

COST-BENEFIT ANALYSIS

EFFECT OF THE INCREASE OF STATE TAX ON NATURAL
RESOURCES FOR THE LITHUANIAN PEAT INDUSTRY AND
STATE TAX COLLECTION

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1. SUMMARY

This document discusses the effect of the increase of state tax on natural resources for the Lithuanian peat industry and state tax collection performed by PI Economic Research Center. The analysis was commissioned by Lietuviškos Dūrpės peat business association, according to the data of representative survey of the Department of Statistics, Lithuanian Geological Survey and Peat Industry Association.

According to the law amendment XIP-2658 registered on 11-11-2010 by Environmental Protection Committee Chairman Jonas Šimėnas, the base fee for peat extraction is proposed to increase 5.3 times - from 0.62 LTL/m³ to 3.30 LTL/m³.

The analysis showed that due to the tax increase, 20-30% decrease of the volume of peat extraction is likely along the reduction in the number of workers which would be financially detrimental to the state. If peat production volumes decrease by 30%, the state might suffer about 2.5 million litas of loss per year (i.e. generally it would collect about 19 million litas instead of currently collected 21.5 million litas taxes, including tax for the state's natural resources, fuel excise, social insurance and personal income tax).

All turf companies during the year (2010) pay more than 20 million litas of taxes to the state (only the basic taxes), from which the tax for the use of the state's natural resources accounts for only about 7%. The largest share of taxes is comprised of employee social security and income tax, as well as fuel excise taxes (fuel purchase). The effect of environmental tax increases in the collection of these taxes depends the change (decrease) the total extraction of peat. Cost-benefit analysis showed that if the volume of peat extraction (and the number of employees) decreases by more than 22%, the total amount of state tax revenues would significantly decrease, therefore such tax increase would be unprofitable.

Financial analysis of peat companies showed that in 2010 the whole industry has suffered about a million litas loss, and with increased tax rates the loss would further go up to about 6.3 million litas, so companies might have to reduce the cost (mainly by dismissing workers) and production volume, since increasing the sales prices is practically not possible.

In addition, further evaluation of the negative social and environmental factors and the potential amount from the increased income tax (up to 5 million litas a year, if the production volume does not change), Public Institution Economic Research Centre considers that the negative consequences risk is high enough and should be considered before making decisions on tax increases.

2. GENERAL LITHUANIAN PEAT INDUSTRY OVERVIEW

Peat is a combustible sedimentary organic rock formed from the swamp vegetation (sphagnum, heathers, lichens, reed etc.). Peat usually is made from the large peat moss (Latin *Sphagnum*) remains.

Peat comes in a variety of types and is classified depending on the structure, quality and so on. Depending on the degree of degradation of upland moor peat (universally accepted degradation degree standard is from H1 to H10), turf is divided into:

- Weakly fragmented peat (H1 - H5), which is often referred to as "light peat". They are used for bedding, soil improvers, substrate production. Substrate is material and/or growth medium in which or on which the organism grows.
- Medium fragmented peat (H4 - H6), known as "red peat", or hemic. It is also used in the manufacture of substrates.
- Highly fragmented peat (H6 - H10), which is known as black peat, sapric or peat fuel. It is mainly used for fuel.

The major part of extract it turf companies use for their main product - peat substrates, and only a small fraction is sold as soil or soil improvement material.

Substrate is material and/or growth medium in which or on which the organism grows. The substrate is composed of several components. Their basis is usually a light peat, but peat becomes substrate only when it is mixed with special additives, limestone and various fertilizers.

Substrates are used in industrial (as well as amateur), horticulture, gardening, floriculture, seed sowing, plants or seedlings growing in nurseries, for ornamental potted plant production and landscape development. The use of substrates allows growing plants in an industrial scale.

Peat resources

According to the Lithuanian Geological Survey data, Lithuania 117 deposits of peat resources have been explored in detail (of which five therapeutic peat) and 712 partially explored areas of peat deposits.

1. Resources explored in detail are the resources that according to the law maybe designated for use. When planning the use of preliminary explored resources, it is necessary to carry out detailed survey work. The reliability of this latter resource's quantities is up to 80 percent.

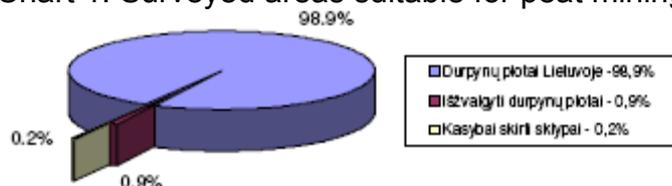
Table 1. Advanced and preliminary surveyed subsurface resources

	Advanced and preliminary surveyed subsurface resources		Including advanced surveyed subsurface resources					
	Quantity	Quantity	Quantity	Conditional unit price, million litas	Conditional 2. value, million litas	Quantity	Conditional unit price, million litas	Conditional 2. value, million litas
	2008	2009	2008			2009		
Peat, million cc. m	3115.6	3113.2	1193.4	7.5	8899.3	1190.9	7.5	8884.3

2. The relative value is calculated only after a detailed analysis of prospected minerals.
Source: State owned property in 2009, the report of the Statistics Department.

Advanced surveyed peat resources occupy 59,451 ha area or 0.9% of the Lithuanian territory, the resource balance in the beginning of 2010 was 1296.83 million cc. A total 303.6 million cc. m of peat was intended for use and the excavation areas cover 13.926 ha, i.e. 0.2% of Lithuanian territory.

Chart 1. Surveyed areas suitable for peat mining in Lithuania in 2010



- Peat areas in Lithuania -98.9%
- Surveyed peat areas - 0.9%
- Areas for excavation - 0.2%

Source: Lithuanian Geological Survey

In monetary terms, in the structure of subsurface mineral resources explored in detail in 2009 peat comprised 14.8%, which accounted for the next largest share after underground water (50.9%).

Peat industry companies

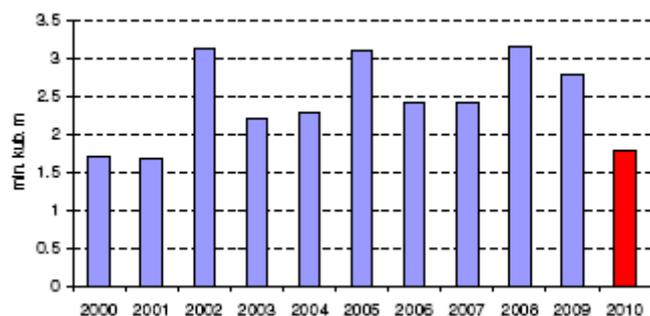
According to the data of the Department of Statistics, the total number of excavation and quarrying enterprises has increased from 55 firms in 2007 up to 79 companies at the beginning of 2011. Almost half of them are peat industry companies: in 2010, 37 companies had authorizations for the use of peat resources. These companies exploited 59 peat fields. The largest peat enterprises by volumes of extraction and sales are Klasmann-Deilmann GmbH group companies, UAB Durpeta, AB Rėkyva, UAB Sulinkiai and UAB Laveksa. Together with other Lithuanian peat business association companies in 2009 they excavated 89% of the total quantity of extracted peat.

In mining and quarrying enterprises, the average number of employees in the last three years was declining (from 3,120 workers in 2007 to 2,363 workers in 2009, almost 25%). Decrease in the number of workers in recent years is seen in the peat industry, too, but the rate was much lower. According to the data of Peat Industry Association, the number of permanent employees in 2010 compared with 2009 decreased by 5%, however, the number of temporary workers has increased (about 15 %).

Peat extraction and sales

Despite fluctuations, which depends mainly on climatic conditions, peat production volumes increased in the last decade, but in 2010 decreased by almost 40%.

Chart 2. Peat extraction



Source: Lithuanian Geological Survey

2010 Data source - Lietuvos Dūrpės Peat Industry Association

Sales of peat and their products over the last year was continuously growing (see yjr chart). First of all, that led to development of export markets.

Chart 3. Peat sales



Source: Statistics Department

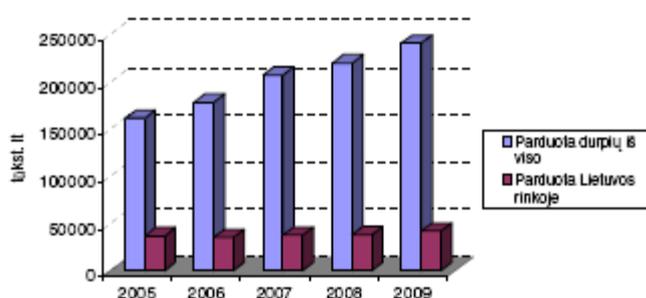
Peat fuel sales accounted for only a very minor part of total sales of turf – from 1.7% of total sales in 2005 up to 1.3% of total sales in 2009. According to the data of Peat Enterprise Association, in 2010 the fuel peat production and sales dropped by almost 50% compared with 2009.

Exports

Sales of industrial production of peat (peat and substrates) are largely focused on foreign markets and the share of exported production in overall sales is growing.

The majority (about 80%) of Lithuanian peat industry's production is exported to EU countries, and some to new markets.

Chart 4. Peat export



- sold peat, total
- sold in the Lithuanian market

Source: Statistics Department

Export volumes of the Lithuanian industrial peat production (mainly peat substrate) and this volume growth is primarily the result of constantly growing needs of this product in foreign markets. Peat substrate market is gardening, horticulture and ornamental plant cultivation sector. This is an important and growing part of the agricultural sector. For example, it is forecasted that the industrial floriculture sector, which is a major user of peat substrates, in the EU countries in average will grow by 3 percent per year by 2016, while in Asian countries, industrial floriculture market volumes will grow an average of 10 percent per year.

Lithuanian peat industry's competitive advantages in international markets is the high product quality, extensive and constantly updated product range, strong brands and a high level of product support, including the precise terms of delivery, reliable logistics and good service.

In 2009, only 17.5% of the total industrial production of peat was sold in the Lithuanian market, while in 2005, the volume of sales in Lithuania was as high as 22.8%. The biggest quantity of peat sold in the Lithuanian market was peat fuel – 66% in 2009.

3. EFFECT OF TAX INCREASE ON NATURAL RESOURCES ON PEAT INDUSTRY

This section analyzes the impact of the raised tax on peat excavation industry with respect to the business profitability in 2010, and financial opportunities for business continuity when paying higher taxes.

Table 2 below demonstrates that if the peat extraction industry excavates the same amount of peat in 2010 (i.e. about 2 million tonnes per year), all companies would pay about 8.8 million litas of tax annually instead of the currently paid 1.6 million litas, i.e. the state budget would receive about 7.2 million litas more tax for the state's natural resources.

However, in 2010, all of the Lithuanian peat industry was operating at a loss, i.e. suffered a total of 1 million litas loss. Increased tax on extraction of peat, as proposed in the draft law amendment XIP-2658 registered on 11/11/2010, would further rise the peat industry losses to about 7.8 million litas.

The only option for the companies to survive is to raise sales prices. But this is impossible, because (a) peat sold on the basis of long-term contracts with fixed price of sales, and (b) over 80% peat extracted and processed in Lithuania is exported, that is, sold on the world market where competition is high and if Lithuanian companies had to raise prices, they become uncompetitive. In other words, the Lithuanian peat companies will not be able to increase selling prices in order to compensate for the increased cost of the tax increase.

Table 2. Tax effect on industry profitability

	Historical data (2010)	After the tax increase *
Environmental tax LTL/m ³	0.80	4.34
Peat excavation volume, thousand m ³	1.779	1.779
Profit excluding tax, thousand litas	375	375
Environmental tax, thousand litas	1.422	7.721
Profit after environment tax, thousand litas	-1.047	-7.346

* Hypothetical option (for estimates) if the volume of peat extraction after the tax increase would not change

It is obvious that peat extraction, as well as other businesses will not be able to continue loss-making activities. According to the survey of Lietuviškos Dūrpės Association, following the tax increase, the companies will:

- (A) reduce the volume of production;
- (B) dismiss part of the labour;
- (C) larger companies would consider the possibility of moving the production of peat to other countries (Russia);

The effect of tax increases on turf industry can be assessed on the basis of analogy. By the end of 2009, following the law on State Natural Resources of the Republic of Lithuania, peat extraction tax was differentiated – the tax for low-dispersion peat was 0.54 LTL/m and for dispersed – 0.2 LTL/m³. The Law amendment No XI-400 of 23 July 2009, introduced a 0.62 LTL/m³ base tax rate for all types of peat from 2010. In this way, the tax rate of fuel peat

(which is included in the category of dispersed peat) increased by about 3-fold – from 0.2 to 0.62 LTL/m³.

2 According to the representative survey conducted by Lietuviškos Durpės Association of peat companies.

The table below shows the statistics of the volumes of fuel peat production in 2008-2010. According to this statistics, fuel peat production in 2010 amounted to only 53% of the production level of 2009, i.e. reduced by half. According to peat business association, this drop in production was mainly influenced by the tax increase, profitability decline of this type of peat extraction, as well as decrease in the competitiveness of peat fuel, compared with Belarusian (due to a significant increase in fuel prices in Lithuania).

Table 3. Reduction of fuel peat extraction after tax increase

	2008	2009	2010
Fuel peat extraction in tonnes	46.639	38.099	20.358
Compared with 2008, %	100%	82%	44%
Compared with the previous year, %		82%	53%

Thus, with the increase of tax for the use of natural resources, peat extraction in Lithuania may shrink from 20 to 40% due to the reduced profitability of production and processing (or more precisely, because of the loss). Further estimates of financial effects of the tax increase are based on the assumption that upon raising the tax, peat extraction will decrease by 30%.

4. FINANCIAL – ECONOMIC EVALUATION

4.1. METHODOLOGY

The goal of financial – economic assessment is as precise as possible estimate of the effects of the increased tax on natural resources on tax collection. Increase or decrease of this tax is assessed:

- tax for the state's natural resources;
- fuel excise duty;
- social security contributions;
- personal income tax.

In addition, estimates are made of the state budget expenditure on unemployment insurance benefits based on the assumption that peat extraction companies, faced with the difficult financial situation, main reduce the volume of production and dismiss some of the workers.

The financial impact of tax increase is the change in all state net income derived from peat excavation industry. In order to calculate the change, we assessed two peat industry development scenarios – (a) if the tax will not increase (the base version), and (b) if the tax will be increased in accordance with the law amendment XIP-2658 registered on 11-11-2010 by Environmental Protection Committee Chairman Jonas Šimėnas (option after tax increase). All financial estimate assumptions used in the calculations, are presented below.

4.2. FINANCIAL ESTIMATE ASSUMPTIONS

Peat industry development scenarios are measured in terms of industry indicators (peat extraction volume, number of employees, turnover, profits and taxes paid, etc.) for three

years in advance. The calculation of these indicators were made on the basis of the representative survey of the Lietuviškos Dūrpės Peat Industry Association of peat companies, i.e. indicators of companies in 2009 – 2010. According to the data of the Association, the survey covered 80% of the peat industry enterprises in Lithuania.

4.2.1. PEAT PRODUCTION VOLUMES

The total increase or decrease of tax collection depends on the tax rate and the volume of peat extraction. Therefore, change in the volume of peat extraction because of the tax increase is an essential precondition for financial evaluation.

The effect of natural resource tax on the peat excavation industry and the potential decline in peat extraction is analyzed in Chapter 3 of the Study "Effect of tax increase on natural resources on peat industry" (see above). Here are the assumptions used in the subsequent financial calculations:

Table 4. Basic version, production volumes (without tax increase)

	2009*	2010*	2011	2012	2013
Extraction volume in cubic meters	2,798	1,779	1,779	1,779	1,779
Extraction volumes compared to 2010	157%	100%	100%	100%	100%

* Historical data

Table 5. Production volumes in case of increased tax

	2009*	2010*	2011	2012	2013
Extraction volume in cubic meters	2,798	1,779	1,424	1,246	1,068
Extraction volumes compared to 2010	157%	100%	80%	70%	60%

* Historical data

4.2.2. TAX FOR THE STATE NATURAL RESOURCES

Under the existing Law on Tax on the State Natural Resources of the Republic of Lithuania, Annex 1 ("Tax rates for mineral resources"), the base tax rate for peat extraction totals 0.62 LTL/m³. The draft law amendment of 11 November 2010 proposes to increase the rate 5.3 times to 3.30 LTL/m³.

Table 6. Assumptions of tax on the extraction of peat

	Basic rate, LTL/m ³	Indexing ratio *	Effective tax rate, LTL/m ³
effective	0.62	1.344	0.83
Proposed	3.3	1.344	4.44

* Environmental tax indexation rate set by the Ministry of Environment of the Republic of Lithuania, for the 1st quarter of 2011.

It should be noted that each year a different effective tax rate is calculated by multiplying the base rate by the indexing rates established by Ministry of Environment (measured in accordance with the annual inflation). The indexing rate set for 2011 IQ was 1.344, therefore the effective tax rate is 0.83 LTL/m, and the proposed – 4.44 LTL /m.

4.2.3. FUEL EXCISE DUTIES

All peat extraction companies consume sufficiently high a mounts of fuel (more than 4.5 million liters of diesel fuel in 2010). As the peat excavation companies are not exempt from fuel excise, a part of the fuel cost is comprised of the tax to the state. If the tax of natural resources is increased, this will result in the reduction of peat extraction, and the reduction in fuel consumption and fuel excise duty paid.

Table 7. Fuel excise rates

	LTL/thousand litres *
Excise duty on diesel fuel in 2009	947
Excise duty on diesel fuel in 2010	1,043

4.2.4. SOCIAL SECURITY TAX AND PERSONAL INCOME TAX

According to the data of Lietuviškos Dūrpės Peat Industry Association, all peat extraction companies employed about 1.4 thousand employees in 2010 (including seasonal workers who were temporarily employed). While the number of peat industry workers in Lithuania is not high, but according to the business surveys, they paid more than 10 million litas of social security contributions and about 4 million litas of personal income tax over the year. It is therefore natural that a decrease in the number of employed in the peat industry, will proportionately reduce the amount of taxes paid.

Therefore the financial assessment calculation involves estimates of the dependency of taxes paid by people employed in peat companies on the number of the employed. Used estimates were based on the historical data of the number of employees and their salaries in 2009-2010 and the likely decrease in the number of employees if the tax is raised (see Chapter 3 of the Study "Effect of tax increase on natural resources on peat industry" (see above). Below are the detailed assumptions used in the financial calculations.

Table 8. Assumptions of the number of employees (base version)

	2009*	2010*	2011	2012	2013
Number of permanent employees	1.018	971	971	971	971
Number of seasonal employees	350	409	409	409	409
Number of employees, total	1.368	1.380	1.380	1.380	1.380

Table 9. Assumptions of the number of employees (option with increased tax)

	2009*	2010*	2011	2012	2013
Number of permanent employees	1.018	971	777	680	583
Number of seasonal employees	350	409	327	286	245
Number of employees, total	1.368	1.380	1.104	966	828

Table 10. Salary and tax assumptions

	2009*	2010*	2011	2012	2013
Permanent employees					
Average salary (including soc. insurance), LTL	2.332	2.197	2.197	2.197	2.197
One employee's social insurance, LTL	723	681	681	681	681
One employee's personal income tax, LTL	284	268	268	268	268
Seasonal workers					

Average salary (including soc. insurance), LTL	1.497	1.435	1.435	1.435	1.435
One employee's social insurance, LTL	464	445	445	445	445
One employee's personal income tax, LTL	182	175	175	175	175

4.2.5. UNEMPLOYMENT INSURANCE BENEFITS

In assessing the potential decrease of peat industry's workforce it should be noted that unemployment implies its high costs for the state. Although it is rather difficult to estimate, but one of the methods of assessment is to calculate the amount of benefits paid to unemployed people.

The calculations were based on the assumption that the average unemployment insurance benefit per month is up to LTL 537, the benefits are paid no more than six consecutive months. In addition, the calculations were based on the assumption that about 50% of former turf industry workers would apply for unemployment benefits.

4.3. FINANCIAL ASSESSMENT RESULTS

Financial calculations results are presented in three tables below (Table 11, Table 12 and Table 13):

- In 2010, all peat enterprises paid a total of 20 million litas of basic taxes to the state, of which more than half were the social insurance contributions and personal income tax paid for the workers (14 million litas);
- After increasing the tax for the use of state natural resources and shrinking of extraction of peat (and, consequently, the number of employees) by 80% of the level in 2010, the state revenues from all taxes and fees could amount to more than 21.3 million litas in 2011, but possibly could lead to some social security benefits, together determining the net state revenue increases by 0.5 million litas compared to 2010.
- If in 2012, the peat extraction and the number of employees decreases by 70% of the level of 2010, state revenue would drop to about 19 million litas, there would be a little increase in unemployment benefits, reduction in the land-tax operating income due to reduced surface area of peatlands, which together would result in 2.3 million litas lower net income for the state compared to indicators in 2010.
- If in 2013 the peat extraction and the number of employees decreases by 70% of the level of 2010, the state revenue would drop to 16 million litas, they would be even greater social and unemployment benefits that would result in more than 5 million litas lower net state revenue, compared to indicators in 2010.

Table 11. Budget revenue and expenditure: base option

Thousand litas	2009	2010	2011	2012	2013
Taxes (budget revenue)					
Environmental tax	2.155	1.422	1.451	1.480	1.509
Fuel excise	2.491	4.416	4.864	4.864	4.864
Permanent employees social insurance tax	8.831	7.936	7.936	7.936	7.936
Seasonal workers social insurance tax	1.949	2.184	2.184	2.184	2.184
Permanent employees income tax	3.469	3.117	3.117	3.117	3.117
Seasonal workers income tax	766	858	858	858	858
In total, revenue	19.660	19.932	20.408	20.437	20.467

Benefits (budget spending)					
Unemployment insurance benefits	0	0	0	0	0
In total, benefits	0	0	0	0	0
Net income	19.660	19.932	20.408	20.437	20.467

Table 12. Budget revenue and expenditure: option after increased tax

Thousand litas	2009	2010	2011	2012	2013
Taxes (budget revenue)					
Environmental tax	2.155	1.422	6.176	5.513	4.820
Fuel excise	2.491	4.416	3.891	3.404	2.918
Permanent employees social insurance tax	8.831	7.936	6.350	5.557	4.765
Seasonal workers social insurance tax	1.949	2.184	1.746	1.527	1.308
Permanent employees income tax	3.469	3.117	2.494	2.183	1.871
Seasonal workers income tax	766	858	686	600	514
In total, revenue	19.660	19.932	21.344	18.784	16.196
Benefits (budget spending)					
Unemployment insurance benefits	0	0	-445	-667	-889
In total, benefits	0	0	445	-667	-889
Net income	19.660	19.932	20.899	18.117	15.307

Table 13. Financial effect of the tax increase to budget revenue and expenditure

Thousand litas	2009	2010	2011	2012	2013
Tax (budget revenue) difference					
Environmental tax	0	0	4.726	4.033	3.310
Fuel excise	0	0	-973	-1.459	-1.945
Permanent employees social insurance tax	0	0	-1.585	-2.378	-3.171
Seasonal workers social insurance tax	0	0	-438	-657	-876
Permanent employees income tax	0	0	-623	-934	-1.246
Seasonal workers income tax	0	0	-172	-258	-344
Impact on revenue, total	0	0	935	-1.653	-4.271
Benefits (budget expenditure) difference					
Unemployment insurance benefits	0	0	-445	-667	-889
Effect on benefits, total	0	0	-445	-667	-889
Impact on net revenue	0	0	490	-2.320	-5.161

According to the financial estimates, state net income after tax increase for natural resources would increase only if the turf industry's output who do not abuse by more than 22% compared to the indicators of 2010. According to the above analysis (Chapter 3 "Effect of tax increase on natural resources on peat industry") it is likely that in the medium term, peat extraction volume may decrease by 30%, which would lead to financial losses, rather than benefit for the state.

4.4. OTHER EFFECTS OF THE TAX INCREASE

There are a number of other factors which should be taken into account in assessing the effect of increased tax on natural resources, but which are difficult to express financially. These qualitative factors and their significance is explained below.

Social factors. Lithuanian peat industry is composed of 37 companies, some of which are relatively large, with about 200 employees, but most are small businesses located in rural areas and employing local people. Some of these companies are the main employers in these rural settlements. Therefore, although the whole Lithuanian turf industry and does not have many employees (about 1.4 thousand people, including seasonal workers), if small turf companies face financial difficulties and begin reducing the number of employees, such settlements would face painful social problems. The analysis showed that the most serious financial difficulties due to tax increases would be incurred specifically by small peat extraction companies situated in small towns.

The negative impact on foreign direct investment. Considerable resources have been invested in the peat extraction and processing industry, some companies are owned by foreign investors. The tax increase would lead to negative profitability of the Lithuanian peat industry, and reduce the investment attractiveness both for the industry and the whole of Lithuania. In addition, investors (particularly from the Baltic countries) are constantly searching for opportunities to invest in the turf industry, current they explore options of purchasing peat fields in Russia. It is likely that after the increase of tax for peat extraction, these investments will bypass Lithuania (by the way, now, even without an increase in tax, it is the largest in the Baltic countries).

Risk of breach of the EU support contracts. Part of Lithuanian peat extraction and processing plants have been implemented or are implementing modernisation projects through the EU Structural Funds. With the increased tax on the extracted peat companies might face financial problems, and would risk to breach the EU support contracts (which are usually valid for five years after the project implementation).

Increase in prices:

- In some settlements and individual homes turf is used as a cheap and clean fuel for heat production. With increase of peat cost and, consequently, the sales price, fuel prices and hence the heat prices would grow, which would have an adverse socio-economic impacts;
- Lithuanian turf is used for growing plants (flowers, vegetables) and, therefore, increase in the price of peat would lead to the growth of the plant cost.

Impact on value chain:

- Turf companies use a number of transport services, because both exported peat and peat sold in Lithuania is transported along considerable distances. In most cases companies use external carriers, whose business volumes would be significantly reduced, with the reduction in the volume of peat extraction and the carriers would be adversely affected by the financial situation, reducing the turnover tax and other payments to the budget;
- reduction in peat production and sales volumes, it would reduce the need for packaging materials (mostly pallets), all of which the turf industry uses at nearly 8 million litas over a year. In this way, this would lead to a decline in the turnover of manufacturers of packaging materials and their taxes paid.

Environmental factors:

- Abandoned peat bogs emit carbon dioxide (CO₂) and therefore, along with a decrease of peat extraction, this increases the release of these gases into the atmosphere.
- Increase in the abandoned areas of peat fields or shrinking the peat company's capacity would increase the likelihood of fires that severely pollute the atmosphere and are very difficult to extinguish.
- Depleted wetlands have to be re-cultivated (planted and arranged), and the companies have to do this from their its own funds, i.e., by accumulating a reserve from the profit. If companies become to make loss, and face with financial problems, it is difficult to expect that they will still have funds for remediation, leading to an increase non-recultivated peat areas in Lithuania.

5. CONCLUSIONS

Below are brief conclusions of the Public Institution Economic Research Center, summarizing the effect of the increase of tax for the state's natural resources to the Lithuanian peat industry and the state tax collection analysis:

- More than 80% of the peat excavated in Lithuania and their products are exported, i.e., Lithuanian peat companies are involved in the global market;
- Global peat market is very competitive, so Lithuanian peat producers are unable to raise selling prices.
- In 2010, the Lithuanian peat industry upgraded at a loss (experienced over one million litas losses). If the tax of natural resources would be increased at the proposed rate (3.30 LTL/m³), the industry would have suffered over 7 million litas of loss;
- It is therefore likely that in absence of the option of increasing the sale prices and the lack of internal resources to compensate for the increased cost, the total volume of peat extraction in Lithuania in case of tax increase will be reduced from 20 to 30%.
- Increasing the tax on extraction of peat 5.3 times and production volumes falling by more than 22%, the state might receive less income in all types of taxes than it receives at the unchanged tax level and the volume of production remaining unchanged, namely the introduction of tax would be financially damaging.
- In addition, the decline in production volumes and numbers of personnel as the potential serious financial problems of the smallest peat extraction companies would have an adverse economic, social and environmental impact.

In the opinion of the Public Institution Economic Research Center, when considering in the option of tax increase on excavated peat, it is necessary to take into account both the positive factors in terms of the state (the increase in tax revenue for the state's natural resources) and the negative (dismissed workers, resulting in decrease in social security, income taxes) and the risk that the negative factors of the tax increase will outweigh the positive factors. This risk can be reduced only through comprehensive measures to facilitate the peat industry to avoid reducing the level of production.