

## **Government actions in the organisation of oil shale mining and processing waste management**

*Has the government been sufficiently demanding in the organisation of oil shale mining and processing waste management?*

A report by the National Audit Office of Estonia to Riigikogu, Tallinn, 20 May 2015

### Summary of the audit's results

The National Audit Office has analysed whether the government has been sufficiently demanding in the organisation of oil shale mining and processing waste management. For this purpose we assessed whether the government has ensured that the companies' activities are environmentally sound, has influenced the companies to decrease waste dumping and increase waste reuse and exercised the efficient supervision of the compliance with the requirements and conditions of permits as provided for in legal acts. In addition, we analysed whether companies have ensured closing and reclamation of landfills and waste storage facilities for oil shale waste.

Approximately 17 million tons of oil shale mining and processing waste is generated annually, which constitutes 80% of all the waste generated in Estonia. More than half of the waste generated by the use of oil shale is hazardous waste. Estonia occupies first place in the EU by the annually generated amount of hazardous waste per person, exceeding the EU's average by more than 40 times. Since the beginning of the oil shale industry, over 400 million tons of waste has been dumped into landfills and waste storage facilities, and waste management areas occupy over 27 km<sup>2</sup> in Ida-Viru County. The oil shale industry, including its generated waste, has a considerable negative environmental impact. For example, according to the latest assessment, aquifers in Ida-Viru County have been affected and three of them are currently in poor condition.

The government has spent over 50 million euros from the national and EU budget to eliminate the pollution caused by oil shale waste. At the same time, several sites posing a pollution hazard have not been cleaned up yet and the government shall make additional expenses to render them harmless.

In the opinion of the National Audit Office, the Ministry of the Environment should not consider oil shale mining and processing waste as inevitability, but influence companies more forcefully to decrease waste generation and dumping. At the same time, the Environmental Board should demand a proper guarantee from companies to make sure that the companies will be able to close oil shale waste landfills themselves.

### Main conclusions made by the National Audit Office:

■ The Ministry of the Environment has not been sufficiently demanding in the organisation of oil shale mining and processing waste management. The Ministry of the Environment has paid little attention to the problem of oil shale waste: it has not been considered as a big problem in the prepared development plans and no specific activities have been planned to decrease oil shale waste generation. According to the Ministry of the Environment, the government only has limited opportunities to demand a decrease in oil shale waste generation. It can be done by decreasing the volume of mining or raising environmental charges. The Environmental Board has not so far used the terms and conditions of environmental permits to influence companies to decrease dumping of oil

shale waste and increase waste reuse. The terms and conditions of some environmental permits do not create a clear and unambiguous overview of generated oil shale waste management. The national statistics show that the generation of oil shale waste has grown in recent years.

■ Organizing oil shale mining and processing waste management is based on trusting companies, but companies' actions have not been sufficiently verified. According to the Ministry of the Environment and the Environmental Board, companies are responsible for the correctness of waste data. Neither the Environmental Board nor the Environmental Inspectorate considers the control of the integrity of waste reporting as their task. The National Audit Office has identified several errors in waste reporting that would have been easily identified by the Environmental Board or the Environmental Inspectorate if a control system were in place. Moreover, the government trusts data submitted by companies to identify the environmental impact, but these data are not checked by any government institutions using control samples. Furthermore, the Environmental Board has not set sufficiently detailed and comprehensible conditions in environmental permits to regulate how a company should monitor the environmental impact of its activities.

■ The waste reporting system does not correctly report the amount of dumped waste. According to the principle stipulated in the Waste Act, all dumped waste must be weighed, but not every company has an opportunity to do that. Currently such companies use various calculation methods to determine the amount of waste and neither the Environmental Board nor the Environmental Inspectorate has verified the correctness of such methods. The Ministry of the Environment has not approved common rules of the determination of the amount of generated and managed waste. The waste reporting system also lacks data about one type of generated waste – fine-grained oil shale produced from mining tailings. In addition, the development of oil shale processing technology has caused several changes in the composition and properties of oil shale waste, but the waste reporting system does not enable these changes to be taken into account.

■ The government does not have full information upon the environmental impact of oil shale waste management. The organisation of environmental monitoring does not provide an adequate overview of the environmental impact produced by oil shale mining or processing. The Ministry of the Environment as the general organiser of environmental monitoring has failed to consolidate all the environment monitoring data, including monitoring data collected by companies, in an integrated information system. As a result, it is difficult to analyse data, determine the environmental impact and changes in such impact, and use the data, for instance, for revising the conditions of permits or making decisions concerning the organisation of monitoring.

■ The government has already spent over 50 million euros to eliminate residual pollution caused by oil shale waste and it will have to spend many millions more. The Ministry of the Environment had an obligation to close old semi-coke hills in Kohtla-Järve and Kiviõli by itself. The closing projects of these landfills were justified from the environmental standpoint, but there were some shortcomings in their realisation. The audit has discovered that the quality of preliminary research of these projects was poor and resulted in significantly higher costs of the closing projects compared to the initial offers submitted by contractors. There are still several residual pollution sites related to oil shale waste in Ida-Viru County that have been polluting soil as well as surface and ground waters. These sites should be reclaimed or rendered harmless. The Ministry of the Environment must additionally

find millions of euros to render harmless the Kukruse hill of mining tailings that is currently burning, the polluted Purtse River and the phenolic bog in the vicinity of the Kohtla-Järve semi-coke landfill.

■ The government has not sufficiently secured itself against a possible situation when waste management sites must be closed with taxpayer money if companies run into economic difficulties. Although Estonia's legal acts should ensure that companies themselves close their waste management sites, a system of financial guarantees for such case has not been fully implemented yet. The Environmental Board has not demanded an adequate guarantee from companies required for closing landfills and waste storage facilities nor has calculated what would be the sufficient amount of such guarantee. In the opinion of the National Audit Office, the guarantee provided by several companies is insufficient to close waste management sites in the future.

■ The Environmental Board permitted companies to carry out certain activities in the course of waste management that could not necessarily be compliant with legal acts. It has been discovered in the course of the audit that the Environmental Board permitted one company for four years to manage waste in a landfill that was not compliant with requirements. It became possible because waste dumping was renamed “waste recycling” in the environmental permit. At the same time, the company should not have been allowed to use waste for reclamation the landfill, because the company did not have the building permit at that time.

The main recommendations of the National Audit Office to the Minister of the Environment are as follows:

■ Set strategic objectives and determine actions to decrease oil shale waste generation and dumping and increase its reuse in order to decrease the environmental impact of oil shale waste and enable the more efficient use of natural resources.

■ Create an integrated IT solution for the collection of environmental monitoring data, making queries and data analysis in order to receive an overview of the environmental impact of oil shale waste and use monitoring data to make strategic decisions on the national level.

■ Analyse whether the existing system of financial guarantees for landfills and waste storage facilities ensure companies' ability to fix up their waste management sites if the companies run into financial difficulties. If the system of guarantees in its present state does not fulfil its purpose, develop a new solution. If the system does fulfil its purpose, demand its full implementation from the Environmental Board.

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