

Exploitation of peat resources

Audit report No. OSIV-2-6/05/71 of 14 July 2005

Summary

The State Audit Office (hereinafter SAO) audited the activities of the State in planning the use of peat resources and managing their extraction. The objective was to assess whether the State ensures a sustainable use of peat reserves. The use of peat reserves is coordinated by the Ministry of Environment. Today, according to the extraction permits issued by the Ministry, peat can be extracted in an area of 19,500 ha.

Peatlands are an important reservoir of clean water and an indispensable living environment for many species of flora and fauna. Peat extraction in and the draining of areas result in the disappearance of natural life in peatlands and the change of the water regime in the surroundings.

Peat is the second most important strategic energy source in Estonia after oilshale. The highly decomposed peat deposited in the lowest layers of a peatland can be used for heating and the production of electricity. In recent years, the extraction of low- decomposed peat from the upper layers of a peatland, which is used in horticulture, has been more dominant. Estonia holds the 3rd to 4th place in the world's export of horticultural peat.

In the course of the audit a questionnaire was sent to the county environmental departments in order to analyse the organisation of the environmental impact assessment of peat extraction and the rehabilitation of harvested production areas. The peat extraction permits issued in five counties, viz. Ida-Viru, Jõgeva, Pärnu, Saare and Tartu, - were examined more closely. Experts were asked for an opinion about the arrangement of environmental impact assessment and taxation of the mineral right.

Essential findings

The use of peat reserves has not been organised in a sustainable way

Enacted by the Government the annual rate of use of peat resources is 2,780,000 tons. According to the research made by the Institute of Ecology of Tallinn University in March 2005, all natural peatlands together generate only 400,000 to 500,000 tons of peat annually. Comparing these preliminary estimates of the scientists with the Government-permitted rate of use, it appears that the rate of use of peat exceeds its annual increment more than five times. Although the actual extraction rate of peat, due to the existing weather conditions has been lower than the permitted rate, it has still exceeded the increment two or three times.

So far the Government has treated peat as a renewable natural resource, whose use, according to the principles of sustainable development, must not increase increment. As the extraction volumes of peat exceed the increment, the use of peat reserves is not sustainable. At the same time, peat has to be treated as a non-renewable energy source pursuant to the Directive of the European Parliament and of the Council on the Promotion of Electricity Produced from Renewable Energy Sources in the Internal Electricity Market (2001/77/EC), and the Long-term Public Fuel and Energy Sector Development Plan approved by the Estonian Parliament. The treatment of peat as a non-renewable resource assumes a decision to be taken on how long peat deposits suitable for extraction should last. Such a decision has neither been taken nor has the purpose of the limited reserve been assessed. Despite of the decision whether to consider peat as a renewable or non-renewable natural resource, the State has to review the estimates of scientists and the permitted rates of use, to further research where appropriate, and decide whether and with which intensity peat resources may be used in the future.

The taxation of the mineral right is one of the possibilities to regulate the use of natural resources. The existing rates of charge for the mineral right are established without having investigated the impact of taxation on the environment, economy and social sphere. The State uses the charge for the mineral right as a tool neither for regulating the extraction volumes nor for directing extraction activities to certain regions.

Insufficient attention has been paid on the environmental impact assessment when granting peat extraction permits

Peat extraction causes an irreversible damage to the environment. Thus, it is necessary to assess the environmental impact of the planned activities before the decision on issuing an extraction permit and a permit for a special use of water is taken. In Estonia, the requirement for the environmental impact assessment has been in force since 1 January 2001.

The environmental impact assessment of the planned extraction activities is obligatory when the surface of the production area exceeds 150 ha, but as the audit established this requirement has not always been satisfied. In case of an area smaller than 150 ha, the Ministry of Environment and the county environmental departments had to decide each time on the need for the environmental impact assessment. Until today environmental impact assessment has never been required in case of an area smaller than 150 ha.

The SAO is of the opinion that the limit of 150 ha is not reasoned with respect to the environmental impact assessment requirement, because the draining of a peat quarry, no matter how small, always influences the environment and water regime of a larger area. Without carrying out the environmental impact assessment the extraction in valuable natural sites is not avoided. In the process of environmental impact assessment the opinion of local inhabitants about the planned extraction activities will also become clearer. In case the extraction permit will still be issued, more concrete measures can be taken on the basis of the results of environmental impact assessment in order to reduce the impact of extraction on the environment.

Regardless of the size of the production area every peat company should have a permit for a special use of water in addition to the extraction permit. The permit for the special use of water establishes more exact conditions for the draining of a peatland and the directing of the drainage water into natural watercourses. The permit also lays down requirements for monitoring the quality of the drainage water.

The audit showed that only a few peat production companies possessed a permit for the special use of water. If the drainable area is larger than 100 ha, the environmental impact assessment has to be carried out in the process of issuing permits for the special use of water as well. Until today this requirement has been followed only in 50% of cases.

Extraction permits do not lay down requirements for ensuring environmental safety

As the impact of peat extraction is significant, it is important that specific environmental requirements are conditioned in the extraction permits. The audit established that in most permits issued in the five counties examined neither environmental conditions nor the purpose of the further use of land damaged as a result of extraction have been laid down. As in most cases the environmental impact assessment had not been carried out before issuing the permits, peat companies had been set no requirements for reducing the environmental impact of extraction or monitoring it.

Degraded peatlands not rehabilitated

In Estonia, there are approximately 8,000 to 15,000 ha of abandoned areas that were earlier used for peat extraction, but which were not rehabilitated after production. In general, peat moss does not begin to grow spontaneously in drained and extracted areas and therefore no increment of peat takes place there. The degraded peatlands are a source of permanent environmental pollution and represent a great fire risk. Most of the abandoned production areas are owned by the State. Although the landowner must rehabilitate the abandoned areas, the State does not have an overview of the residual supply of peat in these areas and of environmental impact - whether these areas have to be re-extracted or rehabilitated. The State has not assigned finances to rehabilitate abandoned areas.

As the abandoned areas have been drained, the remaining peat starts to decompose. During the first 10 years after draining about 15 to 20 tons of peat per ha will be decomposed annually. At the same time, CO₂, which is a significant factor of global climate warming, will be emitted into the atmosphere. In Estonia, the amount of CO₂ originating from the drained peatlands exceeds, for example, the amount of CO₂ from the traffic approximately nine times.

Upon approving the Long-term Public Fuel and Energy Sector Development Plan the Parliament decided that the draining of new peatlands should be stopped until 2025 and only the peat of

already drained production areas should be used until that date. But this position has not been fixed in laws and preparations for taking new peatlands into use have not been stopped.

Main proposals to the Minister of Environment

- To consider the benefits and drawbacks of defining peat as a renewable or non-renewable natural resource. Thereafter to take a clear position on whether to treat peat as a renewable or nonrenewable natural resource and, pursuant to the decision made, to initiate necessary amendments to the legal acts. Based on the amendments further reassess the critical and usable reserves of peat and its annual rates of use, and, where appropriate, carry out further scientific research to assess the increment of peat. On the basis of the outcome and the decisions taken, to initiate amendments to the legal acts in order to change the size of reserves and annual rates of use.
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- To work out principles of charging for extraction. For this purpose, to conduct a research of the impact of charging for extraction and analyse the expediency of distribution and use of income, taking into account other taxes, external costs of use of peat, etc. With reference to the above, to initiate the alteration of the charge for extraction and the distribution of revenue (between the State and local).
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- In case of the mechanized extraction of peat, always to demand the environmental impact assessment before issuing a new extraction permit, regardless of the size of the production area. To initiate accordingly amendments to the Environmental Impact Assessment and Environmental Management System Act.
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- To require all peat producers the availability of permits for the special use of water as well as a regular monitoring of the quality of drainage water.
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- To initiate amendments to the Earth's Crust Act to provide authorities issuing extraction permits with a right to change terms in the permits, i.e. to re-establish the procedure that was in force in the Earth's Crust Act until 31 March 2005. Thereafter to ensure the establishment of environmental requirements and the purpose of rehabilitation of degraded peatlands in all peat extraction permits.
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- In order to direct peat extraction to abandoned, non-exhausted production areas, to suspend, until 2025, issuing new extraction permits in case of peatlands and parts of peatlands, which have not been affected by extraction also on the basis of the objectives set up in the Long-term Public Fuel and Energy Sector Development Plan. To initiate necessary amendments to legal acts, including the Earth's Crust Act, in order to attain objectives of the development plan.
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- To initiate rehabilitation of these degraded State-owned peatlands whose re-exploitation is not feasible.
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- To develop a financing scheme to cover costs of rehabilitation in case a company becomes insolvent, e.g. by establishing a state guarantee fund or a sub-fund under some financial institution or requiring rehabilitation of the deposit from a company before issuing an extraction permit.
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Replies of Ministers

The draft audit report was submitted for reply to the Minister of Environment, as well as to the Minister of Economic Affairs and Communications and to the Minister of Finance for information and for receiving comments concerning their domain.

The Minister of Environment concurred in his reply with most proposals made by the SAO. The Minister promised to initiate amendments to the relevant acts in order to abolish the limit of 150 ha established on the environmental impact assessment requirement, i.e. environmental impact has to be assessed before issuing new permits to extract peat. The Minister informed that it is planned to convert peat reserves in the quarries located in Natura 2000 sites from active reserve to passive. Guidelines for preparing a programme and report on an environmental impact assessment, including environmental impact assessment of peat extraction areas, are under preparation. The Minister also agreed to the proposal to initiate an amendment to the

Earth's Crust Act so that the considerable environmental impact resulting from extraction should be a sufficient legal basis for refusal to grant an extraction permit. He also agreed that there is a need to review the extraction permits issued until today because of the need to specify environmental and rehabilitation conditions provided in the permits. Preparations for rehabilitation of abandoned peat production areas have been initiated.

According to the Minister of Environment one of the most essential shortcomings of the audit was that the SAO had based its proposal to change the rate of use of peat on the data about the increment of peat published by the Ecology Institute, Tallinn University, in March 2005. The SAO agrees that the data can not be treated as incontestable, marking at the same time that it is the only work in Estonia which has been completed concerning assessment of increment (accumulation) of peat mass and that the authors' competence in the study of wetlands is generally recognised. At the moment there are no more reliable data available on this field. The SAO finds it necessary to emphasize that if peat is treated as a renewable natural resource, the rate of use established by the State shall be based on data on the increment of peat and not merely on the estimated size of total reserve. In his reply, the Minister of Environment consented to launch supplementary studies to assess the increment of peat and decide on the need to alter the rates and reserves after the outcome of the studies, as well as to harmonize the conditions of extraction permits with new rates.

The Minister of Environment is of the opinion that peat producers need not hold permits for the special use of water to drain bogs and direct the drainage water into watercourses as this does not concern waste water and draining, in general, does not cause the sinking of the ground water level either. The SAO notes that county environmental departments under the Ministry have issued permits for the special use of water already in case of 14 peat production areas (i.e. ca one tenth of all areas) and that it is obligatory to assess environmental impact already today when draining areas bigger than 100 ha. The SAO is of the opinion that these measures have ensured an effective control over water pollution accompanying extraction activities.

The Minister of Environment is of the opinion that the SAO has not provided sufficient arguments why the Ministry should suspend, until 2025, the issue of extraction permits in case of peatlands and parts of peatlands that have not been affected by extraction.

In this connection the SAO considers it necessary to repeat what was stated in the draft audit report that the corresponding decision was taken by the Parliament in the end of 2004 by approving the Long-term Public Fuel and Energy Sector Development Plan. By stopping the issuing of permits concerning peatlands and parts of peatlands not subject to extraction yet in order to save peat resource as well as natural wetlands, the extraction will be directed to numerous abandoned areas with reserve not exhausted.

The Minister of Environment was of the opinion that it is reasonable to treat peat as a renewable natural resource and this treatment should not be harmonized with the treatment of peat as a nonrenewable energy source. The SAO agrees with the Minister that the decision on defining peat as a renewable or non-renewable natural resource will not be sufficient in order to preserve peat as a natural resource and to ensure its sustainable use. At the same time, the content of other decisions to be taken on planning the use of peat will depend on this particular decision. The actuality of this question is demonstrated also by the Minister of Environment by stating that in the perspective of 20- 30 years peat is undoubtedly a non-renewable natural resource (as it is treated in other parts of Europe).

The Minister of Economic Affairs and Communications had no supplementary proposals to the draft audit report, however, he emphasized that peat has to be treated as a non-renewable energy source pursuant to the legislation of the European Union. The Minister informed that the taxation issues concerning peat extraction would be discussed in the course of preparation of the ecological tax reform.

The Minister of Finance supported the proposal of the SAO to carry out environmental impact assessment in all cases, including the extraction of peat in areas smaller than 150 ha. In his reply the Minister emphasized the necessity for the re-exploitation or rehabilitation of abandoned production areas. The Minister was of the opinion that no separate financial units need to be established in order to finance the rehabilitation of peat production areas, but instead, the finances of the Earth's Crust subprogrammes of the Environmental Investment Centre should be used. The Minister considered it necessary to increase the charge for extraction considerably in order to cover the administrative costs of the State arising from planning of use of peat reserves as well as damages caused to the environment.

[Full text of the report \(pdf\)](#)

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