daily concentration may be exceeded 35 times per year.

**** The base year for Slovak Republic, Czech Republic and Austria is 1990 for all greenhouse gases, whereas for Slovenia for carbon dioxide, methane and dinitrous oxide the base year is the year 1986, and for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride the year 1990.

[1] The list of harmful substances in national legislation might be broader.

[2] Greenhouse gases are carbon dioxide, methane, dinitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. Due to comparability all greenhouse gases are expressed by the carbon dioxide equivalent obtained by multiplying the quantity of a greenhouse gas with its global warming potential.

Table 2: ETS	Slovak Republic		Slovenia		Austria	
	1st Period	2nd Period	1st Period	2nd Period	1st Period	2nd Period
Number of participants:	175	178	97	96	197	220
Number of allocated EA: (Million t CO_2)	2005: 30.47 2006: 30.49 2007: 30.48	annual average: 32.12	2005: 9.14 2006: 8.69 2007: 8.25	annual average: 8.30	05: 32.41 06: 32.65 07: 32.63	annual average: 30.02
Share of EA allocated to energy sector	-	-	71 %	70 %	38 %	36 %
Share of EA allocated to industry sector	-	-	29 %	30 %	62 %	64 %
Verified emissions (Million t CO_2)	2005: 25.23 2006: 25.54	- -	2005: 8.72 2006: 8.84	- -	05: 33.37 06: 32.38	- -
Difference allocated EA – verified emissions, total:	2005: +17.2% 2006: +16.2%	-	2005: + 4.8 % 2006: - 1.7 %	-	2005: - 2.9 % 2006: + 0.8 %	- -
Difference in industry sector	-		2005: +7.2 % 2006: + 1 %		2005: + 5.3 % 2006: + 6.0 %	
Difference in energy sector:	-		2005: +3.5 % 2006: - 2.9 %		2005: - 13.8 % 2006: - 6.6 %	
Method of distribution	100 % free of charge 0% auctioning	100 % free of charge 0% auctioning	100 % free of charge 0% auctioning	100 % free of charge 0% auctioning	100 % free of charge / 0 % auctioning	98.7 % free of charge; 1.3 % auctioning
Share of the biggest participant in ETS [1)]	31 %		53 %		13 %	
Share of the smallest 25 % of participants in ETS [1)]	0.7 %		1.2 %		0.4 %	
Share of GHG emissions covered by ETS			56 %		36 %	

[1)] related to verified emissions

1st Period: 2005 - 2007
2nd Period: 2008 – 2012