

State's efforts of reducing greenhouse gas emissions

International obligations binding upon Estonia

1. According to the UN Framework Convention on Climate Change (Estonia ratified it in 1994) and the Kyoto Protocol, through 2008-2012 Estonia is obligated to reduce greenhouse gas emissions (hereinafter GHG) by 8% in comparison with the level of 1990. Estonia has achieved the reduction required in the Kyoto Protocol: in comparison with the level of 1990 the GHG have fallen nearly 47%. The main reason lies in the volumes of industrial output which have fallen considerably. At the same time the carbon intensity of the Estonian economy still remains very high.
2. In addition to the obligations assumed in the Kyoto Protocol, in the Climate Package approved at the end of 2008 the European Union set to reduce the GHG by 20% in comparison with the level of 1990 (30% if an agreement is reached at the conference of the contracting parties to the Framework Convention on Climate Change in Copenhagen in December 2009). Out of the reduction obligations the stricter rules of GHG trading affects Estonia, especially energy production, the most: due to the GHG quota production of electricity from oil shale will be more expensive in the EU's energy market to be opened in 2013 and thus, less competitive.

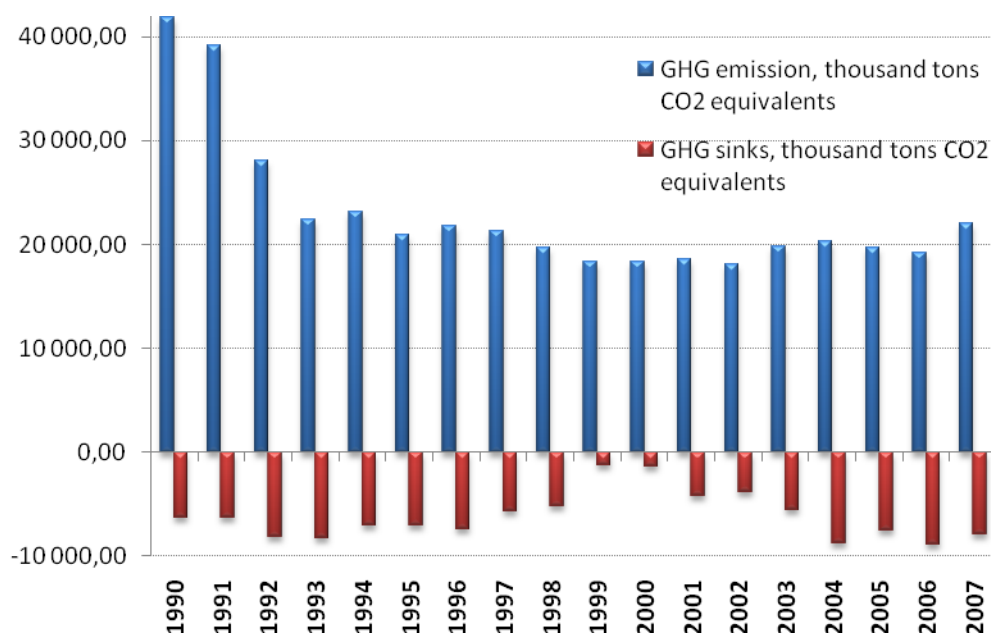
Greenhouse gas emissions in Estonia

3. In 2006 greenhouse gas emissions amounted to:
 - 18.9 million tons of the CO₂ equivalent in Estonia, 14 tons of the CO₂ equivalent per resident (22 million tons and 17 tons, respectively, in 2007).
 - Estonian greenhouse gas emissions amounts to 0.4% of the quantity of the greenhouse gas emissions of the EU 27, but the emission per resident is higher than the average of the European Union.

86% of the greenhouse gas emissions in Estonia is created upon production of electricity and heat, because the main raw material is oil shale which has a high carbon content.

4. The GHG emissions and sinks in Estonia have been given in Chart 1.

Chart 1. Emissions 1990-2007 submitted in GHG inventory reports



Source: 2009 GG inventory

Management of activities aimed at reduction of greenhouse gases

State's overview of greenhouse gas emissions needs improvement

5. As a party to the UN Framework Convention on Climate Change Estonia is obligated to calculate the GHG and absorbed quantities by sectors of the economy (GHG inventory). The Ministry of the Environment is responsible for inventories and reports. In order to carry out the inventory agreements are signed with experts most of whom work in research institutions.

6. According to the National Audit Office (NAO), the calculation (inventory) of GHG is accurate and reliable if:

- the emissions or absorbed quantities of greenhouse gases are calculated on the basis of all the sectors where they may be generated¹;
- the inventory report complies with the requirements set out in the applicable manual of the UN Climate Secretariat.²

7. In the course of the audit the NAO found that Estonia's GHG may be higher than declared. The audit showed that the GHG generated have not been taken into account in all sectors of the economy or not all pollutants generated have been covered. For instance, the GHG caused upon the use of solvents, in the metal industry and upon production of glass have not been assessed. The reasons for not covering the data

¹ Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories: Reporting Instructions.

² Kyoto Protocol Reference Manual on Accounting of Emissions and Assigned Amount, the document also sets out additional conditions.

mentioned by the persons who carried out the inventory include poor availability of source data and lack of methodology. Also the fact that the inventory data of previous years has been extensively corrected afterwards indicates that there are deficiencies in the calculation of GHG.

8. Furthermore, the NAO found deficiencies in methodology of calculating GHG sinks arising from forestry, as a result of which the share of sinks has been estimated higher than it actually is. Also, the calculation of CO₂ emissions and absorption arising from land use needs improvement, because not all quantities of the gases generated and absorbed have been assessed. In the framework of its checks³ the UN Climate Secretariat has for several years in a row pointed out that Estonia uses country-specific (TIER 2) methodologies too little upon carrying out inventory checks of forestry and land use as well as in other areas. At the same time the UN Climate Secretariat has confirmed that by and large the Estonian inventory is in conformity with the requirements.

9. According to the NAO, the problems related to the quality of the inventory checks are caused primarily by the fact that the Ministry of the Environment has underestimated the importance of the area and there is a lack of coordination and resources. Development and improvement of inventory checks has not been a priority for the Ministry of the Environment.

The state does not know how much the greenhouse gas quantities could be reduced and how much it is necessary to reduce them

10. Adequate and realistic goals related to GHG can be set only if various ministries cooperate and the impact of the implemented and planned activities on the total GHG emission as well as future forecasts are known. Activities of a greater impact should be implemented first, because otherwise the state's as well as undertakings' money is wasted. The goals related to the GHG should, in addition to the overall action plan, be written in the action plan of the sectors influencing GHG.

11. Estonia lacks a proper action plan for reduction of greenhouse gas emissions as well as the goal of how much the emissions should change in the future. In the reports submitted to the UN Climate Secretariat and the EU the Ministry of the Environment consistently refers to the GHG reduction programme approved in 2003 and the measures described therein. However, in the context of drawing up the national allocation plan the same ministry has in 2006 said to the European Commission that the document requires immediate updating, because the source data about the economy and emissions used upon making calculations are not up to date and the listed measures for reduction of greenhouse gas emissions should be reviewed as well.

12. The absence of a long-term GHG reduction plan and the uncoordinated activities arising therefrom would not be such a huge problem if each action plan affecting the GHG would set out its own GHG-related goals. However, the NAO's analysis showed that there are no clear GHG-related numerical goals in the documents and mostly it has not been evaluated how extensively the activities of these plans affect the generation of GHG. In development plans GHG have in general terms been mentioned next to activities which potentially have a GHG-reducing impact: for

³ Reports of the individual review of the greenhouse gas inventory of Estonia submitted in 2006, 2007 and 2009.

instance, according to the National Rural Development Plan, the growing of energy wood has a positive impact on the reduction of GHG; according to the National Transport Development Plan, development of public transport reduces emissions. According to the NAO, such a status of the development plan shows that the Ministry of the Environment has been unable to coordinate the setting of goals for reduction of GHG in various national strategies.

13. The state's failure to coordinate the activity results in the risk that emissions cannot be controlled and instead of the lead gained at the expense of the reduction of production in comparison with the 1990's the stricter EU requirements will start to hamper the development of the economy and carbon-intense production will no longer be competitive. According to the recent inventory report, GHG rose by 2007 by 17% in comparison with 1999. The goals formulated in the EU's Climate and Energy Package and recent decisions to cut the GHG trading allocation plan showed that the EU is demanding that all the member States make efforts to reduce GHG. In spite of clear signals various Estonian ministries have not yet come to a common understanding that GHG must be reduced.

14. Since the state does not know how effective the measures of reduction of GHG have been so far, there is a risk that ill-considered and wrong choices will be made. For instance, since production of electricity from oil shale will no longer be competitive in the future due to its high carbon intensity, the state is considering production of nuclear energy for billions; at the same time the state does not know how much of the future energy needs could be covered through energy efficiency or using renewable energy sources.

Forecasts of greenhouse gas emissions are not realistic

15. The state needs GHG forecasts in order to know whether one is moving in the right direction in controlling GHG through the existing measures.

16. Although future scenarios have been submitted to the UN Climate Secretariat since 1998, no thorough analyses have been carried out in Estonia yet. In 2007 Estonia undertook to submit to the European Commission more detailed scenarios which would, among other things, separately describe the impact of each measure on the GHG emissions and generation of GHG by sources in 2010, 2015 and 2020. The submitted forecast did not comply with the requirements of the EU legislation as a result of which the European Commission brought an infringement procedure against Estonia in October 2007.⁴

17. Estonia accepted the accusations of the Commission and promised to eliminate the deficiencies of the report by the end of 2008.

The last updated version of the forecast was submitted to the European Commission by May 2009. According to the NAO, it still contains serious deficiencies: the modelling focused only on predicting the future of energy, failing to take into account the impact of the measures suggested in the national strategies. Furthermore, upon modelling energy not all conditions characteristic of Estonia and substantial known developments, e.g. the opening of the energy market, electricity export, expansion of

⁴ Infringement procedure No. 2007/2349.

use of oil shale, etc. were taken into account. Therefore the NAO finds that the current forecasts do not indicate what the GHG in Estonia could be like in the future.

18. The GHG forecasts are in principle similar to impact assessments of activities in the strategies. If upon preparation of the GHG reduction action plan or sector strategies it had been evaluated how much the planned activities may impact GHG, the future figures could be put together quite easily on the basis of this data. But since this has not been done, it is the duty of the Ministry of the Environment to organise the assessment of the effectiveness of the measures affecting GHG quantities in the short term and long term. Other ministries have so far not contributed to preparation of the forecasts.

19. Without knowing the trends the Ministry of the Environment is unable to prepare a new action plan for reduction of GHG.

Trading in emission allowances

20. The Estonian National Allocation Plan of the first trading period of the EU (2005-2007) for emission trading was prepared on the initiative of the Ministry of the Environment in 2004 and according to it the quantity of national emission allowances was 56,859,003 tons of the CO₂ equivalent over a period of 3 years (approx. 20 million tons a year). Since undertakings emitted much less, they could sell the emission allowances. The EU's emissions trading system helps to reduce emissions if the income received from trading is invested in more environmentally friendly technologies; at the same time EU legislation does not specifically obligate to do so. The Estonian state did not order undertakings to invest the money obtained from trading in reducing GHG. When the Member States of the EU submitted to the European Commission their national emission allowances applications for upcoming trading period beginning in 2008 (2008-2012), the applications of many states (incl. Estonia) were not approved, because it was found that the number of allowances applied for was too high.

The state has failed to use allocation plan as a tool for promoting greenhouse gas emission reductions

21. The Emissions Trading Directive of the EU demands that upon drawing up an allocation plan the Member State must proceed from the goal of reduction of carbon intensity, i.e. upon distribution of the allowances the actual potential of undertakings for reduction of emissions must be taken into account. A reserve must be planned for newcomers and joint implementation projects, which would not restrict implementation of the planned investments or the planning of new ones.

22. Under the leadership of the Ministry of the Environment Estonia has prepared two allocation plans by now. In the second trading period the state applied to the European Commission for an allowance that was nearly 25% higher than that of the first period. In both cases the national total greenhouse gas emission allowance quantity was set in the proposal for the allocation plan using the bottom-up method, i.e. taking into account how much emission allowances the undertakings asked for their activities. The undertakings' possibilities of reducing pollution were not analysed. In the second trading period the growth rate resulting from the expected growth of power

consumption and power exports and expansion of production was added to the emissions of installations.

23. The European Commission did not agree with the application submitted by Estonia and demanded in May 2007 that the total amount be cut by nearly a half. Since trading in green house gas emissions was to start already in January 2008, the Ministry of the Environment had to revise its former decisions in only a few months. The overall allowance for Estonia had been prescribed by the European Commission by the decision to cut the allocation plan and it was the duty of the Ministry of the Environment to decide how to divide it between undertakings. The negative consequence of the rushing was an insufficiently analysed and negotiated decision to cut and the European Commission's refusal to approve the reserve. As a result thereof undertakings do not know what kind of efforts the state is expecting of them or what can be expected in the future. Upon drafting the cut of the initial allocation plan, the Ministry of the Environment managed to consult undertakings, the Ministry of Economic Affairs and Communications and the European Commission only a little, but failed to carry out a new disclosure procedure. The allocation plan of the second trading period was finally approved by the European Commission nearly a year after the actual deadline. The reserve of newcomers has not been determined to date, which means that new undertakings will have to buy the required quota in the market.

24. Estonia contested the allowance cutting decision of May 2007 in the European Court of Justice based on the reasoning that the European Commission may approve or reject national allowance proposals, but does not have the competence to prescribe the total allowance. In September 2009 the ECJ confirmed the correctness of Estonia's positions and annulled the decision to cut. However, this does not automatically mean that the allowance of Estonian undertakings will increase: Estonia has to negotiate with the European Commission again and convince them that the allocation of the additional allowance is justified. Commenting on the judgment the EU's Commissioner for Environment said that in allowance negotiations the Commission proceeds from certified emissions and based on the verifications of 2005-2008 it can be claimed that the effective division is correct.

25. In the case of either allocation plan the Ministry of the Environment did not limit the number of emission allowances; neither did it order the undertakings to make environmental investments using the money earned from the sale of allowances. The state wanted to give undertakings the opportunity to earn from GHG trading in order to support economic growth with it. The state also did not seize the opportunity of keeping a portion of the allowance and to finance the functioning of the system for it or support technological innovation by the state. Instead, it was decided to pay for the maintenance of the expensive trading register from the state budget in both trading periods. The state budget also covers the costs of verification of emissions, which in other states are paid by undertakings.

26. In addition, serious deficiencies have been found in the process of verifying GHG emissions upon auditing the organisation of the EU's trading system.

27. National Audit Office's recommendations to the Minister of the Environment:

- Since the GHG accounting serves as the basis for making climate and energy policy decisions the Ministry of the Environment must ensure, in addition to its area of government that the data gathered by the Ministry of Economic Affairs and Communications, the Ministry of Agriculture and the Ministry of Finance and the data gathered by their agencies be available and usable for the inventory and the changes in the data be reasoned.
- In the inventories all areas where the GHG are generated must be taken into account. To commission additional surveys, for instance, for identification of specific Estonian factors and assessment of uncertainties. To pay attention first of all to improvement of the practice of calculation of GHG of Land Use and Land Use Change and Forestry (LULUCF).
- The Ministry of the Environment must take the leading role in preparing the new long-term GHG action plan. To that end an inter-ministerial working group should be formed with the goal of analysing the measures described in the existing strategies and their compliance with the goals of reduction of GHG.
- In order to support the preparation of the long-term strategy for reduction of GHG fundamental research must be carried out in all the economic sectors influencing GHG levels regarding what changes have taken place in GHG levels in different sectors and what have been the main causes of the changes. The goals of reduction of GHG must be set in the national strategies of all sectors influencing GHG levels.
- The Ministry of the Environment as the supervisor of the strategic environmental impact assessment must make certain in the case of strategies made in the future that if the activities of the strategy may influence the GHG levels created in the state, the impact on the GHG levels must be calculated in the course of the strategic environmental impact assessment as well.
- In order to ensure the availability of sufficient funds for maintaining the EU's GHG trading register a fee must be charged for using the trading register to an extent that would cover the costs of maintenance of the register.

28. Audit methodology

In order to answer the main questions of the audit the following activities were performed by NAO:

- The following was analysed:
 - Estonian and EU legislation, policy documents, guidelines developed by the European Union, the UN Climate Secretariat (UNFCCC Secretariat) and the Intergovernmental Panel on Climate Change (IPCC), and the practice of other states upon carrying out inventories and implementing the EU emission trading system.
 - inventory reports and their annexes submitted to the UN Climate Secretariat by Estonia (2008-2009);

- inventory review reports by UN Climate Secretariat (2005-2008);
 - forecasts of greenhouse gas emissions submitted by Estonia to the European Union;
 - Sector-based development plans and strategies (the environment, energy, forestry, agriculture, waste, transport, etc.);
 - the EU emissions trading allocation plans, their explanatory memoranda and minutes of meetings, decisions of the European Commission in connection with preparation of the allocation plan for 2008-2012 and Estonia's complaint to the European Court of Justice in connection with the aforementioned decision of the European Commission;
 - contracts made for preparation of the inventories and forecasts of the Ministry of the Environment and the Environmental Information Centre and for other development activities of the area;
 - the costs of the Ministry of the Environment, the Environmental Information Centre and the Environmental Board related to the GHG system.
 - Trading licences issued to the undertakings included in the allocation plan.
- Interviews were carried out in the Ministry of the Environment, the Environmental Information Centre, the Ministry of Economic Affairs and Communications, the Tallinn University of Technology, the University of Tallinn, AS Estonian Energy, the Stockholm Environment Institute Tallinn Office and AS Metroserf.
 - The installations (50) included in the allocation plan of the EU trading system and ambient air specialists of the Environmental Board who carry out certifications were questioned.
 - NAO reviewed CO₂ reports submitted by undertakings to the Ministry of the Environment in 2008.
 - NAO reviewed CO₂ emission verification reports of 2006, 2007 and 2008 and pollution reports submitted by undertakings regarding emissions in 2005.