



EUROSAI

Working Group on
Environmental Auditing

**Report from
the EUROSAI WGEA Seminar
Auditing Climate Change**

Copenhagen, Denmark

23 – 24 March 2010



This publication and presentations held at this meeting are available at the EUROSAI WGEA website (www.eurosaiwgea.org).

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USEFUL DATA SOURCES AVAILABLE ON THE INTERNET

Institution	Theme	Address
European Commission DG	Environment Climate Change	http://ec.europa.eu/environment/index_en.htm http://ec.europa.eu/environment/climat/home_en.htm
European Environmental Agency	Environment Climate Change	http://www.eea.europa.eu/ http://www.eea.europa.eu/themes/climate http://air-climate.eionet.europa.eu/
INTOSAI WGEA	Guidance materials on climate change and sustainable energy	http://www.environmental-auditing.org/ The guidance materials can be found as draft versions until they are approved by its members in June 2010.
EUROSAI WGEA	Presentations and meeting materials	http://www.eurosaiwgea.org

1 PREFACE

I take great pleasure in submitting the report from the EUROSAT Working Group on Environmental Auditing (WGEA) seminar: *Auditing Climate Change*. The seminar was organised in Copenhagen, Denmark, 23 – 24 March 2010. The purpose of this report is rendering members of EUROSAT WGEA and other interested parties a brief overview of what was presented and discussed during the seminar.

Based on participants' positive evaluation, the seminar was successfully delivered. The participating SAIs' willingness to share their knowledge on the issue of climate change greatly contributed to this. I am very thankful for contributions from the members of the EUROSAT WGEA in this regard.

I would also like to thank the National Audit Office in Denmark, and our colleague Mr Yvan Pedersen's welcoming speech in particular. I also highly appreciate the warm hospitality of the European Environment Agency (EEA) in Copenhagen, their kind assistance contributed profoundly to the success of this important seminar. I would also like to commend the excellent presentations made by the EEA experts Messrs Andreas Barkman and Stéphane Isoard during the seminar. I would also like to thank all participants for their active attendance and valuable contributions during the meeting. A special thank to the workshops' speakers and moderators. Your contributions are appreciated and important in order to meet the expectations of a meeting place for sharing of experiences and knowledge in the field of climate change auditing.

The EUROSAT WGEA seminar addressed a topical issue: climate change. Considering finalised and ongoing work in the EUROSAT and INTOSAT communities, the timing of the seminar was appropriate. The recently finished EUROSAT Audit on Climate Change and the soon to be finalised INTOSAT WGEA Global Coordinated Audit on Climate Change, as well as the INTOSAT WGEA Guidance materials on sustainable energy and climate change, were presented. I believe the Supreme Audit Institutions have roles to play in informing decision-makers and the public alike about shortcomings and weaknesses associated with the implementation of climate policies at national levels. The seminar demonstrated to us that together we can contribute to the improvement of environmental governance, both at the European as well as the global level. It will be a pleasure seeing you again during the 8th EUROSAT WGEA Annual meeting in the Netherlands from 4-7 October 2010.



Jørgen Kosmo
EUROSAT WGEA Chair

2 SUMMARY

In the survey carried out during the EUROSAT WGEA's 2008 meeting, seminars were rated as the most valuable activity for our members and climate change as the most topical issue. Based on ongoing activities, the importance of auditing climate change issues and the subsequent need for increasing knowledge about the issue, the EUROSAT WGEA Steering Committee decided to arrange a special seminar on the topic in 2010. On 23 and 24 March 2010 the seminar was organised in facilities provided by the EEA in Copenhagen. 58 participants from 26 SAIs participated. A total of 30 presentations were held, including two by speakers from the EEA.

There were multiple reasons for organising a seminar on climate change, including sharing of experiences from related audits, networking, awareness raising and capacity building. The focus was on practical audit issues, lessons learnt and best practice. Based on participants' evaluation, the seminar could be considered a success. The seminar received an overall score of 4,5 out of 5 from participants. The evaluation specifies that participants were particularly satisfied with workshops as suitable arenas for exchange of experience and knowledge. Based on evaluations of previous meetings, the participants' satisfaction with discussions and exchange of experiences has improved. However, we can still see that there is a challenge to have enough time for discussions.

The seminar was opened by Mr Yvan Pedersen from the National Audit Office of Denmark. Following the official opening, Messrs Andreas Barkman and Stéphane Isoard from the EEA presented the association's activities on climate change and climate change adaptation. They also shared their thoughts on the role of SAIs in assuring effective implementation of climate change policies at the national level. In the ensuing discussion, several questions were raised, among them about the possibilities of auditing the effectiveness of climate change adaptation, the need to improve reporting under the European Emission Trading Scheme (ETS), and the need for auditing of non-trading sectors under the ETS.

After presentations by the EEA representatives, there were several presentations covering finished and on-going work on climate change in the SAI community. Dr Kristin Rypdal from the Office of the Auditor General of Norway presented the on-going work on the *INTOSAI WGEA Global Coordinated Audit on Climate Change*. Ms Alicja Gruszecka from the Supreme Audit Office of Poland then presented results from the *EUROSAT Audit on Climate Change*. The presentations sparked an interesting discussion on the need for cooperation on climate change auditing. Climate change issues and policy measures are of particular transnational relevance; policies and measures are complex and common, and there is definitely a need for cooperation on sharing experiences, including auditing the flexible mechanisms under the Kyoto Protocol and climate change adaptation measures.

Then followed two presentations covering on-going INTOSAT WGEA work. Ms Kristine Lien Skog from the Office of the Auditor General of Norway presented the guide on climate change auditing and Ms Regina Charyparová from the Supreme Audit Office of the Czech Republic the guide on auditing sustainable energy. The presentations provided the EUROSAT WGEA members updated information about the important work done under the auspices of the INTOSAT WGEA community.

The first day's last presentation was made by Mr Fredrik Engström of the Swedish National Audit Office. He shared his office's experiences with strategic planning of audits on climate change.

During the second day of the seminar there were three separate workshops on flexible mechanisms, climate change adaptation and energy issues from a climate change perspective. Abstracts of

presentations and summaries are included in the report. Reports from the workshops indicate lively discussions and fruitful debates on common challenges facing audit institutions. The workshops were also great venues for audit institutions to present performed audits and findings, as inspiration to others.

3 WELCOME SPEECH

Presentation by Mr Yvan Pedersen, National Audit Office of Denmark

First of all I wish you a warm welcome to Denmark.

Denmark has contrary to all expectations with the global climate change, which has resulted in a rise in average temperature, and a done COP 15 addressing the rise in global temperature, just got over the coldest and longest winter in the past 13 years. That was a surprise for all of us, but personally I liked it a lot. It has been a winter as I remember winter, when I was a child. I am very pleased that you have invited us to open the seminar on Auditing Climate Change.

Environmental and climate audits in The National Audit Office of Denmark

In the National Audit Office of Denmark we are very much focused on environmental and climate issues in both our financial audits and performance audits, but do not have a specialized unit or department dealing with environmental and climate issues as e.g. Canada and Austria have.

In connection to our planning on the environmental and climate area in 2008 the Danish SAI performed a strategic analysis of the national sustainable development strategy focusing on environment and in 2009 an analysis on energy savings in the public sector. The audits are prioritized as other areas, taking relevance and risk into consideration. This means eventually that we do not necessarily make an audit every year in these areas.

The Danish SAI has in the recent years conducted several environmental audits. The national Audit Office of Denmark has in recent years participated in 3 parallel environmental audits with other SAI's.

- A joint parallel audit on climate change in 2008/2009 coordinated by the Polish SAI.
- A joint parallel audit coordinated by the Danish SAI in 2008/2009 on environmental monitoring and fisheries management and control in the Baltic Sea
- A joint parallel audit coordinated by the Danish SAI in 2004/2005 on oil pollution from ships in the Baltic Sea.

We have very good experiences from our participation in these joint parallel audits and are surely looking for other possibilities to participate in joint parallel environmental audits in Europe.

We are still looking forward to doing a national performance audit on climate change. Therefore we greet this seminar, because we get the chance to be inspired by the SAI's who have experiences from auditing this area.

Our contribution to the seminar is a presentation on our strategic analysis on auditing energy savings in the public sector.

Thank you very much for your time and I wish you a successful seminar on Auditing Climate Change in the location of the European Environment Agency.

4 PLENARY SESSION – TUESDAY, 23 MARCH 2010

4.1 European Environment Agency

4.1.1 The EEAs activities on climate change mitigation

Presentation by Mr Andreas Barkman, Head of the Mitigation Group at the EEA

Mr. Barkman presented the EEA, its mission, mandate, objectives, clients and products. The EEA's work on greenhouse gas emissions aims to support the implementation of the Kyoto Protocol in the EU and work related to climate mitigation. Mr Barkman paid particular attention to the EEA's work on reporting and assessing the current GHG emissions trends and progress towards targets in Europe, status of the EU climate policy after the climate talks resulting in the Copenhagen Accord and member state obligations concerning compliance with 2020 objectives.

4.1.2 The EEAs activities on climate change adaptation

Presentation by Mr Stéphane Isoard, the Vulnerability and Adaptation group at the EEA

Mr. Isoard concluded that:

- Impacts of climate change are already occurring and projected to be more pronounced. Far-reaching impacts of climate change in Europe, with drastic economic consequences
- Adaptation to climate change has only recently started (with some national/regional adaptation strategy), but can be extended to more sectors and regions and more integrated into other policy areas
- The White Paper provides a comprehensive EU-wide framework and approach and offer opportunities to advance ideas and set a momentum on both adaptation and disasters risks issues
- Strengthening the Knowledge/Evidence Base and Mainstreaming adaptation into key policy areas are particularly important
- There is a need to map vulnerabilities and adaptation options/good practices across Europe at the right scale to better inform policy makers and avoid 'mal-adaptation'.
- There is a need for better information exchange mechanisms in the EU to enhance appropriate, proportionate and cost-effective actions and decision-making. The proposed EU Clearinghouse can have many benefits for governments at various levels
- Assessments at regional and local levels are key for implementing tailor-made adaptation measures which are proportionate and cost-effective

For auditing climate change adaptation:

- Audits have the potential of providing up-to-date, detailed, and regular information on adaptation measures at national, regional and local levels. (Pillar I of the AWP)
- The cross-cutting, inter-disciplinary and transboundary nature of climate change adaptation has to be definitively taken into account. Climate change affects all economic sectors, regions and communities in Europe.
- There is no such thing as one way to approach and implement adaptation measures. There is rather a series of indicative success factors and barriers to adaptation.
- Performance / Effectiveness indicators for adaptation are not possible. Focus rather on process-based indicators.

Audits could focus on:

- Strengthening the knowledge base and analysing examples of good practices, costs and mal-adaptation (Pillar I of the AWP)
- Reviewing mainstreaming of adaptation (Pillar II of the AWP) in relation with key EU policies. Review adaptation measures that are embedded in related policies and support developing guidance
- Consider grey, green and soft adaptation measures combined with key vulnerable sectors, regions and communities
- Reviewing governance structures, socio-economic, institutional and natural capacities as they are key elements of the adaptive capacity and ability to manage risks.
- Updating indicative series of success factors and barriers to adaptation and highlight key uncertainties
- Fostering information exchange at all levels.

4.2 Presentations of recently finalized activities on climate change

4.2.1 The INTOSAI WGEA Global Coordinated Audit on Climate Change

Presentation by Dr Kristin Rypdal, the Office of the Auditor General of Norway

The global coordinated audit on climate change is an INTOSAI WGEA initiative and is led by Canada. 14 countries from all world regions are participating (Australia, Austria, Brazil, Canada, Estonia, Finland, Greece, Indonesia, Norway, Poland, Slovenia, South Africa, United States and United Kingdom).

The objective of the cooperation is to

- encourage and support effective audits of climate change by SAIs;
- coordinate auditing and reporting of selected climate change sub-topics in order to benefit from the collective power and insight of participating SAIs;
- build strategic relationships with key international organizations

The scope is both mitigation and adaptation. The cooperation will result in a joint summary report to be presented at a ceremony with the involved auditor generals at the INCOSAI meeting in South Africa in November 2010.

4.2.2 The EUROSAT Audit on Climate Change

Presentation by Ms Alicja Gruszecka, the Supreme Audit Office of the Republic of Poland

The audit was carried out on the basis of the *Common Position on Cooperation for Coordinated Parallel EUROSAT Audit on Climate Change* (hereinafter referred to as the *Common Position on Cooperation*), signed by the representatives of 10 Supreme Audit Institutions, the members of the EUROSAT Working Group on Environmental Auditing, on 16 January 2009 in Warsaw.

The following Institutions participated in the audit: the Chamber of Accounts of the Republic of Azerbaijan, the Audit Office of the Republic of Cyprus, Rigsrevisionen of Denmark, the National Audit Office of Estonia, the Office of the State Comptroller and Ombudsman of Israel, the State Audit Office of the former Yugoslav Republic of Macedonia, the Supreme Chamber of Control of the Republic of Poland, the Accounts Chamber of the Russian Federation, the Swiss Federal Audit Office and the Accounting Chamber of Ukraine, hereinafter referred to as the Cooperating SAIs. The Supreme Audit Office of the Republic of Poland was the Audit Coordinator.

The aim of the audit was to assess the actions taken in the States of the Cooperating SAIs to implement the provisions of *the United Nations Framework Convention on Climate Change, the Kyoto Protocol to this Convention, Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community* and the requirements of the national legislation, in the scope of:

- the performance of observations on climate change and its effects,
- actions taken to mitigate climate change,
- forecasts and assessments of the actual anthropogenic greenhouse gas emission and absorption levels,
- reporting on the scope of the actions taken and planned to be taken in order to mitigate climate change and the achieved effects of these actions.

The audit demonstrated that in all the States of the Cooperating SAIs climate change observations were performed, covering climate variables and including analysis and interpretation of the research results. The scope and frequency of the research carried out in the individual States was different, but in all of them the basic climate variables were tested. The observation results were published in the reports of government agencies and statistical reports and they were also placed on the websites of the competent government institutions or meteorological services. All the States were involved in international cooperation in the scope of research and an exchange of observation data, e.g. through their participation in international networks and research projects, their work of the technical commissions of the World Meteorological Organisation and training courses. Climate change observations were funded with financial resources from the state budget, national non-budget resources and international funds.

In all the States of the Cooperating SAIs, measures were taken to mitigate climate change through the limitation of their greenhouse gas emissions and the enhancement of the capacity of the sinks and reservoirs of these gases. Bodies responsible for taking measures to mitigate climate change were established. In 8 States, national and sectoral strategies, programmes or action plans necessary to stabilise and limit greenhouse gas emissions were prepared and in 2 States their preparation began. As a result of the measures taken, in 7 States the greenhouse gas emissions were reduced by 3% – 53% with respect to the base year (under the Kyoto Protocol: 1988, 1990, 1995 or 2000, depending on the State) and in 1 State the emissions grew by 85.3%. The per capita levels of anthropogenic greenhouse gas emissions varied between 5.1 – 16.4 Mg CO₂e.

In the EU Member States, the provisions of the Emissions Trading Scheme Directive were implemented. National emission allowance allocation plans were developed, an emission allowance trading scheme was established and the required registries were kept. Among the 6 States of the Cooperating SAIs which were not EU Member States, emission allowances were traded pursuant to the Kyoto Protocol only in 1 country.

6 States of the Cooperating SAIs – Azerbaijan, Cyprus, Denmark, Israel, the former Yugoslav Republic of Macedonia and Switzerland – were involved in the implementation of Clean Development Mechanism (CDM) projects, whereas 5 of them – Denmark, Estonia, Poland, Russia and Ukraine – participated in Joint Implementation (JI) projects. The international cooperation in the field of the mitigation of climate change effects also included the implementation of educational projects, support for legislative activities and participation in the working groups of international agencies. The activities within the framework of international cooperation were funded with national resources and those from international financial institutions, such as the World Bank and UNDP.

In all the States of the Cooperating SAIs, the measures to mitigate climate change were monitored. The required reports were prepared and submitted to the UNFCCC Secretariat and the European Commission. Certain reports were submitted with a delay.

The audit results have been presented in the Joint Final Report from EUROSAI Audit on Climate Change.

The Report is available on the WGEA EUROSAI webpage: www.eurosaiwgea.org.

The EUROSAI Audit was performed under the INTOSAI Global Audit on Climate Change.

4.2.3 The INTOSAI WGEA Climate Change Guidance

Presentation by Ms Kristine Lien Skog, the Office of the Auditor General of Norway

The Climate Change Auditing Guide was initiated by the INTOSAI Working Group on Environmental Auditing (WGEA), and is planned to be approved at the INTOSAI WGEA meeting in China in June 2010. The main objective of the Guidance materials is to encourage Supreme Audit Institutions (SAIs) to conduct climate change audits and to support them when planning relevant climate change audits. The project is being led by the SAI of Norway. 15 SAIs has joined the sub-committee: the SAIs of Australia, Austria, Brazil, Canada, China, Indonesia, Poland, the Russian Federation, Slovenia, South Africa, the Netherlands, the United Kingdom, the United States, Zambia and Zimbabwe.

The Guide includes background information, such as a description of sources of greenhouse gas (GHG) emissions, relevant international environmental agreements, and domestic programmes; mitigation of GHG emissions, including emissions trading systems; adaptation to the impact of climate change; special considerations for developing countries; and measurement, verification and reporting. Essential information from the Guide has also been condensed into an e-learning course, available on the INTOSAI WGEA website after summer 2010.

4.2.4 The INTOSAI WGEA Guidance “Auditing Sustainable Energy”

Presentation by Ms Regina Charyparová, the Supreme Audit Office of the Czech Republic

The Czech Supreme Audit Office’s decision to lead the project called “Sustainable Energy” was taken during the 11th meeting of the International Organization of the Supreme Audit Institutions Working Group on Environmental Auditing in Tanzania in June 2007. The project is a part of the INTOSAI WGEA’s Work Plan 2008-2010, Goal 1: Expand the Guidance materials available to Supreme Audit Institutions. The INTOSAI WGEA’s aim is to provide Supreme Audit Institutions with the Guidance materials how to audit a particular environmental or sustainable development topic.

The issue of sustainable energy has not been audited extensively by the Supreme Audit Institutions yet. The Guidance has been written with these main purposes:

- to provide useful background information on energy issues;
- to be of assistance to auditors preparing audits in the area of sustainable energy;
- to provide examples of how audit criteria and audit approach should be determined.

As for the general content, the Guidance includes 5 chapters and 8 annexes:

- Chapter 1 – Basic information on energy issues;
- Chapter 2 – Understand the governmental response to the sustainable energy issue;
- Chapter 3 – Approach to choosing audit topics;
- Chapter 4 – How to design the audit;
- Chapter 5 – Audit execution and reporting.

The Annexes provide practical tips, case studies of sustainable energy audits, tips for setting audit criteria from international and national legislation, a guide on how to carry out audits on grants, and a

guide on how to cope with the issue analysis. All this information is completed by a general overview on the questionnaire survey we made and an overview on audits carried out in this field up to now.

The document has been discussed in the 9th meeting of the INTOSAI WGEA Steering committee meeting in Tanzania in February 2010. The final approval is expected in the 13th INTOSAI WGEA meeting which will take place in China in June 2010.

4.2.5 Riksrevisionen's strategic planning of audits on climate change

Presentation by Mr Fredrik Engström, the Swedish National Audit Office

Riksrevisionen's strategic planning of audits on climate change is part of our strategic planning in general. Our planning process is based upon ongoing area monitoring. Our analysis of strategic intelligence is aimed at identifying social developments and changes that may affect the orientation of the audits in the short and long term. This is accomplished by means including contacts and discussions with representatives of the parliament, the Government Offices and other relevant actors (NGO's for example).

The overall strategic intelligence perspective is included in the decision input used to arrive at the long-term orientation of the audits. This orientation is expressed in our audit strategies. The audit strategies comprise areas or themes where we have identified significant issues. Based on various aspects, we shed light on these issues in a number of audits. The conclusions from the strategies are reported in the Annual Report of the Auditors General.

For the moment, we have eight ongoing audit strategies. One of these is the strategy on climate change issues. The strategy was formally started in January this year, but we were a bit ahead of the planning and we have already finished audits in 2009 on energy performance certificates and on Sweden's emission rights according to the Kyoto Protocol.

Through previous audits, Riksrevisionen has identified several groups or clusters of problems in the Swedish state's actions that may affect the fulfilment of the objectives:

- Responsibilities are not always clarified: In a number of cases, including that of energy-performance certificates, an unclear division of responsibility resulting from the Government's failure to make it clear who will do what has made it less likely that the objectives set will be attained.
- There are conflicts between economic objectives, energy policy objectives, business policy objectives (for example competitiveness of industry) and regional policy objectives.
- Then there are several problems in the interaction between EC law and the Swedish public management model. Sweden's accession to the EU changed the conditions under which the Government and the central government agencies operate. More than a decade after Sweden joined the EU, however, our audits show that the central government agencies and the parliament have failed to make effective use of the legislation and support measures offered by the EU system in several important areas.
- We have also identified poor overview and transparency in the reporting from the Government and the authorities: It takes place in different channels and at different times, which may lead to the fragmentation of information and deprive decision-makers of an overview.
- Finally, instruments do not always meet targets and objectives.

The next step in our analysis was to identify the central government sector's actions that have impact on the climate objectives and to put them in a context with actions by other actors and the issue of economic growth. The central governments sector's actions can be divided into the areas:

- Legislation (sub-divided into EC law and international agreements etc. on the one hand and Swedish legislation on the other)
- Economic instruments: taxes, ETS etc.
- Research and development on climate which comprises development of renewable energy in particular.
- Information / follow-up
- Actions in general; one of the most important sub-areas are different investments in infrastructure
- Climate foreign aid.

The audit strategy is focused on mitigation of climate change. The overarching audit question is the following: *Have the Government and the authorities with a responsibility to reduce greenhouse gas emissions undertaken actions that lead to intended effects in relation to the Parliamentary goals and intentions of the legislation at reasonable cost?*

5 WORKSHOPS WEDNESDAY, 24 MARCH 2010

During the second day of the seminar three workshops were held. One on auditing flexible mechanisms under the Kyoto Protocol (emissions trading, CDM and JI), one on climate change adaptation and one on auditing energy sector issues from a climate change perspective. In the workshops there were several, shorter presentations focusing practical audit issues such as lessons learned and best practice. The goal was to spark interest for auditing climate change issues and contribute to sharing of experiences and knowledge among SAIs.

5.1 Workshop 1: How to audit flexible mechanisms

Numerous audits have been performed recently across Europe on climate change issues. This workshop focused the flexible mechanisms under the Kyoto Protocol: Emissions Trading, Joint Implementation (JI) and the Clean Development Mechanism (CDM).

5.1.1 Auditing Climate Change – Switzerland

Presentation by Mr Martin Koci, the Swiss Federal Audit Office

The presentation addressed main characteristics of an audit/evaluation on climate change in Switzerland. The audit conducted covered all relevant policy tools (holistic approach) in the context of the amendment of the CO₂ Act. Audit results show that numerous information and data on climate change and CO₂ mitigation measures are available. Costs, predicted impact and cost-effectiveness are principal drivers of policy choice (but different levels of uncertainty). Even though not all policy tools are documented on same quality levels, data may be assumed as reliable. The presentation also illustrates some of the recommendations by the Swiss Federal Audit Office (SFAO).

The second part of the presentation gives a short introduction to the formal audit recommendation management system by the SFAO ensuring that actions recommended are implemented in a correct and timely fashion.

The presentation was closed by concluding main challenges, obstacles and lessons learned the SFAO was facing in the course of the audit performed. Especially the comparison of national and international policy tools (and hence the lack of applicable audit criteria) emerged as a big challenge. Future audits will cover selective sectors or policy tools.

5.1.2 What are Sweden's Emission Rights Worth?

Presentation by Ms Madeleine Nyman and Ms Anna Carlsson, the Swedish National Audit Office

Climate change is today widely recognized as a global threat. The significance of the issue as well as the high level of public interest are two reasons why the Swedish National Audit Office (SNAO) decided to audit the information and handling of emission rights.

The emission of greenhouse gases in the EU-27 represent around 11-12 percent of total global emissions. Sweden's commitment to reduce global emissions until 2012 is, like other EU-15 countries, governed by the Kyoto Protocol and the subsequent EU burden sharing agreement. According to this agreement Sweden is allowed to increase its emissions by 4 per cent.

However, the Riksdag (parliament) has established a considerably more ambitious national objective, Reduced Climate Impact, including an emissions target for the period of 2008 to 2012. Under this national target emissions are to decrease by at least 4 per cent.

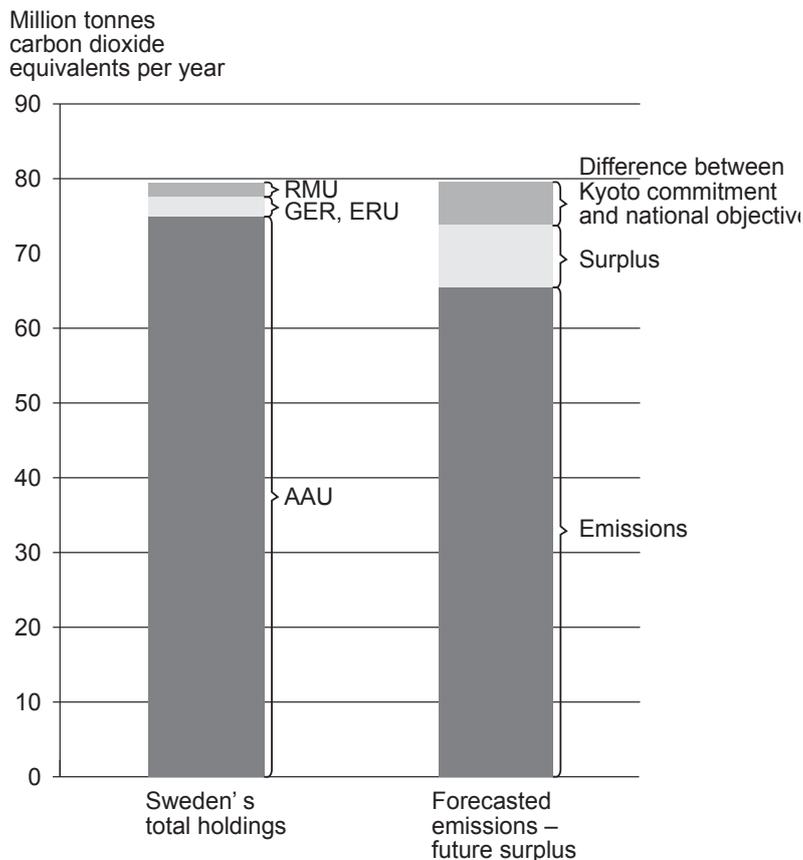
Sweden is forecasted to have a significant surplus

Sweden’s greenhouse gas emissions will have fallen by almost 10 per cent between 1990 and 2012. This means that Sweden will meet its Kyoto Protocol commitment, as established in the EU burden sharing agreement (+4 per cent). Indeed, emissions in Sweden will fall significantly more than what is necessary to achieve Sweden’s national interim target for 2012. Since the Kyoto protocol based allocation of emission rights allow a 4 per cent increase of emissions Sweden will have a significant surplus of emission rights for the 2008-2012 period.

The total value of the overall Swedish surplus is difficult to estimate but may amount to SEK 7 – 8 billion over the entire 2008 – 2012 period. Under the Kyoto Protocol, surpluses can be cancelled, saved or sold. However, the Riksdag’s considerably more ambitious emission objective, if not revised, limits the number of available options.

Sweden’s national emissions’ objective can be achieved if the +4 per cent (Sweden’s Kyoto commitment) to -4 per cent (Sweden’s national objective) surplus is cancelled. This would entail the withdrawal of emission rights from the market, contributing to a fall in global emissions.

SWEDEN’S FUTURE SURPLUS OF EMISSION RIGHTS PER YEAR IN 2008–2012



Source: Data from the Swedish Environmental Protection Agency and the Swedish Energy Agency, processed by the SNAO.

If priority is instead to be given to strengthening the government budget, all or part of the future surplus may be sold. The revenue could then be used to finance a range of government endeavours. If the entire surplus is sold, Sweden's national emissions' target for the 2008–2012 period will not be attained.

Overall conclusion of the audit

The SNAO audited how the Government and government agencies have reported on and handled Sweden's national holdings and future surplus of emission rights.

The SNAO's overall conclusion is that reporting on Sweden's total holdings and future surplus of emission rights is not sufficiently transparent. Furthermore, there is a lack of information on how the handling of the surplus affects the attainment of the national climate objective and its emissions' target for the period of 2008 to 2012. The absence of a decision on the handling of the future surplus is part of the reason why the government agencies and ministries concerned differ in their views on how Sweden's national climate objective is to be achieved. The Riksdag has not been given the opportunity to decide on the use of substantial financial resources.

5.1.3 State's Efforts of Reducing Greenhouse Gas Emissions

Presentation by Ms Airi Andresson, the National Audit Office of Estonia

The levels of Estonia's greenhouse gases have fallen 47% as compared to 1990. This is mainly due to the restructuring of the economy and collapse of many big industries after the breakup of Soviet Union. Although Estonia's total greenhouse gas emissions amount to 0,4% of Europe's total, per capita emissions are among one of the highest. High emissions are caused by the use of oil-shale as a raw-material for energy production, which constitutes a large proportion of all emissions.

European Union's greenhouse gas emissions trading scheme (EU ETS) has a big impact on Estonia's economy: majority of industrial enterprises are included into EU ETS (50 installations accounting for 64% of Estonia's total greenhouse gas emissions). Two further developments raise concerns about the competitiveness of Estonia's electricity from 2013 on: firstly the full liberalization of EU electricity market and secondly the auctioning of EU trading allowances. The high carbon content of electricity produced from oil-shale together with the need to pay for emission allowances means that such electricity will become very expensive in the near future.

The audit of the NAO of Estonia showed that EU Emission's Trading has not brought about reduction in greenhouse gas emissions due to the fact that the Ministry of the Environment drafted the two national allocation plans based on short-term economic interests of companies who wanted to gain from the sales of allowances and neglected the need to reduce emissions. Also, the money obtained from the sales was not used for investments into environmental technologies. In addition, there are deficiencies in the control of the emissions of companies participating in the EU ETS, which means that there is no guarantee that companies could sell only adequately verified allowances.

The presentation explained the main methodologies used for auditing the EU Emission Trading System in Estonia.

5.1.4 Audit on Mitigation of Climate Change and Implementation of Kyoto Protocol in Slovenia 2005-2008

Presentation by Ms Jerneja Vrabic, the Court of Audit of Slovenia

Functioning of the emission trading scheme in Slovenia

The Court of Audit of the Republic of Slovenia (hereinafter, the Court of Audit) performed an audit of achievement of objectives set 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.

An important part of the audit was also the audit of effectiveness of functioning of the emission trading scheme in Slovenia. The European Union introduced mandatory trading in greenhouse gas emissions for its 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 allowances¹ 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

¹ One emission allowance is issued for the emission of 1 ton of carbon dioxide.

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.

5.1.5 Emission Trading in Austria

Presentation by Dr Heinrich Lang, the Court of Audit of Austria

Main Objective was to investigate, whether the Emission trading system gives a valuable contribution to reach the Austrian obligations of the Kyoto-Protocol. The scope of the audit was limited to the following audit topics:

- Legal framework for the Emission Trading System
- Allocation of emission allowances covering the periods 2005 to 2007 and 2008 to 2012;
- Actual use of emission allowances during the first period;
- Monitoring and reporting systems;
- Administration, costs and benefits of the system

The audit covered the periode 2003-2007 and the following audited entities were covered

- Federal Ministry of Agriculture, Forestry, Environment and Water Management
- Federal Ministry of Finances
- Federal Ministry of Economy and Labour
- Austrian Environmental Agency (Umweltbundesamt)

Conclusions of the audit findings and key recommendations

The Austrian system for trading emission allowances has been successfully established. It started in 2005 with a pilot phase, which lasted until the end of 2007. On January 1st, 2008, the second period started. It will last five years. In the first period 197 plants participated in the emission trading system.

In 2005 and 2006 less than 90 % of the CO₂-emissions of the energy sector were covered by emission allowances allocated to the plants free of charge. On the other hand the industry sector held a surplus of 5 % of emission allowances. Over all Austria had a close match of allocated emission allowances and emissions.

Altogether the member states of the European Union had allocated a surplus of 171 million emission allowances compared to the actual emissions in 2005 and 2006. As a result of the excess supply the price for one emission allowance fell from over 20 to 0,07 EUR. There was no incentive for plant operators to reduce emissions. The main objective of the emissions trading scheme to reduce emissions therefore was missed so far.

The requirements defined by the European Commission in the first period to elaborate the national allocation plans partially allowed a diversity in interpretation and lead to a variety of allocation mechanisms in the individual member states.

In the second period about 8 % less emission allowances than in the first period are at disposal in Austria. While the industry sector has got emission allowances slightly exceeding the emissions of 2005 and 2006, the energy sector has to deal with a reduction of about 20 %. Higher prices for the allowances will influence the costs of production (especially for electric power production).

Up to 2007 the installation of the emissions trading scheme has caused costs for the federal government of about 1.95 million EUR. In the second period the auctioning of emission

allowances will cause income exceeding these costs by far. The costs for running the emissions trading registry and for emission monitoring in Austria are completely covered by the plant operators.

Integration of further participants and gases (e.g. air traffic, natural gas transportation, N₂O) into the emissions trading scheme, a reduction of leeway given by the European Commission for the implementation of the emissions trading scheme and a harmonization of the allocation process on the European level would contribute to eliminate any distortion of competition.

For the allocation of emission allowances the criterion “historical emissions” should be replaced by criteria referring to best available technology and other plant-specific parameters as far as possible.

For participants entering the Emission Trading System in the 2008 – 2012 period a fixed reserve of certificates (representing 1 % of the total amount of certificates) was established. If that fixed reserve was insufficient, the required certificates will be purchased by an assigned entity and provided to the new participant free of charge (flexible reserve). In return, the entity will be allocated with the quantity of transferred certificates free of charge in the period following 2012. The flexible reserve is an anticipation of the following allocation period and, in the opinion of the Austrian Court of Audit, will reduce the number of certificates then available, which may entail a considerable financial disadvantage for the participants.

The objective to reduce carbon dioxide emissions has not yet been achieved in Austria. Companies forced to buy certificates hardly had to bear any additional costs. There was no financial incentive to reduce emissions. There was a gap of 1.2 million tons still to be closed by the Emission Trading System in 2008.

Responses of the government to the audit recommendations

All recommendations were implemented, parallel to it there were changes in the legal framework of the EU.

The report was published in November 2008, Reihe Bund 2008/11, full text available only in German on www.rechnungshof.gv.at. Short abstracts in English are on the homepages of the INTOSAI WGEA and the EUROSAI WGEA.

INFORMATION ABOUT THE EMISSION TRADING SYSTEM IN AUSTRIA:

	1 st Period (2005 – 2007)	2 nd Period (2008 – 2012)
Number of participants:		
Total	197	220
Energy sector	59	68
Industry sector	138	152
Number of allocated Emission Allowances (EA):	2005: 32.414.872	annual average:
	2006: 32.646.666	30.022.607
	2007: 32.633.066	
Share of EA allocated to energy sector	38 %	36 %
Share of EA allocated to industry sector	62 %	64 %
Verified emissions:	2005: 33.4 million tons 2006: 32.4 million tons 2007: 31.8 million tons	2008: available 04/10 - -
Difference allocated EA – effective emissions, total:	05: – 2,9 %	-
	06: + 0,8 %	-
Difference in industry sector *)	- 11.5 %	-
Difference in energy sector: *)	+ 5.3 %	-
Method of distribution:	100 % free of charge/ 0 % auctioning	98,7 % free of charge/ 1.3 % auctioning
Share of the biggest participant in ETS	13 %	-
Share of the smallest 25 % of participants in ETS	0,4 %	-
Share of emissions covered by ETS:		
	GHG-emissions total CO ₂ -emissions total	36 % 42 %

*) average calculated from 2005 and 2006

5.1.6 The Flexible Mechanisms and Goal Achievement in the Climate Policy

Presentation by Dr Kristin Rypdal, the Office of the Auditor General of Norway

Use of the flexible mechanisms is important to reach Norway's climate policy targets. EU ETS is important to meet the Kyoto target, while state purchase of CDM quotas is important to meet the national target of strengthening the Kyoto target by 10 percentage points. The audit has addressed whether use of the Kyoto mechanisms is supplemental to domestic action. There is no quantified threshold for supplementarity under the Kyoto protocol, neither has the Parliament decided to quantify this for the period 2008-2012. The audit has included a review of the result of domestic action. This is a counterfactual analysis which is methodologically difficult.

Norway is part of the EU ETS. Regulation through ETS has replaced the former CO₂ tax in several sectors and the oil industry is regulated through both ETS and a tax. Due to the low current price in EU ETS, this generally gives weaker incentives to national emission reductions.

However, the systems contribution to emission reductions must be seen in relation to the total amount of allowances nationally and in the whole EU ETS.

The purpose of the clean development mechanism of the Kyoto protocol is to assist Parties not included in Annex I in achieving sustainable development, and to assist Annex I Parties in achieving compliance with their quantified emission limitations. The audit has through interviews and analyses of documents addressed how the government has worked to ensure sufficient CDM quotas and the results. The audit also includes a general review of literature assessing CDMs contribution to reach its objectives.

5.1.7 Audit on the Implementation of Selected Tasks under the Provisions of the United Nations Framework Convention on Climate Change

Presentation by Ms Alicja Gruszecka, the Supreme Audit Office of the Republic of Poland

Within the framework of the co-ordinated, parallel EUROSAI Audit on Climate Change, the Supreme Audit Office carried out an audit on the *Implementation of selected tasks under the provisions of the United Nations Framework Convention on Climate Change*.

The aim of the audit was to assess the status of the implementation in Poland of selected provisions of the United Nations Framework Convention on Climate Change, done in New York on 9 May 1992 (hereinafter referred to as the “Climate Convention”), the Kyoto Protocol to the United Nations Framework Convention on Climate Change, done in Kyoto on 11 December 1997 (hereinafter referred to as the “Kyoto Protocol”) and Directive 2003/87/EC of the European Parliament and Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (hereinafter referred to as the “ETS Directive”).

The major issues covered by the audit included:

- the performance of research and observations on climate change,
- actions taken to mitigate ongoing climate change through the limitation of greenhouse gas emission levels and the enhancement of the capacity of sinks of these gases,
- the achieved reduction of the greenhouse gas emissions,
- reporting on the activities carried out and the effects achieved to the Climate Convention Secretariat and the European Commission.

The audit was carried out in the period from March 2009 to July 2009 at 20 bodies: the Ministry of the Environment, the Institute of Environmental Protection, the Energy Regulatory Office and 16 industrial plants which emitted the largest carbon dioxide amounts in selected regions.

The audit showed as follows:

1. In 2006 – 2008 Minister of the Environment continued implementing the *UNFCCC, Kyoto Protocol and Directive on Emissions Trading* provisions. The tasks ensuing from the above legal acts were performed by Minister of the Environment in cooperation with Ministers of Economy, Infrastructure, Agriculture and Rural Development, and Foreign Affairs, to the extent to which the above organs were involved in the performance of the tasks ensuing from the national strategies and policies related to climate change mitigation. The performance of the related tasks also engaged scientific and research institutes reporting to Minister of the Environment, i.e., the Institute of Environmental Protection, Institute of Meteorology and Water Management, Forest Research Institute, as well as the State Forest Farm of “State Forests” supervised by Minister of the Environment and the Inspection for Environmental Protection.

2. Legal regulations designed to specify the UNFCCC and the Kyoto Protocol provisions and to transpose the majority of the relevant Directive requirements *into the Polish legislation* were developed. Climate change observations were carried out, actions taken, investment towards decreasing GHG emissions was made, an emission trading system implemented, and the relevant reports and accounts concerning the actions pursued and effects achieved were developed and forwarded to the Secretariat of the Conference of the Parties to the UNFCCC and to EC.
3. Despite the irregularities disclosed, which were related, among others, to the absence or delay in publishing of 5 ordinances, failure to complete climate change effects' observations and forecasts, poor cooperation among institutions pursuing climate change research in dispersion, delays in presenting certain reports to the EC and UNFCCC Secretariat – the basic tasks imposed by the Convention, Protocol and relevant EU Directives were implemented.

As a result of the actions taken, in 2006 – 2007 (data on 2008 GHG emissions and reduction levels achieved were not yet available in 2009) the following were achieved: :

- GHG emission level of 401.5 m Mg remained unchanged;
- GHG emissions remained reduced by 29% as compared to base year 1988 (while the Kyoto Protocol assumed Poland's achieving 6% GHG reduction by 2012);
- Energy generation from renewable sources increased by 46.8% (i.e., from 4,222 to 6,200 GWh)

5.1.8 Auditing Climate Change

Presentation by Ms Tanja Tasevska, the State Audit Office of the former Yugoslav Republic of Macedonia

The objective of the national audit is to give an assessment on the coordination, governance, international commitments and commitments derived from national regulations; commitments' planning, implementation and actual results; awareness of sectors' risks in the field of GHG emission; creating proper policy tools in the competent institutions; checking whether undertaken commitments would meet the targets; whether the country has established framework for efficient and effective management of resources planned for projects for GHG emission reduction, whether these resources contribute to fulfillment of targets set for GHG emission reduction; and other open issues that we encountered during the audit.

The scope of the national audit is in accordance with the Framework Audit Program for GHG emission reduction and Clean Development Mechanism implementation, which is the only flexible mechanism that Republic of Macedonia has access to in accordance with the Kyoto Protocol. Several ministries, agencies, committees, the function of the Special representative of the UN Secretary General for climate change, and other institutions were included in our national audit. Those institutions are designated bodies on: creating policy tools, activities, gathering documentation, information and data, implementation of activities and measures, observation, measuring and reporting, researching and analyzing the results on scientific basis, making projections, gathering statistical data, etc.

Methodology – While conducting the performance audit we used physical, oral, documented and analytical evidence that we obtained from audit techniques, observation, discussions and interviews, presented documentation and analysis and resulting conclusions. The audit was conducted by checking the supporting documentation; data analysis; screening the real situation within the auditees; through discussions and interviews; previously prepared questionnaires and received feedback, as well as through explanations from the auditees and their responsible persons; insight into the documentation provided by the auditees; analyses and calculations; comparison of the situation with the established criteria. The purpose of these procedures is to identify the reasons for possible differences between the established criteria and the real situation, and to give an

objective answer to the defined audit goal. During our national audit different methods and techniques were used: physical, interviews, documented and analytical evidence, data and information obtained through the applied audit techniques.

Criteria – The performance audit was carried out taking into consideration, alongside the UN Climate Changes Framework Convention and the Kyoto Protocol, the provisions of a significant number of laws and bylaws, as well as strategies, programs, reports, analyses, reviews, assessments, action plans and other documents regulating or related to the defined audit goal in various aspects – organization, operation, financing, supervision and accountability. Because of the large number of materials used for achieving the audit goal, many will not be mentioned, although they were not less important or less constructive in performing the actual audit.

Audit questions

1. **Coordination and governance** established between the government institutions and other participants – are there effective coordination and governance systems in place between the government institutions and other participants for reduction of climate changes?
2. **International obligations/national legislation** – planning for reduction of emission of ECG and CDM projects – are there appropriate obligations and goals regarding international and national legislation? Do government institutions have relevant information to support the choice of policies and decisions?
3. **Application and real results** – Does the government fulfill the undertaken obligations? Does the government assess/monitor the implementation? Is implementation of the Kyoto Protocol Clean Development Mechanism appropriate to the national activities?
4. **Specific sectors** – energy, transportation, industry, agriculture, waste, LUCF – Is the government aware of the sector-based risks related to climate changes and has it establish measures to deal with the risks?
5. **Policy tools** – Legislation and standards, financial tools, the Kyoto Protocol mechanisms – CDM, JI, agreements, code building, training and information – Do the policy tools, selected by the government, relate to the risk, and do they contribute to achieving the goals set?
6. **Financing** – national financing, financing from donations and CDM financing – Is national financing directed toward reduction of climate change? Have the countries – beneficiaries of donor funds established a framework for managing funds from donor countries? Do these funds contribute to achieving the goal of emission reduction?

5.1.9 Joint Implementation and Clean Development Mechanism in Austria

Presentation by Dr Heinrich Lang, the Court of Audit of Austria

Main Objective of the audit was to investigate, whether the obligations of the Kyoto-Protocol can be fulfilled and whether the specifications and targets of the Austrian Climate Strategies were realistic. Joint Implementation (JI) and Clean Development Mechanism (CDM) were part of the audit. The following audit topics were covered in the audit:

- Possibility to reach the commitments of the Kyoto Protocol and European Union targets;
- Costs and effectiveness of domestic measures;
- Possible consequences of failing;
- Financing with a stress on the Kyoto flexible mechanisms

The audit covered the period 2003 – 2007 and the following audited entities:

- Federal Ministry of Agriculture, Forestry, Environment and Water Management
- Federal Ministry of Finances
- Kommunalkredit Public Consulting (allocating bank)

Conclusions of the audit findings and key recommendations

Austria is obliged to reduce greenhouse gas emissions by 13 % compared to the year 1990. In 2008 Austrian greenhouse gas emissions amounted to 86.6 million CO₂-equivalents. Regarding the target value of 68.8 mill. t there was a discrepancy of 17.8 million tons (25.9 %). The development of emissions in the sectors housing, industry and traffic made the Kyoto target unlikely to be achieved with the measures laid down in the Austrian Climate Strategy. Even using the flexible mechanisms to the maximum allowable extent there is an urgent need of action for inland measures to be taken.

The Austrian Court of Audit recommended starting immediately to elaborate strategies and measures to meet the targets of the period after 2012, which will be considerably more strict and far-reaching compared to current standards.

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. The funding provided for the current JI/CDM-programme for flexible mechanisms was insufficient to reach the objective of buying 45 million tons CO₂-equivalents in the period 2008 – 2012.

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 tons CO₂-equivalents since 2002. Because of the limited funding of the scheme project proposals submitted and not yet decided represented twice the annual funding.

From the point of view of the Austrian Court of Audit 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 could not be quantified by the Austrian Court of Audit from today's prospect. At the time of the audit the costs per ton CO₂-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 Austrian Court of Audit recommended providing appropriate funding of the existing support scheme.

The report was published in November 2008, Reihe Bund 2008/11, full text available only in German on www.rechnungshof.gv.at. Short abstracts in English are on the homepages of the INTOSAI WGEA and the EUROSAI WGEA.

Information about the Austrian JI/CDM Programme

The Austrian JI/CDM Programme buys Emission Reductions for the Austrian government to achieve its commitment under the Kyoto Protocol. The programme focuses on project-related flexible mechanisms and involves the purchase of emission reduction credits from projects and investment in funds and facilities as well as the financing of particular immaterial services, such as baseline studies etc., which are necessary in respect to projects.

In 2003 Kommunalkredit Public Consulting was appointed for the Programme Management on behalf of the Austrian Minister of Agriculture and Forestry, Environment and Water Management. The total purchasing volume is 45 million tons Emission Reductions.

Green Investment Schemes

Green Investment Schemes have been introduced to enhance the climate effectiveness of International Emission Trading, a system undermined by the excessive number of Assigned Amount Units allocated to former communist countries in the first round of Kyoto commitments. Green Investment Schemes is thus a “hybrid” of two mechanisms: International Emission Trading of the Assigned Amount Units, plus greening activities using the revenue from their sale. Whilst International Emission Trading is regulated by the Kyoto Protocol, the Marrakesh Accords and the COP/MOP decisions, domestic greening activities are not covered by international regulations. Development in Green Investment Schemes has been extremely rapid during the past years, progressing from initial consideration to completion of the first transactions in autumn 2008.

Until November 2009, the Austrian JI/CDM–Programme concluded three Green Investment Schemes contracts amounting to a volume of 7 million tons of Emission Reduction Units in total. The vintages run into emission reduction projects like thermal insulation of buildings and the use of renewable energy technology.

Closed Projects (Status: November 2009)

Green Investment Schemes (GIS) (15 %)

- Czech Republic
- Republic of Latvia

JI/CDM Projects (73 %)

- Closed Projects: 76
- Projects in the pipeline: 87
- Purchases from Brazil, Bulgaria, China, Colombia, Czech Republic, Egypt, Estonia, France, Hungary, India, Israel, Madagascar, New Zealand, Russia, Switzerland, Ukraine, USA

Funds & Facilities (12 %)

- a) Community Development Carbon Fund
 - Responsible institution: World Bank
 - Project type: Small Scale CDM Projects
 - Regional focus: Least Developed Countries
- b) Austrian CDM Project Procurement and CER Sale Facility
 - Responsible institution: EcoSecurities
 - Project type: Small Scale CDM Projects
 - Regional focus: Latin and South America
- c) South Pole Carbon Procurement Facility–Asia
 - Responsible institution: South Pole Carbon Asset Management AG
 - Project types: Renewable energy, energy efficiency, avoidance of methane
 - Regional focus: Asia
- d) South Pole Carbon Procurement Facility–Africa
 - Responsible institution: South Pole Carbon Asset Management AG
 - Project types: Renewable energy, energy efficiency, avoidance of methane
 - Regional focus: Africa

JI Projects

Up to November 2009, the Austrian JI/CDM Programme has concluded Emission Reduction Purchase Agreements with 17 projects. They represent a total volume of up to 7.3 million tons CO₂-equivalents.

Among these projects are primarily landfill gas projects, wind-parks and hydro power projects. Countries with more than one JI project are Bulgaria, Estonia, Hungary and Russia.

- Landfill Gas Recovery Projects (Russia)
- Small Hydro Power Vranany (Czech Republic)
- Vacha Cascade Joint Implementation Project (Bulgaria)
- Palhalma Biogas Project (Hungary)
- Pannonia Ring Wind Farm (Hungary)
- Palmerston Awapuni Landfill Gas Project (New Zealand)
- Electric Power Production on Stripped Casing-head Gas in Boryslav (Ukraine)
- N₂O Emission Reduction Project at the new Acid Plant of Nitrogénművek Rt. (Hungary)
- Esivere and Virtsu II Wind Power Project (Estonia)
- Runo Kazanlak – Pool of Renewable Energy Projects (Bulgaria)
- Landfill Gas Project Terrasystems (Czech Republic)
- Jägala Hydropowerproject (Estonia)
- Virtsu III Wind Park (Estonia)
- Astra Bio Plant Project (Bulgaria)
- AWP Windpark Kavarna (Bulgaria)
- District Heating Systems (Ukraine)

CDM Projects

Up to November 2009, the Austrian JI/CDM Programme has concluded Emission Reduction Purchase Agreements with 52 projects. They represent a total volume of up to 27.5 million tons CO₂-equivalents.

The main project types are landfill gas, hydro power, wind, biomass, geothermal and energy efficiency projects. Countries with more than one CDM project are China, India, Israel and Brazil.

- Sahavinotry Hydro Power Plant (Madagaskar)
- Henan Xinxiang Blended Cement Project (China)
- Gaoyou 4 MW Biomass Power Generation (China)
- Agua Fresca Hydro Power Project (Colombia)
- Salvador da Bahia Landfill Gas Management Project (Brazil)
- Jilin Taonan Wind Power Project (China)
- Abu Qir N₂O-Project (Egypt)
- Meizhou Landfill Gas (China)
- JCT Hoshiarpur Small Scale Biomass Project (India)
- RSCL Bagasse (India)
- Long Yuan Windpark (China)
- Huainan Coal Mine Methane Utilization Project (China)
- Maguan Daliangzi Hydro Power Project (China)
- Ajbapur Sugar Complex Cogeneration Project (India)
- JCT Phagwara Biomass (India)
- Talia Landfill Gas Recovery Project and Electricity Production (Israel)
- Hunan Dongping Hydropower Project (China)
- Zhongfang County Pailou Hydro (China)
- Yichun Xiaochengshan Wind Power Project (China)
- Heilongjiang Hengdaishan West Wind Power Project (China)
- Heilongjiang Yilan Maanshan Wind Power Project (China)

- Jiangsu Longyuan Donghai Biomass Power Project (China)
- Liaoning Changtu Wind Power Project (China)
- Shenyang Faku Wanghaisi Wind Power Project (China)
- Jiangsu Qidong Dongyuan Wind Power Project (China)
- Jiangsu Rudong Lingyang Wind Power Project (China)
- Jiangsu Rudong Huangang Dongling Wind Power Project (China)
- Sichuan Provincial Longchi & Caozuan 9 MW Small Scale Hydro Power Bundle Project (China)
- Inner Mongolian Mengniu Aoya Biogas Power Project (1.36 MW) (China)
- Heilongjiang Fuyuan Wind Power Project (China)
- Inner Mongolia Wudaogou III Wind Power Project (China)
- Heilongjiang Dabaishan Wind Power Project (China)
- Henan Xuchang Blended Cement Project (China)
- Liaoning Kangping II Wind Power Project (China)
- Inner Mongolia Bayanoer IV Wind Power Project (China)
- Hainan Danzhou Eman Wind Power Project (China)
- Waste Heat Recovery for Power Generation Project in Beijing Lima Cement Co., Ltd. (China)
- Project Bundle: Essent Trading International S.A. (Switzerland)
- Project Bundle: Mercuria Energy Trading S.A. (France)
- Project Bundle: J.P. Morgan (USA)

5.2 Workshop 2: How to design adaptation audits

Climate change is one of the most urgent social, economic and environmental challenges facing Europe today, and both adaptation management and adaptation auditing is needed. The adaptation workshop was based on the INTOSAI WGEA Climate Change Guidance and its four step approach to design climate change audits. Cases and experiences from climate change adaptation audits in Europe were included and main goal was to inspire further audits of climate change adaptation.

5.2.1 Adapting to Climate Change

Presentation by Ms Amanda Simpson, the National Audit Office of United Kingdom

The National Audit Office produced a review on Adapting to Climate Change for the UK Parliament Environmental Audit Committee in July 2009. The aim of the review was to provide the Committee with an overview of government policy on adapting to climate change, including the implications of the Climate Change Act 2008 and the cross-government Adapting to Climate Change Programme, and progress across government departments in identifying and managing risks from future climate change impacts. The presentation is designed to inform auditors in other SAIs when undertaking audits of climate change adaptation, and covers the review planning process, its key findings, how the report was communicated, its impact and lessons learnt and top tips. The review can be found at: http://www.nao.org.uk/publications/0809/adapting_to_climate_change.aspx

5.2.2 Adapting to climate change in Cyprus with focus on water resources

Presentation by Mr Akis Kikas, the Audit Office of the Republic of Cyprus

Water in Cyprus is precious. It is a resource that becomes scarcer with time, as climate changes cause rainfall to decrease, whilst demand for water is increasing alongside with the development of the island.

During the period 2005 – 2008 Cyprus faced one of the most severe drought periods of the last decades, which resulted in the imposition of severe cuts in the supply of water and the adoption of very costly measures to meet temporarily the minimum needs of consumers for drinking water. Indicative of the above is the fact that in 2008 and 2009 the water supply in most households in

Cyprus was restricted to three times per week and that during the summer of 2008 water had to be imported from Greece, in tankers, with a significant cost of approximately €5/m³.

Our Office decided to carry out an audit to establish the reasons that led to this adverse situation and to examine whether appropriate measures are taken to ensure the sustainability of water resources in the future. The latter implies, of course, that adaptation measures should be taken in order to ensure the availability of sufficient water resources in the future taking into consideration current climate conditions.

First of all we examined the policy followed regarding the supply of water, both for drinking and irrigation purposes. Our main finding was the lack of long term planning in the management of water resources. The optimism that followed a period of satisfactory rainfall during 2002 – 2004, led to a laxity in taking appropriate measures on time to ensure the adequacy / sustainability of water reserves in the following years. The construction of additional desalination plants, which would ensure the independence of water supply from weather conditions, was suspended and cuts in the supply of water were imposed too late, when the situation was already irreversible.

Secondly, we looked into the management of underground water resources and established the lack of proper control over the drilling of boreholes and the quantities of water pumped therefrom. This contributed to the deterioration of most of the aquifers of the island, which are now threatened by depletion and the intrusion of saline water from the sea.

Thirdly, we examined the legal framework regarding the management of water resources and established that this is dealt with in 14 Acts of Law, with many Departments/Ministries involved. This proved to be a major weakness to the system and although it was identified as a problem many years ago, the set up of a central authority having the overall responsibility for the management of water is still pending.

We also pointed out that certain agricultural practices, such as the cultivation of crops that demand large quantities of water, should be changed so as to ensure the best possible management of the available water resources. In addition, we proposed that a strategy should be implemented to ensure that football playgrounds, municipal gardens and golf courses are irrigated with recycled water and not drinking water and that swimming pools are filled with water from boreholes and not with refined drinking water. Finally, we recommended that appropriate water treatment facilities should be established in army camps and that the recycled water should be used for the irrigation of gardens.

5.2.3 Investigation of flood and landslide hazards

Presentation by Mr Yann de Caprona, the Office of the Auditor General of Norway

Large parts of Norway are at risk of floods and landslides because of topographical and meteorological conditions. The hazards may increase as a result of more extreme weather caused by climate change. The investigation focused on two lines of inquiry:

- What mapping of flood and landslides hazards has been carried out, and how it is disseminated and used by the municipalities?
- How do the authorities ensure that national objectives in the field of floods and landslides are adequately followed up?

The investigation used map and document analysis, questionnaire surveys and interviews.

The investigation was presented to the Parliament 15 April 2010 and an English version of the report will be available on the homepage of the Office of the Auditor General of Norway: <http://www.riksrevisjonen.no/en/Pages/Homepage.aspx> and the EUROSAI WGEA website www.eurosaiwgea.org.

5.3 Workshop 3: Auditing energy sector issues from a climate change perspective

Energy production and consumption lies at the heart of the climate change challenge. Governments have over the years implemented programmes to both curb consumption and facilitate production of new sustainable energy. Over the last few years, many SAIs have initiated audits that cover both efforts to produce more clean energy and to facilitate more effective use of energy. This workshop brought together experiences from several SAIs.

5.3.1 Analysis on Energy Savings in the Danish Government Administration

Presentation by Ms Philippa Krogh-Lund, the National Audit Office of Denmark

In connection to the COP 15 meeting the Danish SAI have performed an analysis on energy savings in the Danish Government administration, because we found it relevant to examine what the Danish Ministries and underlying institutions are doing to save energy and whether they are in line with the EU directive “Energy efficiency in the end use”, where it is stated that public institutions should act as good examples when it comes to saving energy. The problems encountered in performing the analysis have been lack of reliable data, which made it difficult to establish the baseline and the trend of the energy consumption and the potential for energy savings. The underlying purpose with the analysis was to reveal good practise. This leads to a debate on whether the role of the National Audit Office is to be recommendatory and to putting forward good practice.

5.3.2 Auditing Energy Issues: Energy Conservation and District Heating Systems

Presentation by Ms Kaire Kuldpere, the National Audit Office of Estonia

Estonia is a small country with annual power consumption approximately 7,4 TWh. 91% of power is produced from oil shale, which has very high carbon content and therefore produces high emissions. Production of 1 kWh of power from oil shale produces 1,18 kg of CO₂. Annually approximately 14 million tons of CO₂ equivalents are produced in Estonia. Even though the GHG emissions contribute only 0,4% of the total European Union emissions, per capita the emissions are one of the highest.

The European Union has set the goal to save 9% of energy in final consumption by 2016. Estonian National Audit Office audited the energy saving issues in 2008 – 2009. The audit was challenging as the energy related statistics is poor and the government does not measure the performance of energy saving measures. The presentation covers the problems of evaluation of the energy saving action plan.

The production of heat was 9,2 TWh in Estonia in 2008. 6,9 TWh of the heat was delivered to customers via district heating networks. District heating systems are in almost every city, town and district in Estonia. They were mainly established in 1965-1990. The average loss is approximately 25%, but it can reach up to 35-40% or even 80% in the severe cases. Some district heating systems will never be viable or sustainable due to lack of consumers, worn out and oversized equipment, but they are still in use. Estonian National Audit Office is currently analysing whether the district heating sector is viable and sustainable. The audit will be published in October 2010.

5.3.3 Energy-Performance Certificates: Poor Value for Money

Presentation by Mr Fredrik Engström, the Swedish National Audit Office

The energy-performance certificate is a policy instrument intended to promote the reduction of the energy consumption of buildings. If necessary for the establishment of the energy-performance

certificate, the building must first be inspected by an independent expert. Where a building has a potential for energy savings, the expert must then propose cost-effective measures to enhance its energy efficiency. The idea is that receiving such proposals will make building owners more inclined to carry out the investments involved.

For some categories of buildings, such as apartment blocks, the energy-performance certificate must be made available to the public in a prominent place in the building. The provision of information to tenants about their building's energy consumption relative to that of similar buildings is intended to make them demand that their landlord should make the improvements to energy efficiency that are possible.

The Swedish National Audit Office (SNAO) has examined whether the Government and the government agencies responsible have created good conditions for the system of energy-performance certificates to promote energy efficiency. It has also assessed whether the agencies' application of the legislation is such that it promotes compliance with the overall objectives in the field.

Our conclusions are mainly the following:

The Government and the agencies have not created good conditions for achieving the objectives of the legislation relating to energy-performance certificates

- Building owners get little advice for their money.
- There have been major delays in Sweden's implementation of the Directive and in its application of the rules.
- There are points of unclarity in the Swedish legislation as presently worded.
- The direction exercised by the Government is not linked to the overall objectives.
- The Government has not vested any government agency with overall responsibility for the system.
- Energy-performance certificates have not been coordinated with other central-government policy instruments to enhance the energy efficiency of the existing building stock.
- The certification and accreditation system does not fulfil its purpose.

There are material problems in government agencies' application of the legislation relating to energy-performance certificates.

- There is no regular follow-up of the content of energy-performance certificates or the functioning of the system.
- The Swedish Association of Local Authorities and Regions issued a circular to municipalities to abstain, during a transitional period, from imposing fines on building owners for failing to have energy-performance certificates drawn up.

5.3.4 Auditing the Green Savings Programme in the Czech republic

Presentation by Mr Štefan Kabátek, the Supreme Audit Office of the Czech Republic

The presentation will give you a whistle-stop tour of what the Green Investment Scheme is about and then more information on a basic structure of the Green Saving Programme (GSP) that has been implemented in the Czech Republic. The contribution will stress that the things our government is being asked to deliver are becoming increasingly complex and difficult. The success of the GSP is closely linked with the basic precondition that particularly the government has to work much more closely with stakeholders on the inside and outside government, i.e. that the government should help citizens to be more involved in environmental measures and explain how they can benefit from these activities.

The Czech Republic has raised funds for the GSP from the sale of emission credits under the Kyoto Protocol on greenhouse gas emissions. The overall anticipated programme allocation is up to one

billion EUR (approximately 25 billion CZK). The funds can be used throughout the period from the programme's launch until 31 December 2012.

The Supreme Audit Office has followed up the progress of the GSP since its launch in order to carry out performance audit in that field. Some of the results from the preliminary study, which was undertaken to map the first year of existence of the GSP, will be shared with participants. A special focus will be on the plausibility of criteria and audit questions which should be set for the first stage of the audit will be discussed. These will be given as an example that is focusing on resources including having necessary skills required to deliver what stakeholders want. The big questions going forward therefore are: "Does the GSP work?" and "Is progress being made?"

The results of the preliminary study have led to a final decision to submit the audit on the GSP to the SAO's Audit Plan for 2010. The audit will look at the impact of spending an enormous amount of money on supporting energy savings in heating, construction according to the passive energy standard and use of renewable energy sources for heating and hot water. This is an issue that is complex and long-term, and important both globally and on a national level.

5.3.5 Audit on the programme "Intelligent Energy" by Mr François Osete, the European Court of Auditors

Presentation by Mr François Osete, the European Court of Auditors

The Intelligent Energy for Europe Programme is a programme that coordinates and combines four sub-programmes and five horizontal activities for a global amount of 199,2 million €. In addition, 41,6 million € were allocated to complementary actions. The four sub-programmes are:

- ALTENER focused on developing new and renewable energies;
- SAVE which aims at improving energy;
- STEER dedicated to the energy aspects of the transport;
- COOPNER for cooperation with developing countries.

The audit approach and scope were based on four audit questions:

- How did the Commission allocate the funds?
- How did the Commission monitor and evaluate the programme?
- What were the administrative costs of the programmes?
- What difference did the Executive Agency make to the management of the programme?

Answering to these four questions, the main conclusions of the audit are:

- the planning of the programme fell short of best practice;
- the distribution of spending over so many areas of activities necessarily limited the potential to achieve significant and verifiable objectives;
- the monitoring and evaluation arrangements did not enable the Commission to form a view of the overall quality and design of the programme;
- although the Commission runs many schemes with a similar design to the IEE, it does not have a framework for assessing their administrative cost;
- finally the Executive Agency had a positive impact on "client" satisfaction.

5.3.6 Synergies Between Energy and Climate

Presentation by Ms Camilla Fredriksen, the Office of the Auditor General of Norway

The Office of the Auditor General of Norway has performed an audit on goal attainment in Norwegian Climate Policy. The audit was conducted with a cross-sectoral approach, examining all important emissions sectors. The petroleum and energy sector is a major emissions sector, and the

petroleum activities offshore are responsible for the majority of energy-related GHG emissions. The emissions have increased more than projected in the last 10 years and are still increasing. The responsible public body, the Ministry for the Petroleum and Energy has not set quantified reduction emission targets of their own, but through the Agreement on Norway's climate policy there was set a reduction target for the sector of 3-5 mill. tonne CO₂-equivalents reduced GHG emissions by 2020.

The audit reviewed the effect of policy tools in the petroleum and energy sector on climate. The policy tools for mitigation are mainly economic tools. The most important is the Carbon tax for petroleum activities, which has had an effect on emissions offshore, but reports show that the relevant measures within the tax level now have been taken. The petroleum sector offshore is today also regulated by the Emissions Trading Scheme, but they are not given free emission allowances. Another central policy tool is Plan for development and operation (PDO) where government has the possibility to make sure commercial developers plan with emission reducing technical solutions for offshore installations, such as choosing BAT technology, power supply from the onshore net, rather than gas turbines, as well as other energy efficient and emission reducing measures. The audit found that in the PDO processes, considerations of profitability are most often prioritized, as many of the emission reducing measures are considered to be costly.

For mainland energy consumption there has been a tax on burning of heating oil, which have led to reduction in the use of fossil fuels for heating. GHG emissions from mainland energy production are low, as hydropower makes up almost the total electricity production. Targets set to increase production and consumption of other renewable energy sources, such as wind and water-borne heating have not been met, and overall energy consumption is increasing rather than declining. The audit also found that government does not have good performance indicators on energy consumption. Government has also set targets for the establishment of Carbon Capture and Storage of some gas-fired power plants. In the audit it was revealed that there are risks related to timing, costs and increased emissions, connected to these projects.

5.3.7 Financial means allotted to support programmes for energy production from renewable energy resources

Presentation by Ms Regina Charyparová, the Supreme Audit Office of the Czech Republic

The audit was incorporated into the Audit Plan of the Supreme Audit Office for the year 2008. The aim of the audit was to review the spending of funds earmarked for support for the use of renewable energy resources (RERs); this included setting up conditions conducive to meeting the indicative goal of reaching a share of 8 % of electricity generated from renewables in the total gross consumption of electric power in the Czech Republic by 2010.

The audit was focused on evaluating the progress reached in the area of the use of RERs. The objective of the audit was to check on both the subsidy disbursing bodies (subsidy providers) and the subsidy recipients (beneficiaries) adherence to the principles of economical and efficient spending of funds sourced from the state budget, from the State Environmental Fund, and from any EU funds tapped for these purposes.

The audit covered the 2005 – 2008 period. The audit was performed in November 2008 – June 2009. The audited entities, i.e., the auditees included both central bodies (e.g., ministries) and end beneficiaries of the state support.

The main findings of the audit were:

- The indicative objective of 8% share of energy generation from renewable sources on gross domestic electricity consumption in 2010 was not approachable. This finding was also

mentioned in the previous audit. However, responsible subjects have not submitted any proposal on conceptual solutions conducive to real indicator determination.

- The audited programme contributes only in a little or an insignificant manner to the increase of volume of energy production from renewable resources or to energy savings.
- Existing analyses reveal that biomass has the biggest potential in the Czech Republic (first of all, plants grown for this purpose). Despite this fact, the support for RERs is being applied to all kinds of RERs equally.
- The price regulation guarantees profitability of all kinds of renewable energy resources.
- When the support is provided for resources that require highest investments (such as photovoltaic systems), the price of electricity for final consumers is increased significantly.
- The state policy aiming at setting priorities for using RERs and at targeted funding is missing.

5.3.8 Audit on Bioenergy's Contribution to the EU Action on Climate Change by Mr Armando Do Jogo, the European Court of Auditors

Presentation by Mr Armando Do Jogo, the European Court of Auditors

Following the goals set out in the Kyoto Protocol to the United Nations Framework Convention on Climate Change, the EU commitment is now to reduce EU-27 greenhouse gas emissions by at least 20% in 2020 compared to 1990. This should imply:

- Energy efficiency: 20% improvement
- Renewable energy: 20% objective
- Biofuels target: 10%

Bioenergy is one form of renewable energy (among other sources such as wind, solar, hydraulic, geothermal, etc) and comprises biomass and biofuels. Biomass is derived from plants or animal by-products and is used as a source of heat or electricity. Biofuels are renewable transport fuels: bioethanol, biodiesel and biogas. Biomass is provided by forestry, agriculture and organic waste. Liquid biofuels are currently mainly made out of agricultural energy crops.

The EU has an ambitious strategy for biofuels, boosting the production of fuels from agricultural raw materials that may allow it to attain three main objectives:

1. reduction of dependency from Petroleum;
2. contribute to environmental objective of reducing CO² emissions;
3. offer new markets for agricultural products.

The Common Agricultural Policy (CAP) supports both the supply of bioenergy from agriculture and forestry and continues to contribute to the use of bioenergy on farms and in rural areas. Farmers producing bioenergy crops can benefit from the Single Farm Payments or Single Area Payments. The legislative amendments which followed the Health Check abolished the energy crop scheme (70 million euros per year). However this can be understood as a necessary correction following the decoupling of EU subsidies and not as a reduction of the EU support.

Moreover, in the EU's rural development policy for the years 2007–2013 various support measures are designed to encourage the development of renewable energy. They include, *inter alia*, support for investments and the use of unused biomass by forest holders.

There is an increasing awareness among the EU population and within the Institutions regarding environmental and the public intervention issues clearly also enhanced by the EU commitment to combat climate change.

6 PLENARY SESSION WEDNESDAY, 24 MARCH 2010

The plenary session started with summaries from the three workshops on flexible mechanisms, adaptation and energy.

6.1 Summary from the workshop on flexible mechanisms

The first part of the workshop was dealing with the assessment of the data and cost-benefit considerations of CO₂-measures (Switzerland), the value of emission rights (Sweden) and the state's efforts of reducing greenhouse gas emissions (Estonia).

A topic of the presentation and the discussion was, that we should bear in mind that the European Commission is not always right, which is sometimes showed by decisions of the European Court. Additionally the European Commission usually decides without having detailed information what is going on in the member states. This is the advantage of SAIs, they have direct access to the real practice of a system in daily life. Mostly the mistakes are not in the concept but in the implementation.

A problem is to use "dynamic criteria", especially to compare sectors, to get a benchmarking system or best practice data. Most of the SAIs do not have the experts to deal with this and even in the EEA they are still in the learning phase. This problem is also influencing the comparison of efficiency e.g. of the flexible mechanisms. But it would be necessary to get some information to be able to decide which of the mechanisms is the best to be used and eventually to revise decisions and plans.

The EU ETS is usually overlocking most of the national problems and accesses (like EEU trading). As this is a very difficult topic, almost nobody in public is able to understand this very complicated system, which may lead to lack of information even for decision makers. Information about how other countries deal with this matter is always helpful. In general the focus is on the non-ETS sector, as the ETS system should be self-regulating and is used only by enterprises, not by the states. Exceptions may occur when there is e.g. an energy monopoly with a possible impact from this company on the market as well as on the state budget.

The second part of the workshop was dealing with audits of Emissions Trading Schemes (Slovenia, Austria) and the flexible mechanisms and goal achievement in the climate policy (Norway).

During the discussion it was mentioned that the origin of allowances seldom is used as criteria, only how cheap they are. There is no obligation for countries having a surplus in fulfilling their Kyoto targets to give them to countries, which fail to reach their national targets. Actually they most probably will bank them for the next period (like e.g. UK).

It is very difficult to audit subsidiarity, because SAIs are depending on the modelling the government does (and submits to UNFCCC) and because governments can only do what parliament tells them to. This is a problem mainly in countries where emissions are increasing.

It seems to be too early now to have a look at selected CDM projects, because at the time mostly only the contracts are in place, there is almost no constructing action going on right now. This can only be an ex-post evaluation. There will be a need of close cooperation between the SAIs of the buying and the selling countries to get more information (in detail and reality) than the official reports are able or willing to give.

In general there is a discussion between governments, NGOs and scientists if CDM is the right instrument to solve the problems. Governments consider the system as part of the negotiations of climate change. It contains many uncertainties, so probably it would be better to take more domestic measures. But when it comes to topics like the different prices of the measures, the danger of carbon leakage etc. recommendations are not easy. A discount on allowances e.g. is a possibility to motivate co-generation of energy and heat production.

In the third part of the workshop there were presentations about an audit on the implementation of selected tasks under the provisions of the United Nations (Poland), an audit of efforts to implement national and international commitments concerning the activities aimed on mitigation of climate change (Former Yugoslavian Republic of Macedonia) and the Joint Implementation and Clean Development Mechanism (Austria).

The discussion showed that the CDM system is rather intransparent for the investing countries. One of the major problems is the time limit, as it takes seven to ten years to get a project ready. So they may come too late for the running period and may only be helpful for banking to coming periods and targets.

CDM cannot be audited when it concerns the work of the executive board, which is choosing and monitoring the projects. So there is a high need of trust in the system itself, which we do not know if it is really good to have.

It is very difficult to find external, independent experts for this topic. So it is up to the SAIs to build up internal expertise, using a holistic approach at first and go deeper from audit to audit. CDM is much more vague than e.g. ETS and it lives only from the chance to buy emission reductions cheaper abroad than to do mitigation measures at home, keeping the subsidiary clause in mind.

Also the ETS bears the danger, that countries who did their homework before are committed to higher and more expensive reductions than the others. To evaluate the EU-ETS will be a challenge in future as well, because it is not clear who will be willing and able to do this. This is a challenge as well as a starting point for SAIs especially in Europe to cooperate on.

6.2 Summary from the workshop on adaptation

The objective of the adaptation workshop was to share knowledge and give an overview on how to plan adaptation audits. The adaptation workshop was based on the INTOSAI WGEA climate change auditing guide (CC guide), which is under development. There are relatively few adaptation audits conducted. The focus was therefore on how to choose audit objectives, and design adaptation audits.

The CC guide takes a four-step approach to audit planning. The first step aims to obtain an overview over the vulnerability to climate change. This should involve looking at actual and potential impacts, adaptive capacity, and through these two factors get an overview of vulnerability.

It was pointed out that SAIs should not aim to perform its self-standing assessment of vulnerabilities. Vulnerability assessments are the responsibility of the government. However, it could be useful to ask experts of their opinion on the government's assessment, or to assist the auditors to focus on the most vulnerable sectors.

The group discussion and feedback from the adaptation specialist in EEA, Stéphane Isoard, showed that a wide range of impacts already are present in Europe, and that more are expected to take place.

The second step involves mapping the government's response to the vulnerabilities that were detected in Step 1. The response in the CC guide is approached in terms of three questions: commitments and policy targets; policy instruments; and players and their responsibilities.

A question arose on the role of non-public players, to be more focused on in the CC auditing guide. Private players will be very important in implementing adaptive measures. In the UK the insurance industry has been one of the driving forces behind the government's efforts to prepare adaptation, as insurers threatened not to take on responsibility for climate change-induced costs if the government didn't take steps to assess and adapt.

The third step was focusing on the main risks regarding adaptation policy. The risks are related whether the government has assessed the vulnerabilities in a proper manner, whether they have developed a plan in adapting to climate change, and whether they have implemented sufficient instruments in all relevant sectors. Risks concerning efficiency and effectiveness were discussed. The participants agreed that target achievement might be auditable dependent on what policies and sectors that are included in the audit.

The workshop then moved on to look at experiences from European SAIs in auditing adaptation. Ms Amanda Simpson of the SAI of the UK made a presentation of their audit of the adaptation of the UK government. The audit was conducted as a parallel process as the government is developing their overall adaptation plan, as a good case to ensure direct added value of the audit.

Mr Akis Kikas of the SAI of Cyprus made a presentation of adaptation within the water sector. The audit highlighted that water stress is already taking place, caused by temperature increases, reductions in rainfall and saltwater intrusion.

Mr Yann de Caprona of the SAI of Norway made a presentation of an audit of floods and landslides. Not in itself an adaptation audit, the threat of floods and landslides is nonetheless expected to increase with climate change.

The participants were then introduced to a fictive case, where the exercise was to design an adaptation audit based on risks identified in the case. Presentations after the case discussion focused on possible audit objectives, researchable questions, audit criteria, findings, and methodology.

The final discussion focused on common challenges and solutions to some of these challenges. It was pointed out that there is no one approach to adapting to climate change and therefore not to auditing adaptation. Finding evaluative criteria to measure government performance against is as such a big challenge.

One of the solutions to this challenge is to use ministry self-assessments as a benchmark for governments' adaptation efforts. The UK audit showed how this could be done at the central government level. The Norwegian audit had adopted a similar approach, but focusing on regional and local authorities. In both cases, the main idea is to avoid the problem of not having specific adaptation criteria.

A potential challenge of this approach is that governments' may not assess themselves in a proper and "honest" manner. However, governments' self-assessment can nonetheless be used to compare what government say they are doing and what they actually are doing.

6.3 Summary from the workshop on energy issues

The workshop started with Philippa Krogh-Lund from NAO of Denmark, who talked about analysis on energy savings in the Danish government administration and gave us some details about progress in the framework in energy savings data.

The representative from NAO of Estonia, Kaire Kuldperre, talked to us about Energy Conservation and gave us the perspective from municipalities which are mainly responsible for District Heating Systems. The systems are old, very inefficient and environmentally unfriendly but must be operated due to lack of money for building the new heating infrastructure.

Frederik Engström from the Swedish NAO put implementation of energy performance certificates into context. He pointed out besides other things questions regarding usefulness of one-third of the certificates and identified limitations within the audit that was performed by the Swedish SAI.

My presentation on auditing the green savings programme in the Czech Republic gave a brief summary of the results of a finished preliminary study. What I tried to push forward for discussion was related to carbon budget for a government and its affordability for people and whether more to be done to convince people.

Very detailed information regarding Audit on the programme “Intelligent Energy” that was performed by the European Court of Auditors, was given by Francois Osete. In this respect I want to highlight that change in clients’ behaviour can only be measured over the long term period and consolidated data such as those provided by EUROSTAT are more than necessary. Nevertheless the programme has had a positive impact on the development of EU policy.

In the last session of the workshop we heard from Camilla Fredriksen, from the Norwegian SAI, about synergies between energy and climate. It is a high profile issue and it is clear that in order to achieve the greenhouse gas reduction targets the actions increasing energy efficiency must be involved. Mitigation covers besides global policy a number of national policies and measures that could be used as source of audit criteria if you decide to set the benchmark.

My colleague Regina gave us a short reflection of the conducted audit that examined programmes for energy production from renewable energy resources in the Czech Republic. This audit was carried out concurrently with preparation of the Guidance for Supreme Audit Institutions on Auditing Sustainable energy. More recently the Czech government agencies are working on important changes in the field of price regulation that should support the most efficient renewable energy resources.

The last presentation in workshop was given by Armando Do Jogo from ECA, who mentioned some issues that rose from support of biofuels. The ECA worked out a preliminary study focused on possible audit on Bioenergy’s Contribution to the EU Action on Climate Change.

Let me now summarize some points in which Regina and I see intersection of most of the contributions that were shared with participants of the workshop. We found that the majority of presented recommendations were centred on improving performance measurement and the data quality for climate change performance measurement systems. Sometimes the issues are with the individual indicators, and sometimes with the data quality. How to build a sensible framework of performance measures is one of the most common queries we get from departments and executive agencies, when they are developing a new framework, reviewing or strengthening the existing one, or just developing specific indicators related to climate change topic.

Let’s look at target setting in the field of energy savings or energy efficiency. A couple of typical issues we might see. One is around inconsistent application of targets across governments. Where

targets are set poorly, it is inevitable that plans will be poor as well. Our evidence suggests that it is a critical capability and there is a long way to go.

I want to share with you a classic phrase, which obviously I did not invent: 'If you cannot measure it, you cannot manage it.' What governments tend to do instead is to administer; they administer energy savings and climate change programmes with their budgets and set up a price regulation which must be financed by costs reimbursed by end-users of energy. Whilst administration can be done honestly, carefully and with the best of intentions, it rarely ever delivers cost-effective outcomes. Without the kind of information that tells you what you have delivered and what it costs, you cannot really make sensible decisions.

Finally I am going to be slightly more challenging. It seems that the most relevant information regarding energy issues is of the poorest quality and on the other hand high-quality information is not relevant to the issues we are attempting to audit. We have to think about it when we reconcile evidence from different sources. I think it is good position for Supreme audit institutions which should contribute to the debate on climate change thanks to the everyday work of their auditors who are used to combine and analyze different sources of information.

6.4 Message to INCOSAI

Some of the participants suggested, based on issues raised in the seminar, to prepare a message to the XX INCOSAI in South Africa 15–20 November, 2010. The message was prepared by a small group and presented and discussed in the plenary. The participants supported the proposal and to forward this message from EUROSAI WGEA to the INTOSAI WGEA as a potential discussion topic at the INCOSAI. The message forwarded from the EUROSAI WGEA Secretariat to INTOSAI WGEA Secretariat is:

We invite INTOSAI WGEA to raise the following topics at the XX INCOSAI: Most governments at the UNFCCC COP 15 in Copenhagen agreed upon further development of global climate cooperation which eventually will lead to a substantial transfer of money and technology. There was also agreement on further transparency with respect to policies, measures and effects. We believe that SAIs need to play an important audit and evaluation role in this system. We invite the Heads of SAIs to reflect on this role and to enhance networking and cooperation between their institutions to be able to face this coming challenge. We would like to emphasize the importance of cooperation with UN bodies.

6.5 EUROSAI WGEA – concluding remarks from the secretariat

Information regarding near future activities for the EUROSAI WGEA was given. The first crossroad is the INTOSAI WGEA meeting in China in June 2010 where EUROSAI WGEA will organize a regional meeting. The 8th EUROSAI WGEA annual meeting will be held in the Netherlands 5 to 7 October and the topics for this meeting are sustainable energy and impact of environmental audits. The EUROSAI WGEA secretariat is also planning to organise a one day seminar in connection with the annual meeting in October. The new website will be launched probably by the end of June. As a first step, our website will get a new web address (EUROSAIWGEA.org) in April. Short information about the secretariat's planned actions to identify any interests by the EUROSAI WGEA members to participate in a new cooperative audit on adaptation was also presented.

APPENDIX 1: PROGRAMME

THE EUROSAI WGEA SEMINAR: AUDITING CLIMATE CHANGE

Copenhagen, Denmark 23-24 March 2010

VENUE

The European Environment Agency (EEA), Kongens Nytorv 6, Copenhagen, Denmark <http://www.eea.europa.eu/address.html>

PARTICIPANTS

Representatives of SAIs of EUROSAI WGEA and invited guests

HOST

The Office of the Auditor General of Norway

MAIN TOPIC:

Auditing climate change

SUB TOPICS (WORKSHOPS):

1. Flexible mechanisms: Emissions Trading, Clean Development Mechanism (CDM) and Joint Implementation (JI)
2. Energy sector issues seen from a climate change perspective
3. Adaptation to climate change

EXPECTED OUTCOME OF THE SEMINAR

The seminar should contribute to exchange of knowledge and experience in the field of auditing climate change with focus on adaptation, flexible mechanisms and auditing energy sector policies. The focus will be on lessons learned and best practice.

LANGUAGE

English

TUESDAY 23 MARCH

13.00 – 13.30 Registration

PLENARY SESSION

13.30 – 15.00

Welcome by the EUROSAI WGEA Secretariat

Opening by Mr Yvan Pedersen, the National Audit Office of Denmark

The EEAs activities on climate change mitigation by Mr Andreas Barkman, Head of Mitigation group, the European Environment Agency

The EEAs activities on climate change adaptation by Mr Stéphane Isoard, the Vulnerability and Adaptation group, the European Environment Agency

15.00 – 15.30 Coffee break

15.30 – 16.30

The INTOSAI WGEA Global Coordinated Audit on Climate Change by Dr Kristin Rypdal, the Office of the Auditor General of Norway

The EUROSAI Audit on Climate Change by Ms Alicja Gruszecka, the Supreme Audit Office of the Republic of Poland

16.30 – 16.50 Coffee break

16.50 – 17.45

The INTOSAI WGEA Climate Change Guidance by Ms Kristine Lien Skog, the Office of the Auditor General of Norway

The INTOSAI WGEA Guidance "Auditing Sustainable Energy" by Ms Regina Charyparová, the Supreme Audit Office of the Czech Republic

Riksrevisionen's strategic planning of audits on climate change by Mr Fredrik Engström, the Swedish National Audit Office

Practical information

19.30 Informal dinner at Skipperkroen (www.skipperkroen-nyhavn.dk) hosted by the Office of the Auditor General of Norway

WEDNESDAY 24 MARCH
09.00 – 13.00 WORKSHOP SESSIONS

WORKSHOP 1: HOW TO AUDIT FLEXIBLE MECHANISMS

Moderated by Dr Heinrich Lang
Location: Kabinet 2, Hotel Phoenix

Numerous audits have been performed recently across Europe on climate change. This workshop will bring together experiences from several members of the EUROSAT WGEA.

09.00 – 09.05 Welcome by Ms Herdis Laupsa, the EUROSAT WGEA secretariat

09.05 – 09.50

Auditing Climate Change – Switzerland by Mr Martin Koci, the Swiss Federal Audit Office

What are Sweden's Emission Rights Worth? by Ms Madeleine Nyman and Ms Anna Carlsson, the Swedish National Audit Office

State's Efforts of Reducing Greenhouse Gas Emissions by Ms Airi Andresson, the National Audit Office of Estonia

09.50 – 10.10 Discussion

10.10 – 10.30 Coffee break

10.30 – 11.15

Audit on Mitigation of Climate Change and Implementation of Kyoto Protocol in Slovenia 2005-2008 by Ms Jerneja Vrabec, the Court of Audit of Slovenia

Emission Trading in Austria by Dr Heinrich Lang, the Court of Audit of Austria

The Flexible Mechanisms and Goal Achievement in the Climate Policy by Dr Kristin Rypdal, the Office of the Auditor General of Norway

11.15 – 11.35 Discussion

11.35 – 11.50 Coffee break

11.50 – 12.35

Audit on the Implementation of Selected Tasks under the Provisions of the United Nations Framework Convention on Climate Change by Ms Alicja Gruszecka, the Supreme Audit Office of the Republic of Poland

Auditing Climate Change by Ms Tanja Tasevska, the State Audit Office of the former Yugoslav Republic of Macedonia

Joint Implementation and Clean Development Mechanism in Austria by Dr Heinrich Lang, the Court of Audit of Austria

12.35 – 13.00 Discussion and conclusion to plenary session

WORKSHOP 2: HOW TO DESIGN ADAPTATION AUDITS

Moderated by Ms Kristine Lien Skog and Mr Ragnar Brevik

Location: EEA

Climate change is one of the most urgent social, economic and environmental challenges facing Europe today, and both adaptation management and adaptation auditing is needed. The adaptation workshop will be based on the INTOSAI WGEA Climate Change Guidance and its four step approach to designing climate change audits. Cases and experiences from climate change adaptation audits in Europe will be included.

09.00 – 09.05 Welcome by Mr Yann de Caprona, the EUROSAI WGEA secretariat

09.05 – 10.10 *Introduction to how to design and plan climate change adaptation audits* by Ms Kristine Lien Skog and Mr Ragnar Brevik, the Office of the Auditor General of Norway

10.10 – 10.30 Coffee break

10.30 – 11.35

Adapting to Climate Change by Ms Amanda Simpson, the National Audit Office of United Kingdom

Adapting to climate change in Cyprus with focus on water resources by Mr Akis Kikas, the Audit Office of the Republic of Cyprus

Investigation of flood and landslide hazards by Mr Yann de Caprona, the Office of the Auditor General of Norway

11.35 – 11.50 Coffee break

11.50 – 13.00 Group work, discussion and conclusion to plenary session

WORKSHOP 3: AUDITING ENERGY SECTOR ISSUES FROM A CLIMATE CHANGE PERSPECTIVE

*Moderated by Mr Štefan Kabátek and Ms Regina Charyparová
Location: Fredrik III, Hotel Phoenix*

Energy production and consumption lies at the heart of the climate change challenge. Governments have over the years implemented programmes to both curb consumption and facilitate production of new sustainable energy. Over the last few years many SAIs have initiated audits that cover both efforts to produce more clean energy and to facilitate more effective use of energy.

09.00 – 09.05 Welcome by Mr Tom Næss, the EUROSAI WGEA secretariat

09.05 – 09.15 Introductory speech by Ms Regina Charyparová, the Supreme Audit Office of the Czech Republic

09.15 – 09.50

Analysis on Energy Savings in the Danish Government Administration by Ms Philippa Krogh-Lund, the National Audit Office of Denmark

Auditing Energy Issues: Energy Conservation and District Heating Systems by Ms Kaire Kuldpere, the National Audit Office of Estonia

09.50 – 10.10 Discussion

10.10 – 10.30 Coffee break

10.30 – 11.15

Energy Performance Certificates: Poor Value for Money by Mr Fredrik Engström, the Swedish National Audit Office

Auditing the Green Savings Programme in the Czech republic by Mr Štefan Kabátek, the Supreme Audit Office of the Czech Republic

Audit on the programme "Intelligent Energy" by Mr François Osete, the European Court of Auditors

11.15 – 11.35 Discussion

11.35 – 11.50 Coffee break

11.50 – 12.35

Synergies Between Energy and Climate by Ms Camilla Fredriksen, the Office of the Auditor General of Norway

Financial means allotted to support programmes for energy production from renewable energy resources by Ms Regina Charyparová, the Supreme Audit Office of the Czech Republic

Audit on Bioenergy's Contribution to the EU Action on Climate Change by Mr Armando Do Jogo, the European Court of Auditors

12.35 – 13.00 Discussion and conclusion to plenary session

13.00 – 14.30 Lunch hosted by the Office of the Auditor General of Norway, Hotel Phoenix

PLENARY SESSION

14.30 – 15.45 Summary and conclusions from the workshops

APPENDIX 2: LIST OF PARTICIPANTS

	Country	SAI	Name	Position
1	Albania	State Supreme Audit	Mr Edvin Morava	Auditor expert
2	Albania	State Supreme Audit	Mr Kozma Kondakciu	Expert
3	Albania	State Supreme Audit	Ms Lubov Pano	External expert
4	Austria	Austrian Court of Audit	Dr Heinrich Lang	Director
5	Belgium	Belgian Court of Audit	Mr Christian Leflere	1st Auditor
6	Bulgaria	Bulgarian National Audit Office	Ms Darina Kyurteva	Senior Auditor
7	Bulgaria	Bulgarian National Audit Office	Ms Rossena Gadjeva	Chief Auditor
8	Cyprus	Audit Office of the Republic of Cyprus	Mr Akis Kikas	Senior Principal Auditor
9	Cyprus	Audit Office of the Republic of Cyprus	Ms Markella Koukkoulli	Audit Officer
10	Czech Republic	Supreme Audit Office	Ms Regina Charyparova	Auditor – methodologist
11	Czech Republic	Supreme Audit Office	Mr Štefan Kabátek,	Head of the Performance Audit Unit
12	Denmark	Rigsrevisionen	Mr Søren Bak	Head of Section
13	Denmark	Rigsrevisionen	Ms Philippa Krogh-Lund	Performance Auditor
14	Denmark	Rigsrevisionen	Mr Roman Smigielski	Senior Auditor
15	Denmark	Rigsrevisionen	Mr Yvan Pedersen	
16	EEA		Mr Andreas Barkman	Head of group mitigation
17	EEA		Mr Stéphane Isoard	Vulnerability and adaptation group
18	Estonia	INTOSAI WGEA	Ms Kairi Raudsepp	Senior Advisor INTOSAI WGEA
19	Estonia	National Audit Office of Estonia	Ms Airi Andresson	Senior Auditor
20	Estonia	National Audit Office of Estonia	Ms Kaire Kuldperre	Audit Manager
21	EU	ECA	Mr François Osete	Head of Cabinet of Mr Kikis Kazamias
22	EU	ECA	Mr Armando Do Jogo	Team leader Auditor

	Country	SAI	Name	Position
23	Georgia	Chamber of Control of Georgia	Mr Kezheradze Vakhtang	Senior Consultant
24	Georgia	Chamber of Control of Georgia	Mr Giorgi Kapanadze	Auditor
25	Germany	Bundesrechnungshof	Dr Thomas Weidmann	Senior Auditor
26	Germany	Bundesrechnungshof	Mr Bernd Rose	Auditor
27	Greece	Greek Court of Audit	Ms Athanasia Sidiropoulou	First Rank Judge
28	Hungary	State Audit office of Hungary	Dr Attila Zöldréti	Head of Division
29	Hungary	State Audit office of Hungary	Ms Ildikó Tóthné Salamon	Senior Advisor
30	The former Yugoslav Republic of Macedonia	State Audit Office Republic of Macedonia	Ms Tanja Tasevska	Assistant General State Auditor & Certified State Auditor
31	The former Yugoslav Republic of Macedonia	State Audit Office Republic of Macedonia	Ms Nada Bojadzievska	Senior Auditor
32	Malta	National Audit Office	Mr William Peplow	Audit Manager
33	Norway	EUROSAI WGEA	Ms Herdis Laupsa	Senior Audit Adviser
34	Norway	EUROSAI WGEA	Mr Tom Næss	Audit Adviser
35	Norway	Office of the Auditor General	Ms Kristine Lien Skog	Senior Audit Adviser
36	Norway	Office of the Auditor General	Dr Kristin Rypdal	Assistant Director General
37	Norway	Office of the Auditor General	Mr Ragnar Brevik	Audit Adviser
38	Norway	Office of the Auditor General	Ms Camilla C. Fredriksen	Audit Adviser
39	Norway	EUROSAI WGEA	Mr Yann de Caprona	Audit Adviser
40	Poland	Supreme Audit Office of the Republic of Poland	Ms Alicja Gruszecka	Advisor
41	Poland	Supreme Audit Office of the Republic of Poland	Mr Paweł Trzaskowski	Main audit specialist
42	Romania	Court of Accounts of Romania	Mr Mircea Popescu	Vice president
43	Romania	Court of Accounts of Romania	Mr Ioan Anton	Member of the court
44	Romania	Court of Accounts of Romania	Mr Dragos Budulac	Head of unit

	Country	SAI	Name	Position
45	The Russian Federation	Accounts Chamber of the Russian Federation	Mr Valery Brattsev	Director of the Department
46	The Russian Federation	Accounts Chamber of the Russian Federation	Ms Svetlana Shilovskaya	Chief inspector
47	Slovakia	Supreme Audit Office of the Slovak Republic	Mr Igor Blasko	Auditor
48	Slovenia	Court of Audit	Ms Jerneja Vrabič	Assistant to the State Supreme Auditor
49	Sweden	The Swedish National Audit Office	Mr Fredrik Engström	Audit Director
50	Sweden	The Swedish National Audit Office	Ms Anna Carlsson	Audit Director
51	Sweden	The Swedish National Audit Office	Ms Madeleine Nyman	Senior Auditor
52	Sweden	The Swedish National Audit Office	Ms Ann-Mari Skorpen	Audit Director
53	Sweden	The Swedish National Audit Office	Mr Hans Folkesson	Deputy Director
54	Switzerland	Swiss Federal Audit Office	Dr Martin Koci	Project Coordinator, Evaluation Unit
55	The Netherlands	Netherlands Court of Audit	Mr Rogier Zelle	Audit Manager
56	The Netherlands	Netherlands Court of Audit	Ms Lieke van der Sanden	Senior Auditor
57	Turkey	Turkish Court of Accounts	Dr Haci Omer Kose	Principal Auditor
58	The UK	National Audit Office	Ms Amanda Simpson	Audit Principal

APPENDIX 3: MATERIALS PRESENTED BY THE COURT OF ACCOUNTS OF ROMANIA

CLIMATE CHANGE – Actual general context

(Mircea Popescu, Ioan Anton, Dragoş Budulac)

INTRODUCTION

Between 7 to 18 December 2009, the 15-th session of the United Nations Framework Convention on Climate Change (COP 15) was held in Denmark, Copenhagen.

To determine the position of the European Union (EU) for the Conference, the Council of Europe (CE) has adopted the basic conclusions for negotiating an international agreement on climate protection, to take effect immediately after the Kyoto Protocol expiration. Following, we list some of the most important.

1. Preventing climate change calls for economic and social development through concerted and sustained efforts permitted by the regulatory framework of UNFCCC (*United Nations Framework Convention on Climate Change*). It is essential to focus on increased alliances and on the development of partnerships with developing countries, on the achievement of mutual benefits between developed and developing countries in the efforts to combat climate change and ensure the future security of biodiversity and eco-systems.
2. Council of Europe stressed the importance of the *recognition of key objectives on climate and energy*: such as maintaining less than 2 ° C the level of global warming and the reduction of at least 50% of global emissions by 2050, and in the developed countries, with 80% or more.
3. CE also emphasized the potential importance of agricultural activities on *poverty reduction, food security over long-term and, in this context, on the creation of a framework for adaptation*.
4. Of particular importance are the decisions concerning the integration of different policies and sustainable strategies for adapting to all levels and in all actions of cooperation and the public funding and development of specific structures in conjunction with various circumstances and priorities.
5. Regarding the regulatory framework necessary to strengthen the European climate change adaptation, we mention some basic requirements:
 - consistency and correlation between programs, institutions and international stakeholders, regional and national implementing adaptation policies, models of assessment and risk management and other related activities;
 - adequate financial support is essential to implement a comprehensive and coherent working framework to support the Copenhagen agreement on the basis of appropriate contributions from participating States;
 - establish an integration entity to provide for a consolidated picture of the sources of international financing for investments related to climate change, to revise the balance of the international distribution of public finances by priority, to include relevant actors to assist in this area and ensure synergy with other environmental agreements;
 - implementation of the EU strategy for disaster risk reduction in developing countries;
 - efforts to exploit synergies between the various international conventions to cooperate and integrate the effects of the climate change in the sense of the agreement in Copenhagen;

- develop comprehensive frameworks for climate services, in order to continue to expand cooperation in scientific research and systematic observation, and to develop and transfer technology and knowledge of adaptation actions, including regional climate scenarios for providing quality climate services;
- integrating adaptation into national planning, development of a knowledge base for adaptation, capitalizing experiences in areas supported by pilot projects, and monitoring, review and support adaptation actions, which involve information sharing among stakeholders.

With the implementation of the Copenhagen agreement, Member States have pledged to contribute an annual grant of 2.4 billion Euros for the years 2010 to 2012. UNFCCC Secretariat has estimated that by 2030 the total costs of adaptation for developing countries will reach between 23 and 54 billion EUR per year.

Meeting these requirements will be subject to continuous monitoring by the EC and regular review of the audit institutions of Europe.

2. AN AUDIT PERSPECTIVE ON THE EUROPEAN REGULATORY AND INSTITUTIONAL FRAMEWORK FOR ADAPTATION TO CLIMATE CHANGE

One of the major objectives of the Council of Europe regarding the implementation of environmental programs is reforming the system of environmental governance.

In this context, in April 2009, the European Commission has developed and presented the document The White Paper on climate change adaptation which proposes a framework of the European Union on the adaptation constraints imposed by the climate change and reduce the impact through concerted action of Member States, targeted to increase adaptability and to minimize impacts of climate change, through measures applied at national, regional or local levels.

CE objectives arising from this document are:

1. Building a European framework for climate change adaptation;
2. Policy and the working frame for adaptation measures to reduce vulnerabilities of EU the impact of climate change;
3. Creating a pan European platform for exchange of information between governments, agencies and organizations working to develop adaptation policies concerning the risks induced by climate change, impacts and best practices;
4. Adaptation measures for the implementation of policies at national and regional level, according to natural relief and the associated specific vulnerabilities;
5. Emphasizing the role of EU in terms of: providing financial support, assistance, providing advice and policy integration at European level.

2.1 Key elements of the EU framework on adaptation to climate change

The key elements of the EU framework on adaptation to climate change, arising from the review of European approaches are:

1. Improving the knowledge base available at the European level, on the observed phenomena that provide information about the impact of climate change across Europe. With all the measures taken so far, one can note that there are weaknesses concerning the provision of information from different regions and in the monitoring of environmental programs, the lack of scenarios reflecting the impact of climate change and the different awareness at the European level, of the socio-economic issues as well as the lack of cost-benefit analysis of various adaptation options, and insufficient information on best practices. Agriculture could be the first beneficiary of this knowledge base.

2. Reflecting the impact of climate change in key EU policies. Currently, there are many sectors with major involvement in the European policies concerning the climate risks and the adaptation measures to reduce long term vulnerability of sectors such as agriculture, forests, biodiversity, fisheries, energy, transport, water and health. This means using or creating mechanisms to allow decision makers to integrate climate risks in all relevant policy interventions.
3. Financing, involving various policy measures to achieve the best effect. Financial constraints constitute one of the main barriers for the adaptation to climate change, as reflected by the priorities of the current EU multiannual financial framework (2007-2013). Funds available, along with other financial services provided, and additional revenues generated through tax mechanisms (tax shifting) must reflect this priority.
4. International efforts to support adaptation to climate change. To remove the adverse effects already produced in some areas outside the EU imposes cooperation in support of adjustment programs, particularly through financial assistance programs in relevant sectors.

From the perspective of auditing, the European framework has a phase-oriented approach: (a) the implementation of four key elements (2009-2012) which will lead to developing a coherent EU adjustment strategy and (b) the implementation of the strategy (starting with 2012).

2.2 European Platform of exchange and access to information

The reference document of the EU framework concerning the adaptation to climate change, *The White Paper on climate change adaptation*, is proposing a European platform for exchange of and access to information called *Clearing House Mechanism* on climate change impacts. This will be implemented on the Internet, will improve the access to the information stored in a database through IT tools and will also facilitate the assessment of national, regional or local impacts of climate change. *Clearing House* will provide information on the basis of scenarios having as object the climate change for essential variables (temperature, precipitation, wind intensity and so on). For the next decades, their impact on different sectors (agriculture, tourism and so on), the resulting vulnerability for some regions of Europe, as well as indicators, impact assessment tools and best practices.

The *Clearing House Mechanism* will be operational in 2011 and will be integrated with the *Distributed Environment Information System* developed as a joint initiative of the European Commission and the European Environment Agency (EEA) to establish a common information systems context with the Member States concerning the environment. It will also connect with the information system GMES (*Global Monitoring for Environment and Security*) to provide for geographical information.

The most authorized source of scientific information about climate is *The Intergovernmental Panel on Climate Change* (IPCC), established in 1988 by the World Environment Organization (WMO) and the United Nations Environment Program (UNEP). The goal of IPCC is to assess, from a scientific, technical and socio-economic point of view, the relevant information, in a coherent, objective, transparent manner, concerning the climate change adaptation options and the associated potential impact as well as the mitigation of dangerous consequences, as a documentary, while also being a basic source for the audit.

2.3. The role of ecosystems in the rehabilitation required by climate change

Ecosystem-based adaptation is in most cases the best and most effective, as more as more services are provided for and synergy is promoted. Europe has developed a network of over 26,000 protected areas in all Member States, representing more than 20% of the territory of Europe, a network known as Nature 2000, the largest network of protected areas in the world.

2.4 Policies, strategies and programs related to EU framework on adaptation to climate change

Climate change issues transcend the limits set by borders. Therefore, EU policies should be integrated in all relevant international agreements and policies, such as: The European Neighbourhood Policy (ENP), The Comprehensive Agreement on Climate Change Copenhagen, The Global Climate Change Alliance, and other bilateral agreements.

In Copenhagen it was proposed that all developed or developing countries should implement coherent national strategies for adaptation and reduce the impact of climate change, should use the modern technologies and design support for the related strategies, should promote cooperation projects and create a dissemination environment for knowledge and technologies. A number of advanced Member States, such as Denmark, Finland, Germany, France, Hungary, Netherlands, Spain, Sweden, United Kingdom, have already adopted national strategies in this domain.

Also, as part of the agreement in Copenhagen it was proposed to create funding programs and to establish financing options for poor or developing countries. For emergency situations and disaster risk reduction the adoption of a funding mechanism to react immediately has been proposed – *Global Climate Financing Mechanism (GCFM)*. This will allow the funding of priority actions related to climate (approximately 1 billion per year for 2010-2014) and will represent a significant area of audit.

At the level of the EU responsible institutions, environmental initiatives were formulated and appropriate measures were taken to support the European framework for adapting to climate change. These are summarized below:

- Launch of large scale research and development actions that integrate physical models and projects on adaptation to climate change in an economic model that quantifies the impact of climate change on vulnerable issues in Europe;
- Develop lines of actions, guidelines and methodologies concerning the management of the adaptation to climate change;
- Rising the awareness of global climate change substance and of the impact over regional and sectoral level;
- The foundation of climate change adaptation decisions on sound scientific and economic analysis. At the European level a package of political measures has been initiated in order to reduce the emissions of greenhouse effect gases through the *ECCP (European Climate Change Program)*, involving all Member States, to implement their own measures, either complementary or converging to explore low cost options, in synergy with the *Lisbon Strategy* as regards the economic growth and job creation, which constitute also basic targets for the audit.

The *Council on environmental issues* held in Brussels in December 2009, after the Copenhagen Conference, set forth the priorities of the Council of Europe in the quality of the environment, summarized by the following phrases:

- (a) eco-efficient economy (environmental and economic): green economy, new products, new energy sources;
- (b) reconciliation of areas: common, consistent and convergent policies;
- (c) cross-compliance;
- (d) modern technologies of communication and dissemination of environmental information;
- (f) computerized reporting procedures.

APPENDIX 4: MATERIALS PRESENTED BY THE ACCOUNTS CHAMBER OF THE RUSSIAN FEDERATION

AUDITING CLIMATE CHANGE

Materials to “Adaptation Audit” Seminar

Today’s seminar shows our special attention to the issue of auditing climate change adaptation and also confirms the need to exchange our experience and knowledge in this area.

The current problem of the man-induced climate change, that has been especially explicit over the last 15 years, has a global nature. Local consequences, namely heat waves, dry spells, storms, floods, depend on high concentration of greenhouse gases in the atmosphere as such, but not only in the sky above this or that country.

Awareness of the need to take joint steps is very important now.

On December 17, 2009 Dmitry Medvedev, the President of Russia, adopted the Climatic Doctrine of the Russian Federation. This Climatic Doctrine is a fundamental document for the state policy of Russia related to the issues of possible global and regional climate change and its consequences. The above factors determined the need to account climate change as one of the key long-term safety factors of the Russian Federation and posed the problem of global climate change as one of the top priorities for the Russian Federation policy.

The Accounts Chamber of the Russian Federation audits climate change and considers issues of auditing adaptation.

In our view, the target of the audit of adaptation to the climate change must be assessment of efficiency of the climatic policy pursued by the Government of the Russian Federation. In order to achieve this goal the following items shall be audited:

- special-purpose programme approved by the Government Decree of the Russian Federation and aimed at investigation climate change in Russia;
- execution of legal foundations and mechanisms of government regulations aimed at mitigation of anthropogenic impact on global climate system.

In 2009 the Accounts Chamber of the Russian Federation audited efficiency of the public spending allocated for ensuring compliance to Kyoto Protocol commitments under the UN Framework Convention on Climate Change. The following issues were considered during this audit:

1. Analysis of the documents adopted for meeting commitments of the Russian Federation under the Kyoto Protocol and the UN Framework Convention on Climate Change.
2. Compliance with the regulatory acts of the Russian Federation for implementing commitments of the Russian Federation under the Kyoto Protocol (industrial regulation of greenhouse gas emissions). Measures aimed at increasing energy efficiency in relevant sectors of national economy. Elaboration of the strategy to prevent adverse climate changes and their negative effects for the period after 2012.
3. Analysis of the use of funds, including federal budget funds, allocated for meeting the commitments of the Russian Federation on preventive measures to adapt the economy to climate changes.

4. Efficiency use of federal budget funds, allocated by federal executive bodies in the specific areas of activities for meeting the commitments of the Russian Federation under the UN Framework Convention on Climate Change and the Kyoto Protocol.

The audited bodies are executive bodies, public authorities on ecology and natural resources use.

The subject of climate change audit comprises the following: regulations and other documents adopted in the sphere of climate change; information received by the Accounts Chamber by request from the corresponding ministries, agencies and other organizations; financial reports, statistical and other data and indicators relevant to participation of the Russian Federation in the Kyoto Protocol and the UN Framework Convention on Climate Change; reports on special purpose audits and revisions; opinion on draft budget for the following year; data of the operational control; reporting and statistical materials on the activities of the subordinated entities.

The audit held by the Accounts Chamber of Russia for the year 2009 resulted in the following conclusions.

In the Russian Federation major part of the emissions covered by the Kyoto protocol, i.e. over 80 percent is generated in the so-called "Energy" sector. This includes all the emissions related to production, storage, transportation and use of fossil fuels – coal, oil, gas, and their conversion products, plus the wastage and leakage of fuel. Next come emissions related to agriculture (cattle breeding and agricultural soils), then emissions generated by industrial technologies and utilization of industrial products. The situation in the agricultural sector attracts attention, as emissions have remained stable here since 1998. This is due to stable cattle stock, which is a major source of methane, and high price of mineral fertilizers which restricts their application and thus the emissions from agricultural soils. (See figure 1).

Due to the production growth, emissions have been going up since 1999. In 2006, as a result of increased consumption of energy resources, the total emissions in the Russian Federation was 65.8% compared to the reference indicator of 1990. According to rough expert estimates, increase in emissions also continued in 2008, while in 2009 the emissions dropped due to the economic crunch.

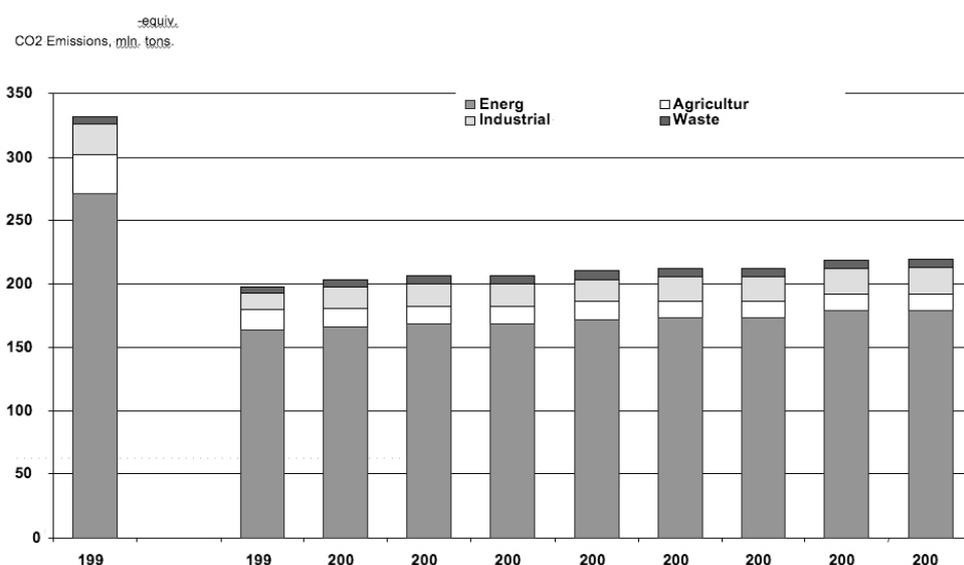


FIGURE 1.

We'd like to emphasize that renovation of production capacities in the Russian Federation, introduction of advanced efficient technologies in energy generation and consumption can limit greenhouse gas emissions to the reference level until 2020. (See figure 2)

**Dynamics of greenhouse gas emissions, 1990-2015
(facts and forecasts), mln. tons CO2 equiv.**

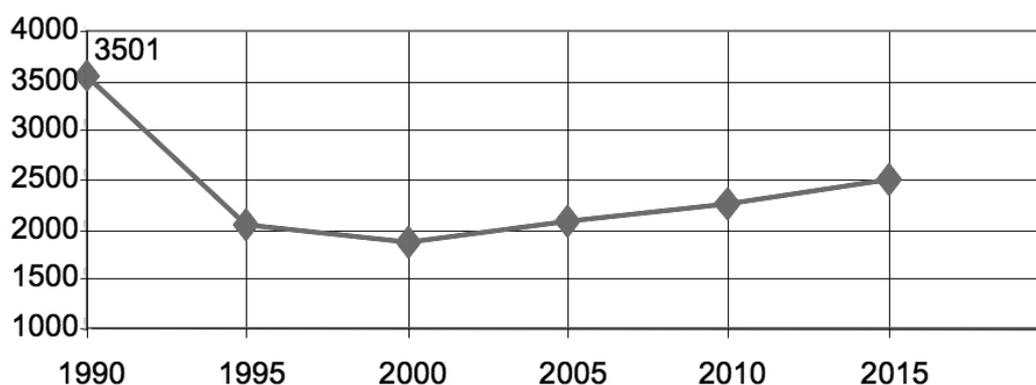


FIGURE 2.

On January 1, 2008 started the first period of Kyoto commitments implementation.

According to the commitments, all the member countries need to develop their own legal frameworks for regulation of greenhouse gas emissions, including those supporting the national carbon markets. Following ratification of the Kyoto Protocol, Russia adopted relevant documents to meet the commitments.

In 2006 there was created a national system for estimating man-induced emissions per sources and their absorption by greenhouse gas sinks. Operation of the estimation system as well as submission of the National Cadastre in line with the Kyoto Protocol was entrusted to an executive body (Hydrometeorology and Environmental Monitoring Agency of the Russian Federation). The National Cadastre of Man-Induced Greenhouse gas Emissions was submitted annually to the Secretariat of the UN Climate Change Convention.

Also it was determined that the estimation system was funded from the federal budget (see table 1).

TABLE 1.

Commitments of the Russian Federation under the Kyoto Protocol:
1. Stabilization of man-induced greenhouse gas emissions by 2000 on the level of 1990.
2. Development, regular update, publication of the National Cadastre of man-induced emissions per sources and their absorption by greenhouse gas sinks.
3. Definition, execution, publication and regular update of national and regional programmes, describing measures on reduction of greenhouse gas emissions.
4. Submission of the National Communications to the Conference of the Parties via the UN FCCC Secretariat on the regular basis (every three years).

In the sphere of emissions trading the concept of reserving certain part of emissions for the period of the commitments validity (2008-2012 inclusively) was adopted. This means that by the beginning of 2013 one can sell either all emissions available for trading registered in the latest inventory (probably, that of 2007), or 10 per cent of the total emissions of the country in 1990 (whichever is the greater).

In fact, this approach allowed has selling as many emissions as permitted by the economical development of the country and global market environment since 2008.

The crucial importance is that all the emissions (except for the so-called "forest" emissions and emissions of the international projects) can be accumulated and shifted to the next period of commitments. This allows regulation of the Russian market by limiting the offered emissions and their accumulating in the next period of 2013 – 2017, when the aggregate emissions of the Russian Federation can potentially exceed the limit set by the Kyoto Protocol.

Most Russian experts agree that the post-ratification implementation of the Kyoto protocol in Russia was quite smooth. As far as subsequent agreements are concerned, they could entail commitments on further reduction of greenhouse gas emissions in future periods. This will require reduction of fossil fuels consumption, in particular coal, oil and gas.

During the G8 summit held in Italy in July 2009, Russia declared in its statement that greenhouse gas emissions in the Russian Federation by 2020 will not exceed 85-90% compared to the level of 1990, while by 2050 the emissions will not exceed 50% compared to the level of 1990. In particular, it was stated that Russia will reduce the emissions over 30 years (from 1990 to 2020) by 10-15 percent, or by 30 billion tons of carbon.

The expected climate changes shall by all means influence life of people, animal and vegetal life in every region, and in certain regions they will become a significant threat for well-being of people and for sustainable development.

One of the key tasks for Russia in terms of climate change is development and implementation of long-term measures on adaptation to climate changes. In this respect the following risk assessments become the main aspects of development and planning the audit on climate change adaptation:

- vulnerabilities to adverse effects of climate changes and risks of relevant losses;
- possible benefits from positive climate changes;
- investment capacity, efficiency (including economic efficiency) and practical feasibility of corresponding adaptation measures;
- adaptation potential with regard to the economic, social and other significant factors relevant for the state, sectors of economy, population and separate social groups.

One of the priorities for Russia in terms of climate change is the *anticipatory adaptation* to the consequences of climatic changes.

For this purpose, it is advisable to consider efficiency of measures in audit framework ensuring the following:

- energy efficiency improvement in every sector of national economy;
- promotion of renewable and alternative energy sources;
- reduction in market imbalance, implementation of financial and fiscal policy measures to encourage reduction of antropogent greenhouse gas emissions;
- protection and quality of greenhouse gas sinks and accumulators, including regional forest management, tree-planting and forest regeneration on regular basis.

When planning audits of climate change adaptation it's important to define items of the audit programme, main of which may comprise:

- analysis and evaluation of past and present state of climatic system;
- assessment of anthropogenic impact factors upon the climate;
- forecasting changes in climate and their potential impact upon quality of life in the Russian Federation and other regions of the globe;
- assessing the degree of safety and vulnerability of ecological systems, economy, population, governmental institutions and state infrastructure in relation to climate change and current possibilities of adaptation thereto;
- assessment of the possibilities for mitigation of anthropogenic impact upon climate;
- assessment of negative and positive effects of expected climate change.

The following can be mentioned among negative effects of climate change in the Russian Federation:

- increased health risks (infection rate and fatality rate) among certain social groups of population;
- increased frequency, intensity and duration of dry spells in some regions, increased extreme precipitations, floods, excessive water saturation harmful for agricultural sector in other regions;
- increased fire danger in forest areas;
- degradation of permafrost in northern regions detrimental to facilities and communications;
- violation of environmental balance, including replacement of species;
- spreading infectious and parasitic diseases;
- increased consumption of electricity on air conditioning in summer period for majority of the populated areas.

The following can be mentioned among possible positive effects of climate change in the Russian Federation, these factors present a significant potential for efficient industrial and regional economic development:

- reduced energy consumption in heating period;
- improved ice conditions and thus improved cargo transportation conditions in arctic seas, facilitated access to and development of arctic shelf blocks;
- improved structure and expanded regions of crop production, increased efficiency of cattle breeding (subject to a number of additional conditions and specific measures);
- increased productivity of boreal forest.

These are the issues related to climate change that need to be considered when planning adaptation audits.

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APPENDIX 5: MATERIALS PRESENTED BY THE COURT OF AUDIT OF THE NETHERLANDS

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Date	10 November 2009
Subject	Audit findings on Weak Links in Coastal Defences Programme

We are writing to inform you of the findings of our audit into the execution of the Weak Links in Coastal Defences Programme, which is part of the Flood Risk Management Programme. The audit concentrated on the cost aspect.

We are concurrently publishing a diagram in poster form showing various findings of our audit into the Weak Links in Coastal Defences Programme, as well as a number of sub-projects which are being performed as part of this Programme. The poster is appended to this letter.

Our audit was triggered by the proposals made by the Veerman Committee¹ on the state of the country's long-term water defences. The adoption of an integrated approach is one of the cornerstones of these proposals. In other words, the committee urged the government to improve the country's sea and river defences and at the same time to take action in other areas such as housing, employment, nature conservation and energy. The Weak Links in Coastal Defences Programme shows, albeit on a small scale, how such an integrated approach might work in practice, as it involves strengthening the seawalls and making certain improvements in the spatial environment at the same time. We believe that the execution of this programme should help to illustrate the likely impact of implementing the other recommendations made by the Veerman Committee.

Based on the findings of our audit, we would like to draw your attention to five points that may have a bearing on flood risk management projects undertaken in the future. These are as follows:

- an integrated approach to planning;
- the additional cost of an integrated approach;
- cost control by the regional water authorities;
- knowledge management by the Directorate-General for Public Works and Water Management;
- the demand for and supply of consolidation sand.

Before examining each of these points in detail, we should first like to outline the background of the Weak Links in Coastal Defences Programme.

¹ This is the committee otherwise known as the Delta Committee chaired by Professor C.P. Veerman. The committee reported to the government at the end of 2008 on a number of matters, including the long-term protection of the Dutch coastline and the hinterland against the effects of a rise in the sea level.

Background of the Weak Links in Coastal Defences Programme

In 2003, a joint study performed by the Directorate-General for Public Works and Water Management and the regional water authorities showed that there were ten points on the North Sea coast where the protection provided by the seawall was no longer up to standard. The Secretary of State for Transport, Public Works and Water Management decided, in consultation with the agencies responsible for maintaining the country's water defences, that the latter should be improved at the points in question to bring them into line with current standards of coastal protection by 2020 at the latest. The authorities decided that they would make certain improvements to the spatial environment at eight of these locations at the same time.

The resulting deliberations culminated in what is now known as the Weak Links in Coastal Defences Programme. The Programme seeks to bring about simultaneous improvements in both the quality of the country's sea defences and the quality of the spatial environment. The idea now is to strengthen the coast at the ten locations in question by the year 2015. The Ministry of Transport, Public Works and Water Management is paying for the project, at least in so far as it involves the strengthening of sea defences. A sum of €743 million has been set aside to this end. Local authorities are paying, in some case in partnership with private-sector parties, for the work leading to improvements in the spatial environment.

An integrated approach to planning

The Veerman Committee's report emphasised the linkages between coastal protection and other aspects such as employment, housing, farming, nature conservation, recreation, landscape formation, the infrastructure and energy.

Planning and executing an integrated policy, i.e. a policy that seeks to achieve a number of simultaneous goals, is a complex business that requires a high standard of programme management. This is because every additional policy objective comes with new stakeholders all of whom need to be properly consulted in good time.

The latter point is particularly relevant here. Even though the projects hitherto undertaken as part of the Weak Links in Coastal Defences Programme have been relatively limited in scope (in terms of the degree of protection and the quality improvements they seek to achieve) compared with the aims of the Veerman Committee, they have nonetheless proved difficult enough to accomplish in practice.

The Weak Links in Coastal Defences Programme was planned in 2004. In March 2006, the State Secretary for Transport, Public Works and Water Management explicitly informed the regional water authorities and provincial authorities involved that the Ministry was prepared to pay only for the cost of improving the sea defences, and that the local authorities would themselves have to pay for the entire cost of any work undertaken in order to improve the quality of the spatial environment. Until then, it had not been clear to local authorities whether any improvements in the spatial environment would be eligible for financial support from the Ministry of Transport, Public Works and Water Management and, if so, which particular sub-projects would qualify.

It is vital that the State Secretary for Transport, Public Works and Water Management should make absolutely clear, from the very outset of a comprehensive, integrated programme such as the Weak Links in Coastal Defences Programme, how this type of key issue is to be dealt with. Providing clarity about the distribution of funding can only help to speed up the execution of the programme.

The additional cost of an integrated approach

In order to achieve the desired improvements in the quality of the spatial environment in the vicinity of the coastal sites in question, the Ministry of Transport, Public Works and Water Management has frequently approved solutions that are costlier than more modest alternatives that would nonetheless have met the relevant safety standards. This applies particularly to the use of consolidation sand, the option frequently preferred by the Ministry. The practice of sand infill has two advantages: in addition to meeting the Ministry's need to protect public safety, it offers local authorities better opportunities than other options for improving the quality of the spatial environment. The use of consolidation sand for beach recharging generally costs more than it would to build or strengthen a dyke, two options which serve the single purpose of complying with safety standards.

The Ministry of Transport, Public Works and Water Management pays for the additional cost of these more expensive safety solutions. After consulting the Ministry, the Court of Audit has estimated this additional cost at approximately €107 million (reflecting the situation as at July 2009).

The adoption of an integrated approach to the improvement of the nation's sea defences, an approach which also leaves scope for improving the quality of the spatial environment, is the result of a political decision that we do not wish to contest. We do wish to make clear, however, that such an approach may result in a higher level of expenditure on coastal defences than is required merely to comply with the relevant safety criteria.

In our view, this type of approach needs to meet two basic requirements. First, if an integrated approach does indeed lead to a higher level of spending on the government's coastal defence policy, this should be made absolutely clear. The minister or state secretary concerned should properly inform the House of Representatives of all the cost implications, and also be able to demonstrate the social benefits the additional spending is expected to generate.

This brings us to the second point, which is that the additional cost should be reasonably proportionate to the additional benefits (in this particular case, in terms of the degree of improvement in the quality of the spatial environment). We would not wish to set a target for this ratio; as we have already pointed out, this is basically a political decision. But we do feel that it should be possible to revert to less costly alternatives that seek only to comply with safety standards if a social cost-benefit analysis suggests that the social benefits of the preferred option (based on an integrated approach) are not in reasonable proportion to the extra cost.

Cost control by the regional water authorities

The regional water authorities are responsible for costing and executing the coastal defence projects undertaken as part of the Weak Links in Coastal Defences Programme. However, they are not being given enough incentives at present to perform this role in an efficient manner. The problem is that the Ministry of Transport, Public Works and Water Management refunds all construction and administrative costs. Under the applicable ministerial order, the regional water authorities are entitled to add a 15% mark-up to the construction costs to cover their own administrative expenses.² If the latter work out at a lower figure in practice, the Ministry has no means of recovering the difference.

In the first place, the current rules do not encourage the water boards to take a critical look at their own administrative expenses. Secondly, the rules are more of an incentive for the water boards to raise their construction costs than to contain them. We do welcome the fact, on the other hand, that the State Secretary for Transport, Public Works and Water Management has agreed with the

² Order on Special Grants for Sea Defences and Water Management, 2 February 2006.

water boards that the latter should charge a lower mark-up if this is feasible. The State Secretary could go one step further, for example by introducing a system under which the water boards were only entitled charge for administrative expenses they had actually incurred.

Knowledge management by the Directorate-General for Public Works and Water Management

Both the Directorate-General for Public Works and Water Management and the regional water authorities make considerable use of external consultants for the purpose of implementing the Weak Links in Coastal Defences Programme. For example, the Directorate-General for Public Works and Water Management has engaged consultant engineers to assess the cost estimates produced by the water boards. The same applies to the Construction Department at the Directorate-General for Public Works and Water Management, which has asked various firms of consultant engineers to devise standard pricing arrangements as part of the preparations for the Flood Risk Management Programme. In the light of the Delta Programme and other major civil engineering works planned for the future, the Ministry of Transport, Public Works and Water Management needs to build up an adequate stock of in-house expertise. This would also give the Directorate-General for Public Works and Water Management access to the expertise it needs in order to perform its role as a commissioning authority.

Demand for and supply of consolidation sand

Given that the price of consolidation sand is a major factor, the government needs to pursue a coherent and carefully thought-out purchasing strategy. Virtually all the solutions the government has designated as its preferred options for the Weak Links in Coastal Defences Programme are based on the principle of using consolidation sand to strengthen beaches and/or dunes. As a result, the price of consolidation sand has a big impact on the cost of the programme. At the same time, the price of sand is also liable to high fluctuation. When the programme was first launched, market prices were running at around €3 per m³. This proved to be an all-time low, however, and by the end of 2008 market prices were generally over €7 per m³. Given that tens of millions of cubic metres of sand are required to effectuate the government's preferred solutions, a rise in the price of sand brings with it a risk of a swingeing increase in costs as compared with previous estimates.

As an added complication, various Dutch government bodies will be inviting tenders for a number of big beach-recharging projects in the years ahead. These invitations will be going out at more or less the same time. For example, apart from for the Weak Links in Coastal Defences Programme, sand is also required for routine coastline strengthening and also for the construction of Maasvlakte 2 (an area of reclaimed land sea offshore of the Meuse estuary). As there are only a small number of sand suppliers in the Netherlands, a lack of coordination on the demand side could have the effect of pushing up prices unnecessarily, perhaps even much higher. Incidentally, this is not just a factor that needs to be taken into consideration in planning the Weak Links in Coastal Defences Programme. It will also affect future water-related programmes later on in the 21st century as proposed by the Veerman Committee.

In short, the price of sand has such a huge impact that a coherent and carefully thought-out purchasing strategy is required.

In this light, it might be worth being rather more flexible about the 2015 deadline for the completion of the Weak Links in Coastal Defences Programme, safety considerations permitting. This would make it easier to make allowance for market factors when inviting suppliers to tender for contracts. Longer throughput times would also enable suppliers to spread the deployment of their equipment over a number of projects, thus potentially reducing costs.

Response of the State Secretary for Transport, Public Works and Water Management

On 3 November 2009, the State Secretary for Transport, Public Works and Water Management responded to the points we raised in our letter. Her response is summarised below.³

The State Secretary assured us that, in preparing for the Delta Programme, a proper mechanism for programme management was put in place. She said it was vitally important to ensure that there was clarity about the distribution of costs.

The State Secretary said she was aware that integrated approaches could result in higher spending on safety. She felt this was justified if such spending generated a clear added value in the long term. Having said this, the State Secretary pointed out that it was not always possible to quantify this type of added value, as it was hard to attach a value to the quality of the spatial environment, thus making it difficult to measure the economic impact of a given programme. The State Secretary undertook to inform the House of Representatives about both the additional cost of projects and the additional social benefits they were expected to generate. She agreed with us that it should be possible to revert to less costly alternatives if the social benefits of the preferred option proved less than initially projected.

The State Secretary said that she was planning to review the 15% mark-up fee charged by the regional water authorities before the start of the next Flood Risk Management Programme in 2012. In doing so, she said, she would also look into the possibility of adopting a system in which the Ministry paid only for the costs actually incurred.

The State Secretary also claimed that the Directorate-General for Public Works and Water Management was fully aware that, in order to be a competent commissioning authority, it needed to have adequate in-house expertise. Indeed, this was one of the reasons for the reorganisation undertaken by the Directorate-General in recent years.

Finally, the State Secretary said that the Directorate-General had for some time been aware of the high price of sand used for consolidation purposes, and was currently developing a purchasing strategy specifically for consolidation sand.

Afterword of Court of Audit

We note that the State Secretary accepts the points raised in our letter. We particularly welcome her assurance that, in making preparations for the Delta Programme, she intends to ensure that clear arrangements are made about the distribution of costs. We also welcome her pledge to inform the House of Representatives about both the additional cost of plans based on an integrated approach and the additional social benefits such plans are expected to generate. We look forward to reading the strategy document the Directorate-General for Public Works and Water Management is planning to publish about the supply of and demand for consolidation sand.

Netherlands Court of Audit

[signed]
Saskia J. Stuiveling
President

[signed]
Dr Ellen M.A. van Schoten RA,
Secretary-General

³ We have posted the full text of her letter on our website (www.rekenkamer.nl, available in Dutch only).

APPENDIX 6: RESULTS OF THE MEETING EVALUATION

Summary

We have analyzed the seminar evaluations forms, and would like to thank you for taking the time to respond.

Based on participants' evaluation, the seminar could be considered a success. The seminar received an overall score of 4,5 out of 5 from participants. The evaluation specifies that participants were particularly satisfied with workshops as suitable arenas for exchange of experience and knowledge. Based on evaluations of previous meetings, the participants' satisfaction with discussions and exchange of experiences has improved. However, we can still see that there is a challenge to have enough time for discussions.

The results will be used when planning for the next EUROSAT WGEA meetings and seminars.

Results per question

Below you will find the average score for the questions where the respondents were asked to rate the questions on a scale between 1 and 5, where 1 indicated not at all and 5 indicated completely. For open-ended question, we have summarised the responses mentioned most frequently.

The meeting was held in order for the participants to:

Exchange knowledge and experience in the field of auditing climate change with focus on adaptation, flexible mechanisms and auditing energy sector policies.

1. Please indicate which workshop you took part in?
2. To what extent do you think the meeting objective was achieved? *Average score: 4,3*
3. Was the programme of the meeting adequate to meet this objective? *Average score: 4,5*
4. How did you find the plenary sessions? *Average score: 4,5*
5. How did you find the discussions and exchange of experiences among participants in the workshop you participated in? *Average score: 4,6*
6. How was the quality of the meeting facilities? *Average score: 4,5*
7. What is your overall rating of this meeting? *Average score: 4,5*
8. What do you think could have been improved in this meeting? *More time for discussions.*

