

# Impact of Pollution Charges on Reducing Environmental Pollution

*Do pollution charges encourage companies to invest in environmentally friendly technologies?*

Report of the National Audit Office to the Riigikogu, 6 October 2008

## Summary of Audit Results

The National Audit Office's audit examined whether the state was successful in encouraging companies to invest in the reduction of ambient air pollution and waste through pollution charges.

The economy of Estonia lays a big burden on the environment: it uses extensive quantities of natural resources, emits large amounts of pollutants into the water and air, and creates considerable amounts of waste. The ecological footprint of Estonia is 3.8 times bigger than is considered economical, its energy intensity per GDP is one of the highest in Europe and its level of pollution (especially in industry) is high. The research of ambient air in Tallinn published in 2007 demonstrated that fine particles in the air of the capital cause health problems for its population, incl. an estimated 296 early deaths and 275 cases of hospital treatment per year. The research also showed that every resident of Tallinn loses an estimated 7.7 months of their life due to air pollution and the financial loss caused by air pollution is approx. 360 million kroons per year.

The state has been trying to reduce the burden on the environment for 18 years and environmental charges, incl. pollution charges, have been introduced in addition to the requirements and prohibitions included in legal provisions. Pollution charges are essentially an economic lever based on the 'polluter pays' principle. Their goal is to give companies the choice of whether to invest in reducing pollution and pay less in pollution charges in the future or whether to continue producing and polluting as before and compensate the state for the environmental pollution caused. Companies who emit pollutants into the air or water and discharge waste pay pollution charges. Approximately 2.2 billion kroons has been paid to the state in pollution charges from 2002 to 2007 and this money has been directed into environmental protection through the Environmental Investment Centre on the basis of projects.

As a result of the audit, the National Audit Office found that pollution charges encourage companies to reduce pollution if the goal of reducing pollution is also supported by legal provisions and higher or increased charges. No impact was noted in any other cases. The system of pollution charges would be considerably more effective in encouraging companies to implement environmental protection measures if the actual damage (external costs) associated with environmentally polluting production, incl. the harmfulness of different pollutants was considered in the establishment of charge rates.

Moreover, if the rates of pollution charges were made equivalent to the environmental damage caused by the polluter, the effect of pollution charges would increase if the quality of environmental permits was improved and pollution charges at increased rates were applied in the cases provided for by law, and if supervision over pollution was improved.

The most important observations of the National Audit Office about the problems in the pollution charge system were as follows:

- **The principle that the polluter has to pay has not always been observed in the establishment of pollution charge rates.** Since the same charge rates are applied to pollutants of different harmfulness, lower rates have been established for pollutants created in large quantities and some pollutants are not subject to charge, the pollution charges established by the state do not encourage companies to turn their non-production costs into production costs and make them part of their product prices. The state had hoped that keeping some charge rates low would motivate companies to use the money they saved for environmental investments, but it did not determine the extent of the investments it was hoping to see. The problems listed above have resulted in large industrial companies being supported at the expense of the environment.
- **Companies have primarily invested in environmental protection when implementation of new technologies has become mandatory under the legal provisions applied in addition to pollution charges.** The impact of pollution charges has also been noticeable in these few cases where ordinary charge rates have been increased several times and the multiple of the charge rate is tied to the introduction of best available technology (e.g. the manner in which waste is discharged). In all other cases, environmental investments have not increased at the same speed as pollution charges. Air pollution and waste discharge in respect of several pollutants did not decrease even after the pollution charges were moderately increased. As European Union standards are becoming increasingly stricter, it means that many Estonian industries may struggle meeting the requirements in the future due to their high pollution levels.
- **Companies who have ignored the restrictions on environmental pollution have usually escaped without paying pollution charges.** The reason here is that payment of pollution charges at rates increased up to a thousand times as stipulated by law has not been demanded from companies operating without ambient air pollution permits or waste permits. Many companies who operate without permits are never detected and pollution charges are not collected from the offenders found by the Environmental Inspectorate because environmental services and the Environmental Inspectorate do not communicate sufficiently, the liability arising from law is unclear or the pollutants that have been caused cannot be determined. It is often

the case that companies are merely cautioned to apply for an appropriate permit instead of having to pay increased pollution charges.

- **Environmental permits do not force companies into reducing pollution.** Ambient air pollution permits give companies the right to emit pollutants in quantities that exceed the actual quantities of pollutants created by the companies by twice or more. This seems to imply that many companies could actually increase the quantities of their pollutants with the permission of the state. Also, very few companies causing pollution are being required to adopt the best available technologies in order to reduce pollution. Even the companies for whom this is mandatory were not always required to reduce pollution by using the best available technology because the terms established in integrated permits were not correct in respect of the best available technology.
- **Checks of the accuracy of pollution reports and actual emissions carried out by the environmental services of the Ministry of the Environment are lacking.** Even though the Environmental Charges Act stipulates that pollution quantities must be checked before invoices for pollution charges are issued, environmental services usually do not require companies to submit documents evidencing the quantities of raw materials and simply review the written report signed by the company's manager. However, audit measurement tests are also relied on in the case of big companies. The Environmental Inspectorate is also unable to sufficiently check the compliance of pollution reports and actual emissions. Insufficient checks have created the situation where pollution that exceeds permitted quantities is detected only if the company itself declares it in the pollution report.
- **Replacement of pollution charges and project-based financing by the Environmental Investment Centre have not motivated polluters to implement more environmentally friendly technologies.** The main reason here is that only very few companies have received support and the amounts of support, especially in the area of ambient air, are not particularly motivating when compared to the required environmental investments. The replacement measure has also been used by only a few companies in the areas of waste and air pollution and making their operations comply with the standards has always been the objective instead of trying to achieve results that exceed the requirements. This means that replacement of pollution charges has had a rather insignificant impact on reducing the total quantity of pollution and it has only stimulated companies who pollute in large quantities or in excess of permitted quantities. The funds of the Environmental Investment Centre have also not contributed much to reducing the air pollution caused by production processes, because the pollution charges collected have not been sufficiently used for the development of environmentally friendly technologies and raw material use.
- **Even though the planned decrease of pollution was achieved with most pollution charge replacement contracts, processing the replacement contracts and monitoring their performance still requires improvement.** Applications for replacement contracts are not always assessed and documented as thoroughly as they should be and supervising the realisation of projects is also a problem. Superficial assessment creates the threat that replacement contracts are entered into for realisation of unrealistic projects, the execution of projects is delayed or public funds are spent in areas where the polluter could make the required investments itself. Cost documents must be thoroughly checked to ensure that the money saved on account of pollution charges has not been used to support the everyday economic activities of companies.

The **Minister of the Environment** agreed with the conclusions and most of the proposals made by the National Audit Office. Several recommendations will be taken into account in the development of the draft act for amendment of the concept of environmental charges and the Environmental Charges Act. However, the Minister would like to point out that calculation of environmental charges in a manner that would be optimal in terms of environmental protection requires expensive and detailed research that takes years to complete and it is currently impossible to increase pollution charges in such an extent that would reflect all the external costs associated with pollution.

Solutions to the problems in issuing integrated permits are already being sought. The National Audit Office believes that improving the quality of integrated permits is also important in addition to ensuring that they are issued more quickly.

We are hoping to find solutions to many of the problems encountered in the work of environmental services and in the information exchange between environmental services and the offices of the Environmental Inspectorate by reforming the area of administration of the Environmental Inspectorate and updating the information system of environmental permits and the environmental register.

Making the pollution charge replacement system more flexible is not considered necessary, because the Minister of the Environment believes that replacing the pollution charges of as many companies as possible cannot be set as a goal. Estonia is initially not planning any additional activities to simplify the grant of support to companies from the environmental programme of the Environmental Investment Centre, but the state is observing discussions of the terms for granting state aid to ecologically innovative technology solutions by simplified procedure that are currently held in the European Commission.

The Environmental Inspectorate believes that implementation of the proposals made by the National Audit Office would considerably improve the existing situation, help to implement the 'polluter pays' principle and create more interest in companies to invest in environmentally friendly technologies. The Inspectorate also suggested that calculation of pollution charges should be made more efficient.

Tarmo Olgo  
Chief Auditor of Audit Department IV