

# "Exploitation of peat resources" the Estonian SAI, 2005

## Summary

The SAO audited the activities of the State in planning the use and managing the extraction of peat resources. The objective was to assess whether the state ensures 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 on an area of 19,500 ha.

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

Peat is the second important strategic energy source in Estonia after oil-shale. High decomposed peat from the lowest layers of peatland can be used for heating and production of electricity. In the recent years, the extraction of low decomposed peat from the upper layers of peatland, which is used in horticulture, has been more dominant. Estonia holds the 3rd to 4th place in the export of garden-peat in the world.

In the course of 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 areas. The peat extraction permits issued in five counties – East-Viru County, Jõgeva County, Pärnu County, Saare County and Tartu County - were examined more closely. Experts were asked for an opinion about the arrangement of environmental impact assessment and charging for peat extraction.

## Essential findings

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

Enacted by the Government the annual rate for the use of peat resources is 2,780,000 tonnes. According to the research made by the Institute of Ecology in Tallinn University in March 2005, all natural peatlands together produce annually only 400,000 to 500,000 tonnes of peat. Comparing these primary assessments of the scientists with the rate of use permitted by the Government, it appears that the rate of use exceeds the annual increment of peat 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 of peat two or three times.

So far the Government has treated peat as a renewable natural resource, the use of which, according to the principles of sustainable development, must not increase its increment. As the extraction volumes exceed the increment of peat, 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 Union 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 that was approved by the Estonian Parliament. Treatment of peat as a non-renewable resource assumes a decision for how long period the peat deposits, suitable for extraction, should last. Such a decision has not been taken, neither has been assessed the purpose of the limited reserve. Despite of the decision whether to consider peat as a renewable or non-renewable natural resource, the State has to review the assessment 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 extraction right is one of the possibilities to regulate the use of natural resources. The existing rates of charge for extraction right are established without researching the impact of taxation to the environment, economy and social sphere. The State does not use the charge for extraction right as a tool for regulating the extraction volumes nor for directing extraction activity in certain regions.

### **Insufficient attention has been paid to the environmental impact assessment when granting peat extraction permits**

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

The environmental impact assessment of the planned extraction activity is obligatory when the surface of the harvesting area exceeds 150 ha, but as the audit established that 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 each time had to decide on the need of the environmental impact assessment. Until today the institutions have never required environmental impact assessment in case of areas smaller than 150 ha.

The SAO is of the opinion that the limit of 150 ha is not reasoned with respect to environmental impact assessment requirement, because draining of a peat quarry, no matter how small, always influences the environment and water regime of larger area. Without carrying out the environmental impact assessment the extraction in valuable peatlands is not avoided. In the process of environmental impact assessment the opinion of local inhabitants about the planned extraction activity will also become clearer. In case the extraction permit will still be issued, more exact measures can be developed on the basis of results of environmental impact assessment in order to reduce extraction impacts on the environment. Every peat company, regardless of the size of the production area should have permit for the special use of water in addition to the extraction permit. The permit for the special use of water establishes more exact conditions for draining of the peatland and directing drainage water into watercourses. The permit contains the requirements for monitoring the quality of 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 bigger than 100 ha, also 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 half of the cases.

### **Extraction permits do not contain 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 cases the permits issued in five examined counties, do not contain environmental conditions nor the purpose of the further use of land damaged as a result of extraction. As the environmental impact assessment had in most cases not been carried out before issuing the permits, there were no requirements to the extraction companies for reducing the environmental impact of extraction or monitoring it.

### **Degraded peatlands not rehabilitated**

There are approximately 8,000 to 15,000 ha of abandoned areas in Estonia that were earlier used for peat extraction, but which were not rehabilitated after harvesting. In general, the peat moss does not begin to grow spontaneously in drained and extracted areas and therefore no increment of peat takes place. The degraded peatlands cause a permanent environmental

pollution and a great fire risk. Most of the abandoned harvesting 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 to be rehabilitated. The State has not assigned finances to rehabilitate abandoned areas.

As the abandoned areas have been drained, the residual peat has started to decompose. During the first 10 years after draining ca 15 to 20 tonnes of peat per ha will be annually decomposed. At the same time CO<sub>2</sub>, an essential factor of global climate warming, will be emitted into the air. The amount of CO<sub>2</sub>, originating from the drained peatlands, exceeds, for example, the amount of CO<sub>2</sub> from the traffic approximately nine times in Estonia.

Approving the Long-term Public Fuel and Energy Sector Development Plan the Parliament decided that the draining of new peatlands has to be stopped until 2025 and only the peat of already drained harvesting areas will be used until that date. But this position has not been fixed in laws and preparations for taking new peatlands in use have not been stopped.

### **Main proposals to the Minister of Environment**

- Consider the benefits and drawbacks of defining peat as a renewable or non-renewable natural resource. Thereafter take a clear position for treating peat as a renewable or non-renewable natural resource and pursuant to the decision initiate necessary amendments to the legal acts. Based on the amendments further reassess the critical reserve and usable reserve of peat and annual rates of use, and, where appropriate, carry out further scientific research, to assess the increment of peat. On the basis of the results received and decisions taken, to initiate amendments to the legal acts in order to change the size of reserves and annual rates of use.
- Develop the principles of charging for extraction. For this purpose, conduct a research of the impact of charging for extraction and analyse the expediency of distribution and utilization of income, taking into account other taxes, external costs of utilization of peat etc. With reference to the above mentioned, to initiate alteration of the charge for extraction and the distribution of revenue (between the State and the local authorities).
- In case of the mechanized extraction of peat, always demand an environmental impact assessment before issuing of a new extraction permit, regardless of the size of the harvesting area. Initiate accordingly alterations to the Environmental Impact Assessment and Environmental Management System Act.
- To require permits for the special use of water and regular monitoring of the quality of drainage water from all peat producers.
- To initiate the alteration of the Earth's Crust Act to provide the authorities issuing extraction permits with a right to change terms in the permits, i.e. in order 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.
- In order to direct the peat extraction to abandoned, non-exhausted production areas, suspend the issuing of new extraction permits concerning peatlands and parts of peatlands, not been affected by extraction, also according to the objectives set up in the Long-term Public Fuel and Energy Sector Development Plan, until 2025. To initiate necessary amendments to legal acts, including the Earth's Crust Act, in order to carry out the objectives of the development plan.
- To initiate the rehabilitation of these degraded peatlands owned by the State, where it is not appropriate to restart extraction.

- To develop a financing scheme to cover costs of rehabilitation in case an company becomes insolvent, e.g. by establishing a state guarantee fund or a sub-fund under some financial institution or requiring a deposit for rehabilitation from a company before issuing an extraction permit.

## **Replies of the Ministers**

The draft of the audit report was submitted for a reply to the Minister of Environment. The draft of the audit report was also submitted 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 of the proposals made by the SAO. The Minister promised to initiate amendments to the acts in order to abolish the limit of 150 ha established to the environment impact assessment requirement, i.e. environmental impact has to be assessed before issuing new permits for the extraction of peat. The Minister informed that the peat reserves in the quarries located in the sites of Natura 2000 have been planned to convert from active to the passive reserve. Guidelines for preparing of a programme and report of an environmental impact assessment including environmental impact assessment of peat extraction areas, are under preparation. The minister also agreed with the proposal to initiate an amendment to the Earth's Crust Act so that essential environmental impact resulting from extraction will be sufficient legal basis for refusal from granting extraction permit. He also agreed with the need to review the granted 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 harvesting areas have been initiated

One of the most essential shortcomings of the audit was, according to the Minister of Environment, 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 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, which has been completed concerning assessment of increment (accumulation) of peat mass in Estonia and that the authors' competence in the study of wetlands is generally recognised. At the moment no more authentic data exist in this field. The SAO finds it necessary to emphasize that if peat is treated as a renewable natural resource, the rate of utilization, established by the state, shall be based on data concerning 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 for the assessment of increment of peat and decide over the need to amend the rates and reserves after the outcome of the studies, and harmonize the extraction permits with the new rates.

The Minister of Environment is of the opinion that peat producers do not need permits for the special use of water because draining of bogs and directing of drainage water in watercourses as it does not involve waste water and draining, in general, does not cause the sinking of ground water level. The SAO marks that county environmental departments under the Ministry have issued permits for the special use of water already to 14 peat harvesting 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 the measures of the permits have ensured effective control over water pollution resulting from extraction activity.

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 for peatlands and parts of peatlands that have not been affected by extraction.

In this connection the SAO considers it necessary to repeat what was marked in the draft of 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 not-exhausted reserve.

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 non-renewable energy source. The SAO agrees with the Minister that the decision of defining peat as a renewable or non-renewable natural resource, will not be sufficient in order to preserve peat as natural resource and to ensure its sustainable use. At the same time, the content of other decisions concerning the planning of utilization of peat depends on this decision. The actuality of this question is demonstrated also by the Minister of Environment by stating that regarding the period of 20-30 years, peat is definitely a non-renewable natural resource (as peat is treated in other parts of Europe).

The Minister of Economic Affairs and Communications had no supplementary proposals to the draft of audit report, but he emphasized that peat has to be treated as a non-renewable energy source pursuant to legislation of the European Union. The Minister informed that the taxation issues concerning peat extraction will be discussed in the course of preparation of 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 of reuse or rehabilitation of the abandoned harvesting areas. The Minister was of the opinion that no separate financial units need to be established in order to finance rehabilitation of peat harvesting areas, but instead the finances of Earth's Crust sub-programmes of 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 utilization of peat reserves as well as damages caused to the environment.