Mineral resource extraction charge (peat, phosphate and rock) in Estonia[i]

Author: Tea Nõmmann (Stockholm Environment Institute, Tallinn – SEIT)

Brief summary of the case

Mineral resource extraction charges were introduced in Estonia in 1991. The charges are imposed on various state owned construction rocks, energy minerals and minerals used in agriculture, based on the quantity of the extracted resource (m^3 or tonnes). The most recent amendment to the Environmental Charges Act in 2016 clarifies that the instrument aims to raise revenues from natural resource use (previously the Government stressed that the aim of the charges is to protect the environment by internalising negative externalities).

Environmental charges including mineral resource extraction charges have been increased several times over the years. Civil society partners have been involved in different capacities and with different levels of effectiveness. In 2012, industry challenged the resource charge increase mainly on the grounds of increased economic burden on the mining, energy and construction sector as well as due to poor stakeholder involvement, lack of prior notice and preparation period for the application of new rates. The Supreme Court overturned the increase in December 2013 and the earlier rates were restored. Whilst increases in the resource charges have increased revenues, they have not reduced the quantity of mineral resources extracted nor have they increased the resource productivity of the economy.

Since 2013, the Ministry of Environment has launched the development of the National Environmental Taxation Conceptual Framework 2016+. This process has involved many stakeholder meetings and the launch of various studies which will be available in 2017. However, decisions about new concepts are likely to be delayed until 2018 due to Estonia's EU presidency during the second half of 2017 (or may not even be forthcoming due to the change in governing coalition in November 2016).

1 Description of the design, scope and effectiveness of the instrument

1.1 Design of the instrument

The Estonian tax system is regulated by the Taxation Act, which covers direct taxes (personal income tax, corporate income tax, social tax, land tax) and indirect taxes (VAT, excise duties, gambling tax, heavy goods vehicle tax and customs duties). Environmental charges are not defined as taxes according to this act and are treated separately.

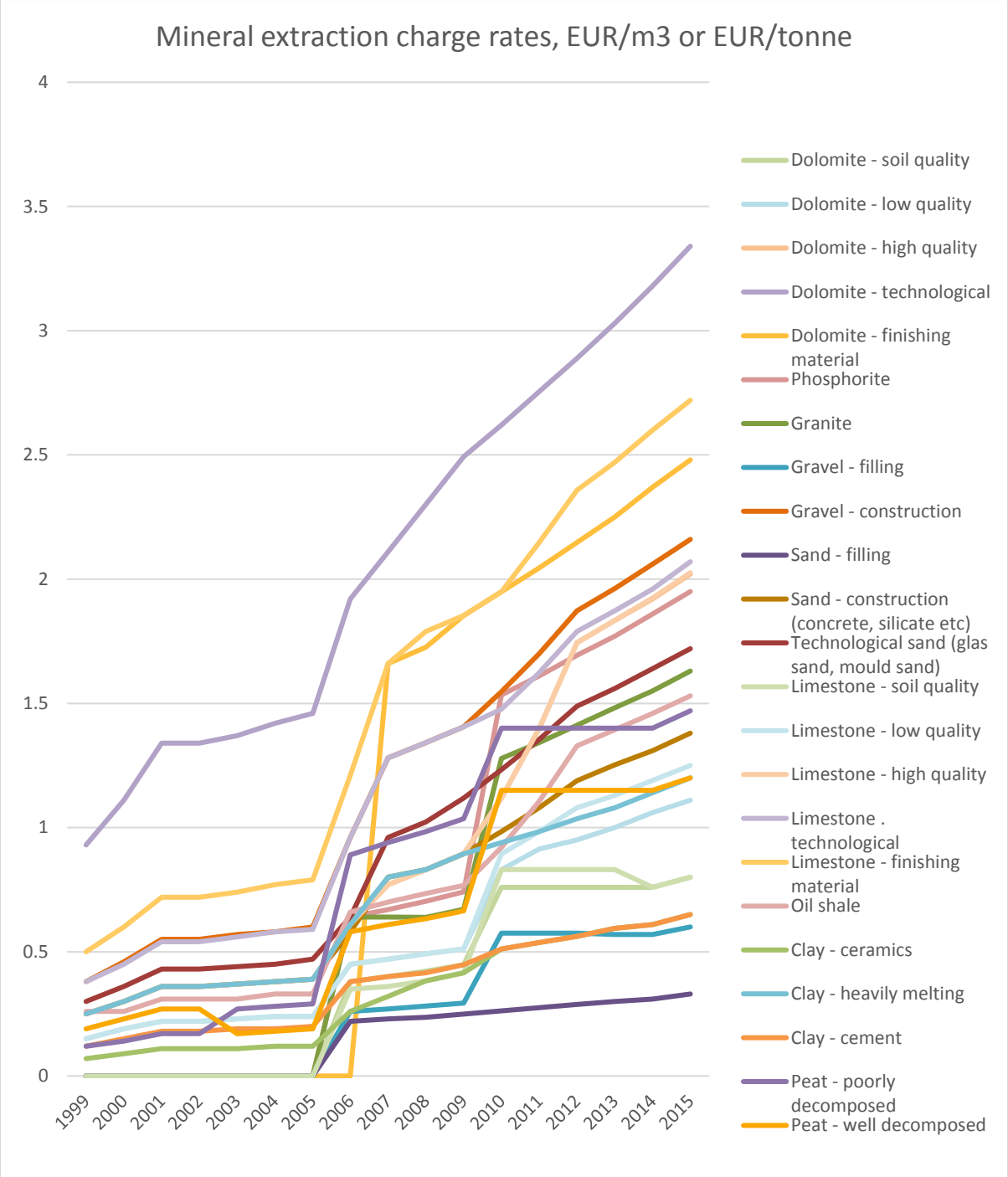
Mineral resource extraction charges were introduced in Estonia in 1991 (OECD, 2016). Since 2005 all environmental charges have been regulated by the Environmental Charges Act and annual rates have been set by the Government regulation (MoE, 2005). Mineral resource extraction charges are imposed on various state owned bedrock minerals like construction rocks, energy minerals and minerals used in agriculture (see full list in Annex 2 of this case study) (MoE, 2016b). The charges have been based on the quantity of the extracted resource (m^3 or tonnes). Extraction of construction minerals like gravel and sand located on private land is not taxed; the price is negotiated between the extracting company and the landowner.

Extracting companies do need permits for the extraction of state owned or privately owned mineral resources. Extraction charges are paid quarterly based on the extracted amounts.

The most recent amendment to the Environmental Charges Act introduced new charging principles for energy minerals (MoE, 2005). For the well-decomposed peat extraction charge the benchmark will be the price of wood chips (see Annex 2), and the benchmark for the oil shale extraction charge will be the average global fuel oil price (1% sulphur). The new 2016 charges for energy minerals were applied retrospectively as of 1 July 2015. The difference between the extraction charges paid for energy mineral resources since then and those due under the new system will be refunded by the State, without interest.

Environmental charges including mineral resource extraction charges have been increased several times over the years (see Figure 1).

Figure 1. Mineral extraction charge rates in Estonia 1999-2015, EUR/m3 or EUR/tonne



Source: The Ministry of Environment (MoE, 2016_a)

1.2 Drivers and barriers of the instrument

Mineral resource charges have been part of Estonian environmental policy for a very long time. The initial aim of the Environmental Charges Act (MoE, 2005) was to establish and impose environmental charges "based on the need for environmental protection and the economic and social situation of the state." Amendments to the Act in July 2016 added the following text: "[environmental charges are] also based on the value created by natural resources subject to the charge. A mineral resource extraction charge that exceeds the minimum rates provided for in the Act is established based on the state's goal of earning

revenue." The amendment broadened the aim of the tax, introduced a distinction between construction mineral resources and energy mineral resources and introduced new charging principles for the extraction charge payable for extracted energy mineral resources (MoE, 2016c).

It is important to emphasise, that by the amendment it explicitly states that the additional aim of the government is also to earn revenue from the natural resources. Earlier the government stressed that the aim of environmental charges is to protect environment by internalising negative externalities.

Energy mineral related elements (except peat) are not discussed further in this case as they are outside the scope of the study.

Environmental charges had an important role in wider ecological tax reform discussions during 2004-2005. Environmental charges have been increased several times. For example the 2006 increase in the tax rate was part of bigger changes including a parallel reduction of income tax on physical persons (income tax was 26% in the 1990s/early 2000s, reduced to 21% by 2009, and 20% in 2015). In parallel to changes in income tax, increases in fuel and excise taxes have taken place (i.e. 2004, 2008, 2009, 2010 and more recently in 2016-2018) (Ministry of Finance, 2016).

An increase in mineral resource extraction charges in 2012 was challenged by industry on the grounds of poor stakeholder involvement, lack of prior notice and preparation period for the application of new rates and increased economic burden on the mining, energy and construction sector. The Supreme Court overturned the increase in December 2013 and the earlier rates were restored (Supreme Court, 2013).

In 2013, the Ministry of Environment launched the development of the National Environmental Taxation Conceptual Framework 2016+. This process has involved many stakeholder meetings and the launch of various studies (see below).

Resource charges in Estonia have not been linked to industry revenues or global prices. Mineral extraction and processing companies and the Estonian Association of Chemical Industries launched an aggressive media campaign to highlight the negative impact on industry of increasing resource charges against the background of the global fuel price drop in 2014-2015. The direct link to national security was established via the increasing potential for social unrest in the region (the North-East of the country borders Russia).

Due to the codification process of Estonian Environmental Law and the political commitment to increase the state role in the strategic long-term management of Estonian mineral resources, several parallel developments are taking place. The Earth's Crust Act (MoE, 2015) is currently being revised and a Strategy for the Earth's Crust is being developed (MoE, 2016_c). The Estonian Construction Minerals Development Plan for 2011-2020 was approved by the Government on 10 March 2011. (MoE, 2011)

Currently minerals – peat and phosphatic rock – do not have separate development plans. Peat resources consist of low-decomposed and well-decomposed peat. The charge rates for

well-decomposed peat were revised with a calculation principle based on comparable fuel, i.e. the price of wood chips as quoted by the Estonian State Forestry Management Centre (see Annex 2). Phosphatic rock is not being extracted. The industry has shown interest to study and investigate the opportunities for extraction. Due to a very high political sensitivity of the issue, nor exploration permits have been given out.

1.3 Revenue collection and use

Receipts from mineral resources extraction charges are shown in the bottom row of the table below. The revenues from mineral extraction charges have increased over the years. The impact of pollution charges in combination with stringent legislative requirements show that revenues from pollution charges are decreasing.

Table 2. Receipts from environmental taxes, 2008-2012 (million euros)

Keskkonnamaksud	2008	2009	2010	2011	2012	*Environmental taxes*
Energiamaksud	317,6	352,9	373,9	390,9	426,5	*Energy taxes*
kütuseaktsiis	294,9	331,0	343,4	359,0	393,5	*fuel excise duty*
elektriaktsiis	22,7	21,9	30,5	31,9	33,0	*excise duty on electricity*
Saastemaksud	43,0	41,2	30,9	34,3	32,0	*Pollution taxes*
õhusaastetasu	8,2	9,0	9,8	12,0	9,9	*air pollution charge*
heitvee saastetasu	5,3	5,7	6,0	5,3	4,6	*water pollution charge*
jäätmete saastetasu	29,4	26,6	15,2	17,0	16,7	*waste disposal charge*
pakendiaktsiis	0,1	0,0	0,0	0,2	0,3	*packaging excise duty*
Ressursimaksud	11,7	12,3	14,2	14,2	14,9	*Resource taxes*
vee erikasutusõiguse tasu	10,2	10,9	13,0	12,9	13,4	*water abstraction charge*
kalapüügiõiguse tasu	1,5	1,4	1,3	1,3	1,5	*fishing charge*
Transpordimaksud	7,0	6,1	7,0	9,9	10,8	*Transport taxes*
raskeveokimaks	4,0	3,5	3,5	3,7	3,9	*heavy goods vehicle tax*
sõiduauto registreerimismaks	3,0	2,6	3,5	6,2	6,9	*car registration tax*
Keskkonnamaksud kokku	379,3	412,5	426	449,3	484,2	*Total environmental taxes*
Maavara kaevandamisõiguse tasu[a]	19,1	17,8	23,1	29,0	33,2	*Mineral resources extraction charge[a]*

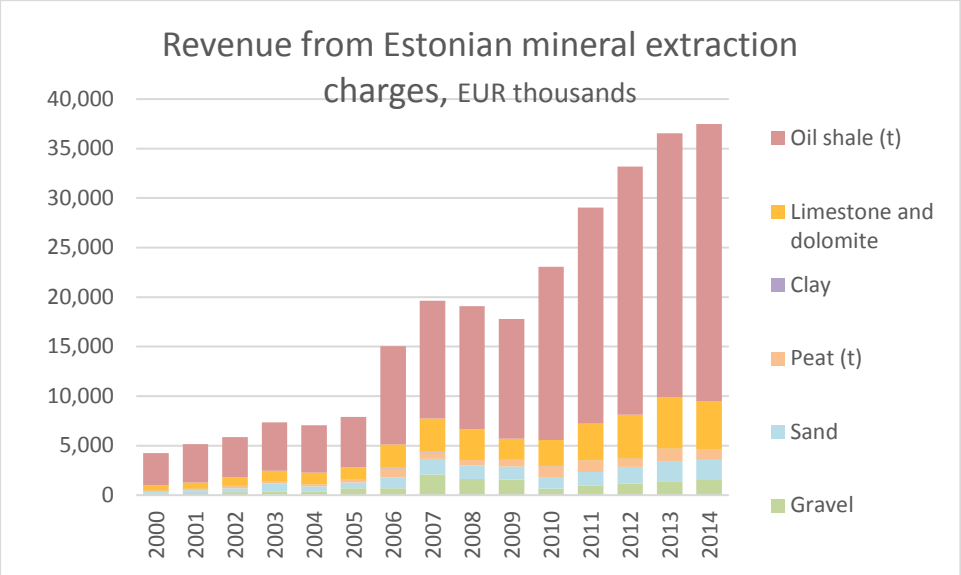
[a] Deklareeritud tasu suurus Keskkonnaministeeriumi andmetel.

[a] *Declared amount of the charge according to the Estonian Ministry of Environment.*

Source: Environmental Taxes Account. Quarterly Bulletin of Statistics Estonia 4/13.

The increasing resource charges (Figure 1) have led to an increase in the total environmental tax revenues (Figure 2). The biggest share of resource charges are collected from oil shale.

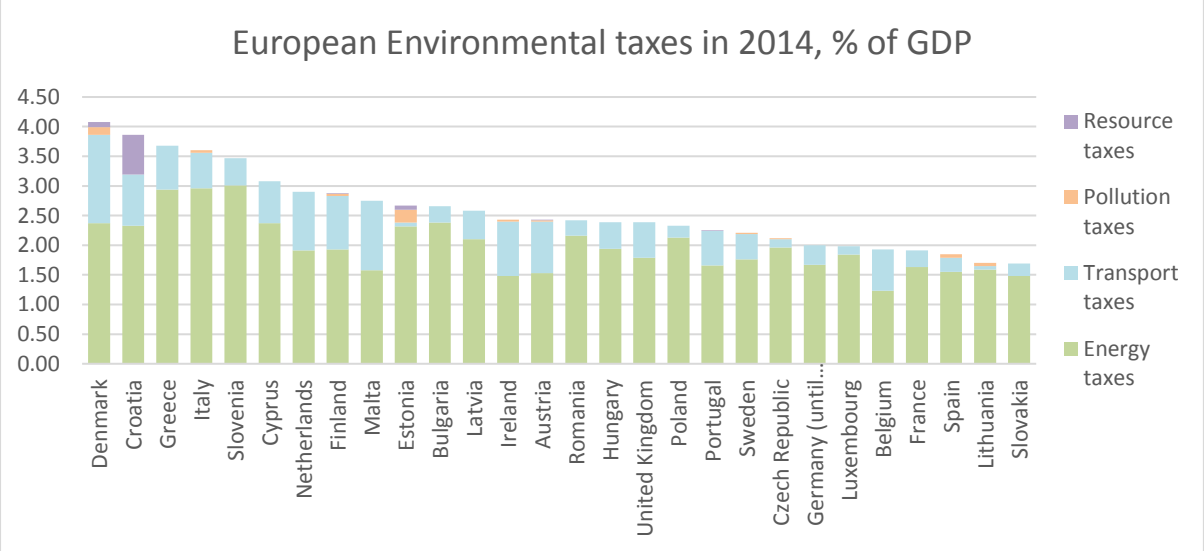
Figure 2. Revenue from mineral extraction charges in Estonia, EUR thousands



Source: Ministry of Environment (MoE, 2016a)

It should be noted that the Estonian resource extraction charges presented in Figure 2 (which amount to over EUR 35 million) are not included in EU-wide statistics on environmental charges and environment-related taxes. This results in an underestimate of the Estonian environmental taxes' share of GDP (see Figure 3). In addition, since natural resource and pollution charges are not defined as taxes according to Estonian Tax Act, they are not considered part of the country's overall tax burden. Caution should therefore be taken if tax increases are to be recommended (e.g. by the EU or OECD).

Figure 3. European Environmental Taxes in 2014 as % of GDP



Source: Eurostat. Environmental tax revenues database.

Revenues from the resource charges are split between the state and local authorities depending on the status of the resource (full list in Annex 3). The larger share of revenues from resources with local importance (usually aggregates) are allocated to local municipal

budgets. Revenues from pollution charges and oil shale resource charges are allocated to the state budget. The basis of revenue allocation will be changed in near future, and the principles are currently being negotiated with stakeholders.

The main beneficiary of state revenues from mineral resource charges (and various pollution charges) is the Estonian Environmental Investment Centre (EIC).[1] The EIC was founded in 2000 by the Ministry of Finance and is chaired by the Minister of Environment. The EIC channels the proceeds from the exploitation of the environment into environmental projects, is the implementing agency for environmental projects financed by the EU structural funds, and lends money for the implementation of environmental projects. Since 2010 the EIC is also the implementing agency for the Green Investment Scheme (selling excess CO_2 quotas and supervising investments). The allocation of revenues from the mineral resource charges is presented in Table 1. Due to economic and financial turmoil in 2007-2008 and the impact on the state budget, the allocation revenues from environmental charges was changed so that a proportion of the revenue was no longer allocated to the EIC. In 2007 the state budget received 14% of the environmental charges; this had increased to 44% by 2014.

Table 1. Allocation of revenues from Estonian environmental charges, in EUR 1000s

Revenue	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Environmental charges, Total	**51,786**	**71,047**	**85,782**	**87,531**	**71,770**	**67,222**	**75,847**	**78,790**	**92,025**	**90,521**
Allocated to the Environmental Investment Centre	*	*	57,060	57,007	53,809	41,715	40,645	35,680	36,223	36,013
Allocated to state budget	*	*	11,650	12,341	491	6,651	15,648	22,972	37,677	39,650
Allocated to local authorities	10,009	13,945	17,072	18,183	17,471	18,856	19,553	20,137	18,125	14,858
Revenue according to charge type										
Charges for mineral extraction, sum	**7,872**	**13,458**	**17,801**	**18,878**	**18,082**	**22,315**	**27,712**	**32,514**	**39,855**	**33,223**
Allocated to state budget	2,104	5,243	7,204	7,677	7,632	11,003	15,601	19,722	27,538	23,055
Allocated to local authorities	5,768	8,215	10,597	11,201	10,450	11,312	12,111	12,792	12,317	10,168
Share of mineral extraction charges in total environmental charges	*15%*	*19%*	*21%*	*22%*	*25%*	*33%*	*37%*	*41%*	*43%*	*37%*

Source: Ministry of Environment (10.09.2016) (MoE, 2016a)

The EIC uses revenues from environmental charges to fund its environmental programme, which focuses on areas including air pollution, fisheries, forestry, marine environment, nature conservation, water management, waste management, environmental awareness and environmental management. Project proposals can be presented by academia, NGOs, schools, municipalities, enterprises and agencies of the Ministry of Environment. Projects include research, media campaigns, educational projects, and investing in new techniques and processes.

[1] Estonian Environmental Investment Centre http://www.kik.ee/en/about-us

During stakeholder consultations, the mineral extraction industry has stated that collected revenues are not recycled back to the mining sector (i.e. to fund environmental projects or studies) but are used to fund environmental projects in other environmental domains, including drinking and waste water and waste management projects. Mining stakeholders further stated that the need to increase national co-funding via EIC for drinking and waste water investment projects was probably also a critical reason to increase environmental charges, including resource charges.

Revenues directed to the state budget are not specifically earmarked for environmental purposes.

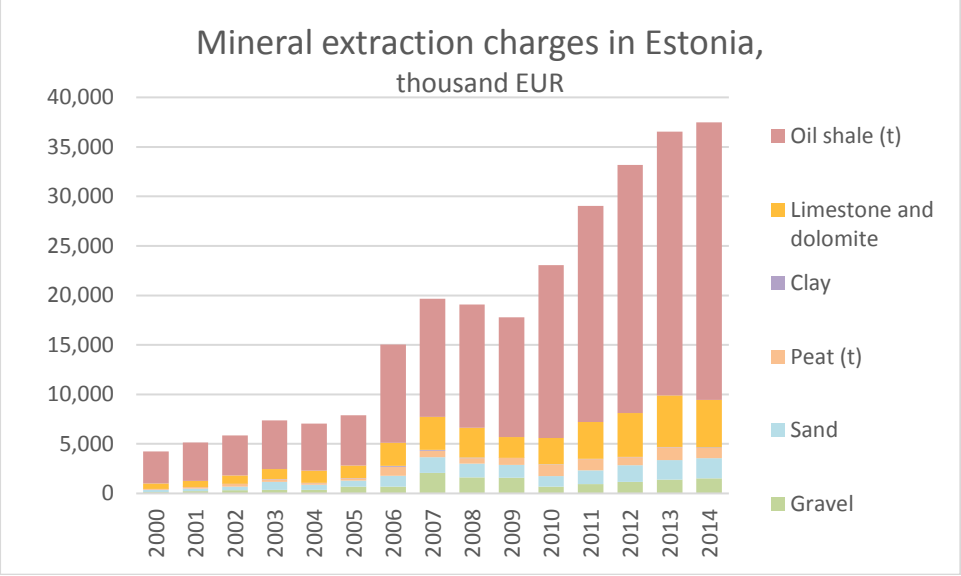
There are no industry exemptions to the extraction charges. On the other hand, pollution charges can be reduced if investments are made in agreed best available technology or solution. This must be negotiated with the ministry.

1.4 Environmental impacts and effectiveness

The following graphs present the resource charges and extraction of the resources. The increases of resource charges in 2001, 2006 and 2006 can be followed from the figure 2 across all the resource charges.

The increasing resource charges have raised also the total environmental tax revenues that are shown on figure 4. The biggest share of resource charges are collected from the oil shale.

Figure 4. Revenue from the mineral extraction charges in Estonia, 1000 EUR.

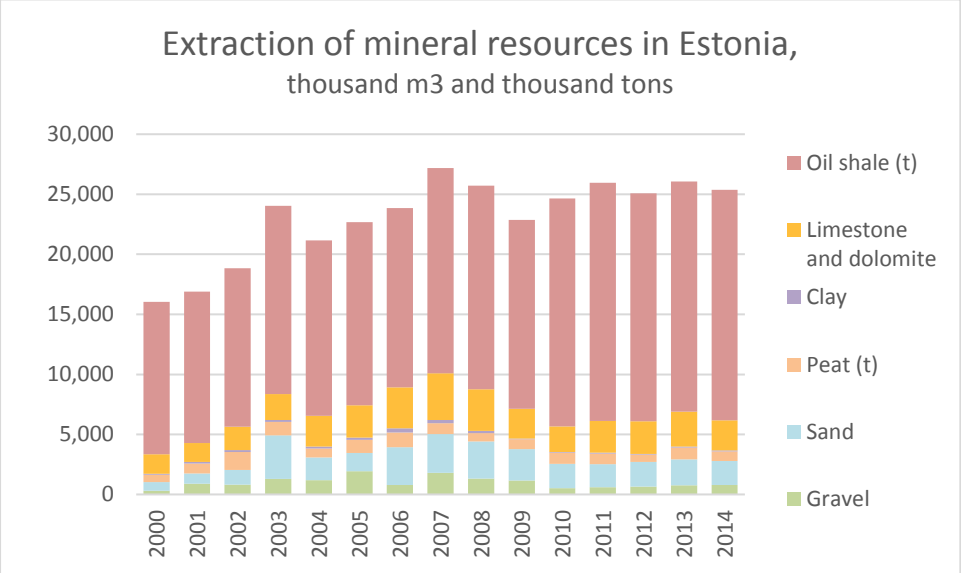


Source: The Ministry of Environment

Whilst the increases in resource charges have increased revenues, they have not reduced the quantity of mineral resources extracted (See figure 5) nor increased resource productivity (see figure 8). The demand for aggregates and natural construction material is driven by infrastructure investments and construction in industrial, agricultural and other sectors. The

majority of the aggregates are used on local national markets. [was it the only objective of the charge? Nothing on triggering the use of recycled materials for example?]

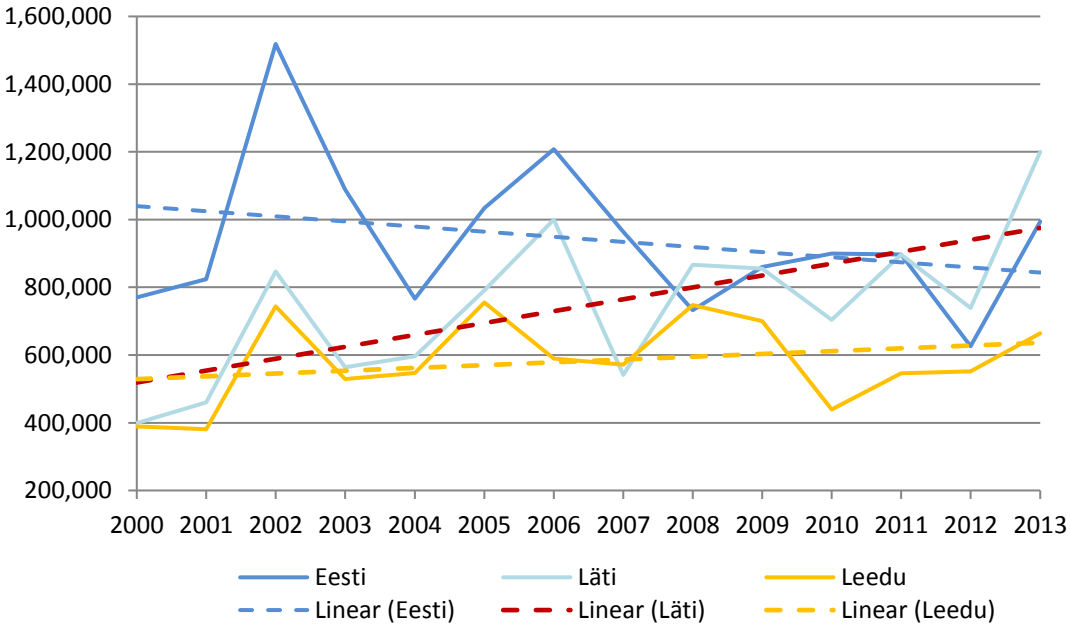
Figure 5. Quantities of mineral resources extracted in Estonia, thousands of m3 and tonnes



Source: The Ministry of Environment (MoE, 2016_a)

Concerning peat production, the increasing charges and changing global markets (including the impact of EU-Russia trade bans) have reduced the extraction quantities of peat in Estonia as compared to the neighbouring Baltic countries (Latvia and Lithuania). These trends are illustrated in figure 6.

Figure 6. Peat extraction in Baltic Countries, tonnes per year



Source: Estonian Peat Producers Association

The Ministry of Environment has launched a study on the externalities of mining and various other industrial activities. The aim is to analyse whether current environmental pollution and resource taxes are compensating for the negative impacts or not. The industry suspects that current charges are higher than the potential negative externalities of their activities. The first phase of the study on identifying and quantifying externalities should be ready by early 2017 and the second phase on putting a monetary value on these externalities during 2017.

1.5 Other impacts

Resource charges for construction materials and energy resources have had an impact on the industry and on local economies and local municipalities' budgets. As the resource tax is based on the quantity of extracted materials (not revenues or profits of the sector), the extractive industry has borne the main impacts. In addition to resource charges, the extractive industry is also faced with the impact of increasing emission charges and fuel excise duties. The biggest impact on industry comes from fluctuations in global and regional market prices for energy and construction materials.

According to the Association of Peat Producers, the increasing resource extraction charges, water pollution and other charges and an increase in fuel excise taxes have negatively affected the competitiveness of the peat mining sector. Additional adverse impacts are arising from the trade restriction to Russia, as returning cargo ships were used also to transport peat at more reasonable prices. As trade flows have reduced, transport opportunities have reduced, increasing the overall costs for international transport. In addition to this competitiveness issue, there is an important problem with peat fields emitting CO_2 due to the mineralisation process. The upper level low-decomposed peat is mined, but due to several market restrictions the lower level well-decomposed peat is not used to the same extent for heat production, thus leading to CO_2 emissions. Regional and European challenges related to peat extraction were discussed at a recent international forum[2]. Countries presented different policies on peat extraction, for example Germany will phase out peat extraction in the near future and the UK will phase out peat-based growing media by 2030. There are opportunities for Responsible Peat Production certification and peatland management from valued biodiversity rich peatlands towards degraded peatlands. Other issues discussed included the impact of climate change on peat production, increased CO_2 emissions from peatlands, and the development of wet peat mining technologies to reduce CO_2 emissions.

The recent reduction of resource charges, especially for oil shale, have reduced the tax revenues to the state budget and to the budget of the EIC. The Minister of Environment has stated that the budget of EIC will be reduced by 30% for 2016, which will affect its ability to fund various environmental projects (Tõhk, 2016).

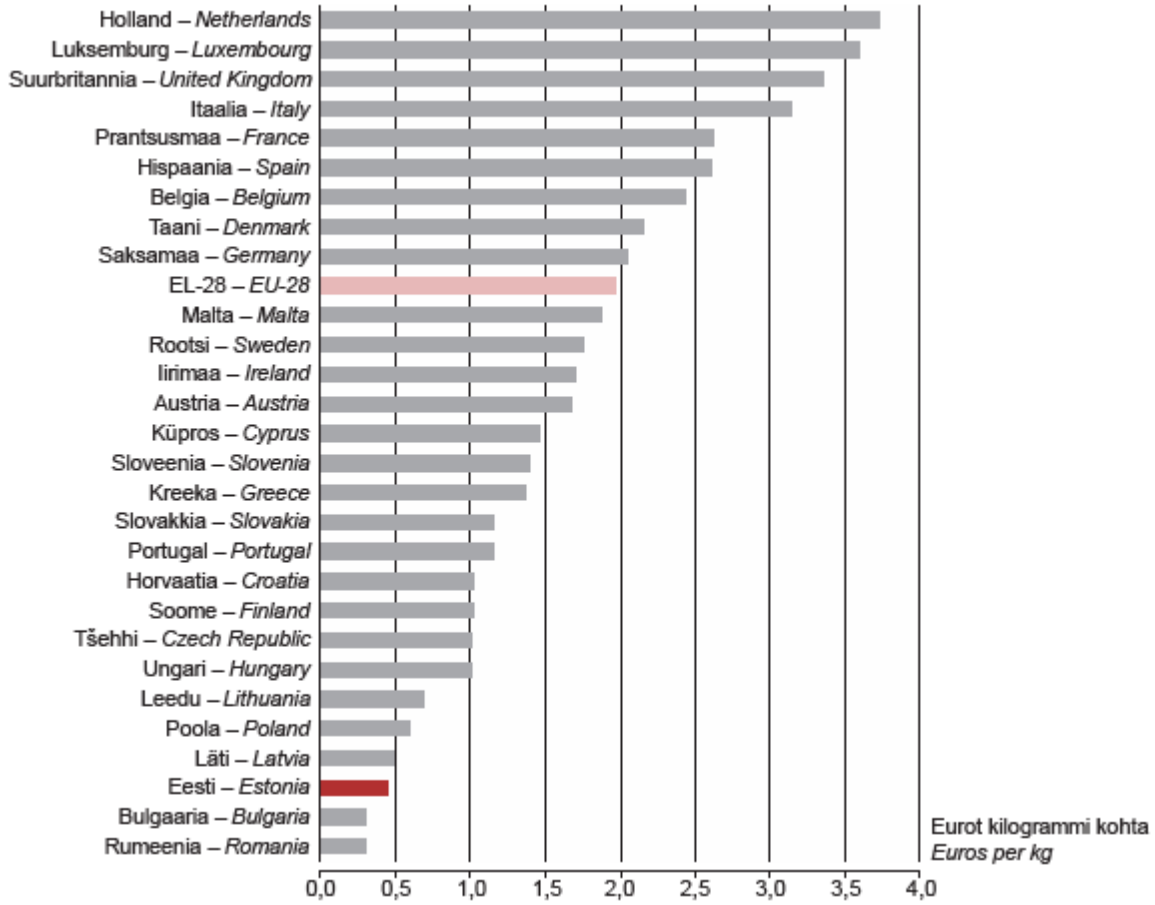
According to a study on the impacts of environmental charges (both pollution and resource extraction) carried out in 2012-2013, resource efficiency improvements in extractive industries had been limited due to many reasons, but one for example being the lack of programs to fund innovations in the field (SEI Tallinn and TÜ Rake, 2013). Companies felt that regulatory restrictions had more impact on their operations and investment decisions.

[2] The 15th Baltic Peat Producers Forum, 15-18.09.2016. http://www.bppf2015.eu/

Increasing charges also have important role when investment decision are made, but the increases of the charges have been rather frequent and companies have not had enough time and resources to plan for needed changes. Overall it was concluded, that extractive industry is affected most by the world market prices and /or the health of the economy. In 2014 several of those factors coincided for the Estonian mining sector in negative terms. For the industry the biggest concern is that natural resource charge rates are not dependent on market conditions or companies' revenues, thus the market risks are borne solely by the industry.

The Estonian economy is rather energy and resource intensive. The EU average energy intensity is 0.122 tonnes of oil equivalent (TOE) of energy used per EUR 1,000 of GDP. In Estonia in 2014 it was nearly three times higher at 0.386 TOE. The resource productivity of Estonia is low compared to other EU countries. The comparison across EU countries is shown in Figure 7.

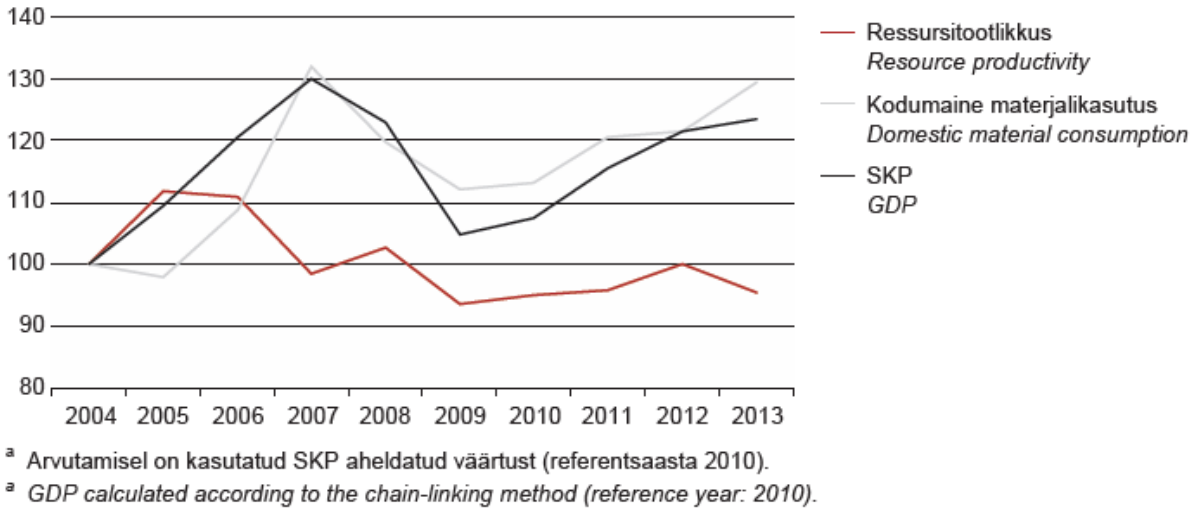
Figure 7. Resource productivity in the European Union, 2013



Source: Eurostat

Material consumption has increased faster than GDP, thus resource productivity in Estonia has decreased over the last ten years (see Figure 8).

Figure 8. Resource productivity, material consumption and GDP, 2004-2013 (2004=100)

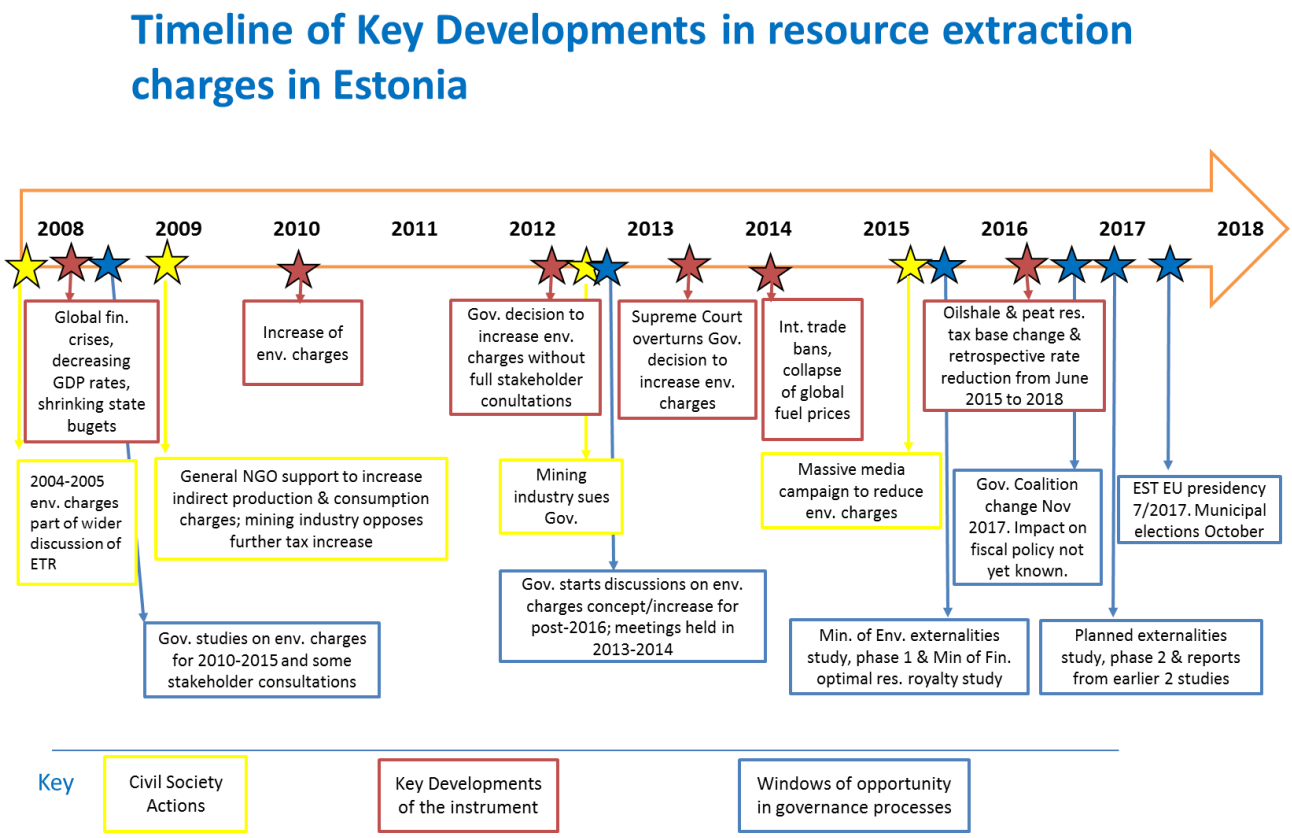


[a] Arvutamisel on kasutatud SKP aheldatud väärtust (referentsaasta 2010).
[a] *GDP calculated according to the chain-linking method (reference year: 2010).*

Source: Statistical Yearbook of Estonia (2016)

According to Statistics of Estonia (Statistical Yearbook of Estonia, 2016), "the greatest increase has occurred in the consumption of construction minerals, the amount of which has reached the level of input of oil shale."

2 Stakeholder engagement



Key stakeholders for the natural resource extraction charges are the peat industry, construction materials industry and oil-shale industry, as well as local municipalities and local

communities. Bigger companies can be engaged directly, but industry is also represented by several associations: Association of Estonian Mining Enterprises,[3] Association of Estonian Chemical Industry[4], Association of Peat Producers[5], Association of Construction Material Producers of Estonia,[6] etc. Some environmental NGOs also participate directly or are represented by the Estonian Council of Environmental NGOs[7] or a nominated NGO based on ad hoc agreements and available competences.

The Ministry of Environment has mainly been responsible for natural resource charges policy. The Ministry initiated and carried out stakeholder meetings during 2013-2014 collecting feedback from industry, academics, NGOs on environmental and resource charges. Some recommendations were integrated directly into new plans whilst others led to additional studies, for example to identify and quantify externalities from the mining industry and to monetise external impacts (see above). The aim is to study, whether current environmental and resource charges are compensating for the negative externalities or not. The study aims to design resource and pollution charges based on the new knowledge. The aim of and terms of reference for the study where prepared by a working group representing all relevant ministries, industry representatives, NGOs and some researchers.

The reductions to resource extraction charges agreed by the Government in summer 2016 and applied retrospectively since summer 2015 were the result of lobbying and campaigning by the mining industry. It should be noted that this took place during the drastic drop in global fuel prices that has directly impacted the Estonian oil shale industry.

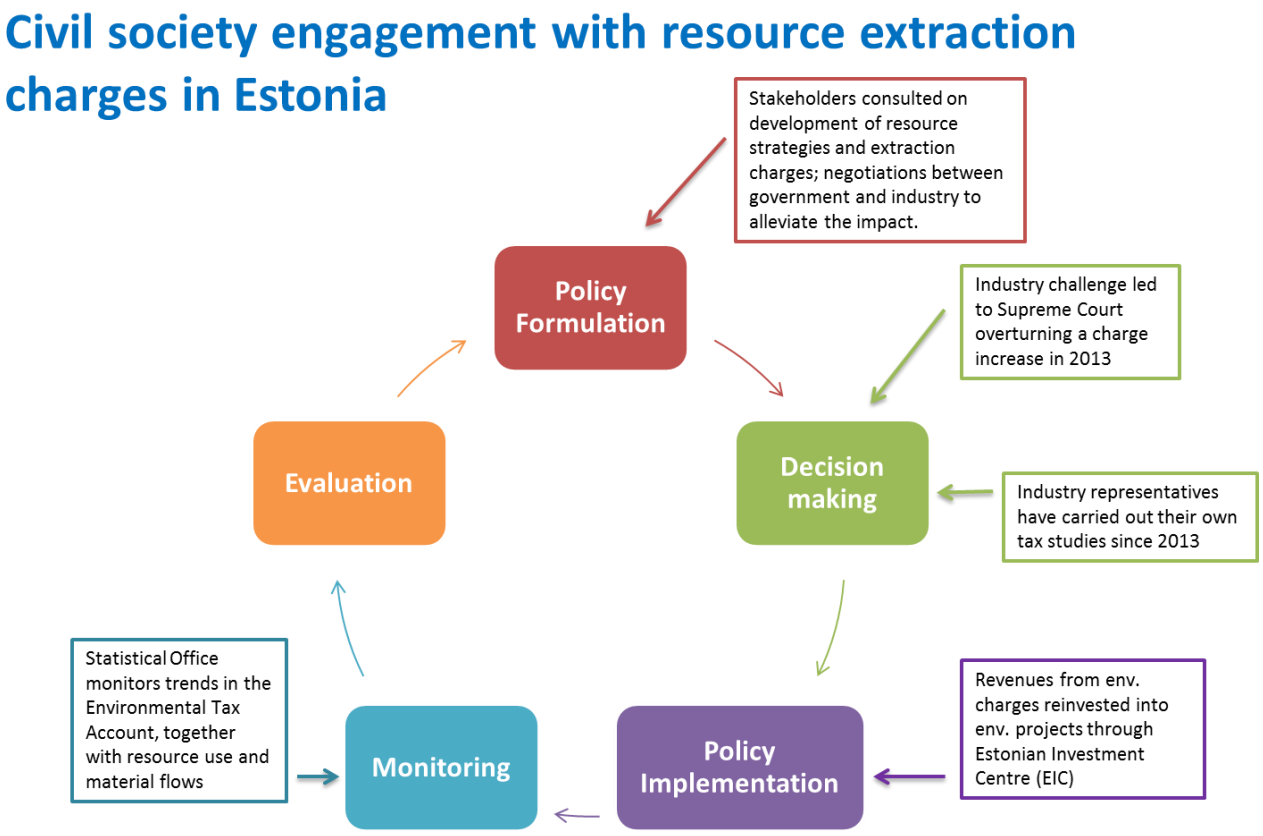
The perception of the instrument by key stakeholders can be summarised as follows. The mining industry feels that they are already compensating for negative externalities through the natural resource charges and parallel pollution charges. They also feel that environmental charges are often considered as an additional revenue source for the state budget rather than an instrument for resource policy. One argument that has been used is that resources are being taxed, but the revenues are not recycled into the mining industry but to other sectors like water supply, waste water treatment and waste management. Industry also emphasises that the design of environmental charges is done separately from parallel developments and changes in other fiscal instruments (e.g. increases in fuel excise taxes), which is reducing the international competitiveness of the Estonian mining sector. A mining industry stakeholder interviewed for this case study stated that too often environmental NGOs do not consider social and economic factors in their arguments.

Environmental NGOs are generally in favour of the producer and consumer pays principles, including environmental resource extraction charges. Their capacity to be involved in the policy development process is however limited due to shortage of integrated analyses and quantitative competence. Generally, environmental NGOs feel that national long term policy and action plans, including environmental charges, can help to achieve environmental goals such as a more radical reduction in the energy sector's dependence on oil shale and

[3] http://www.emtel.ee/
[4] http://www.keemia.ee/en/
[55] http://www.turbaliit.ee/
[6] http://www.eetl.ee/en/
[7] http://www.eko.org.ee/in-english/

development of an oil shale exit strategy. However, environmental charges need to be complemented with additional state funded programs that support industry and local communities in this transformation (employment issues, social security issues, alternative industries, etc). The extraction of aggregates and construction materials is also impacted by other public sector policies, for example related to infrastructure and housing.

3 Windows of opportunity



A few windows of opportunity for civil society engagement with natural resource extraction charges have been observed. In 2004-2005 natural resource charges and overall environmental charges were part of wider discussions on ecological tax reform, to reduce income tax and increase taxes on the use of environmental resources. During these years active citizens and experts (e.g. from research institutions) wrote popular articles in the media about the principles of ecological tax reform and published reviews of international ecological tax reform cases. The Estonian Green Party also emerged and was formalised during this period. Industry was consulted by the Ministry of Environment. Economic growth allowed the increase of charges in 2006 to be absorbed by industry. The increase of environmental charges in 2010 was motivated partly by the stressed budget, which in turn was the result of the global financial crises following the economic slow down since 2008. The 2012 decision to further increase environmental charges was challenged by industry and the decision was overturned by the Supreme Court decision in 2013.

4 Insights into future potential/reform

4.1 Actual Planned reforms and stakeholder engagement

The Ministry of Environment had planned to carry out several studies to develop environmental charges policy post-2018. However, on 8 November 2016, the governing coalition that had been in place for 17 years collapsed. A new Government coalition has therefore be formed by three parties: Centre Party, Social Democrats and Pro Patria. The latter two were also in the previous government. The prime minister is from the Centre Party (which was formerly in opposition). The Environment and Financial affairs ministers have not changed. Tax policy is one of the areas where changes will be made, but it is not yet known what these changes will be.

4.2 Suggestions for future reforms – instrument design and civil society engagement

The author of this case study considers that civil society engagement in fiscal policy design is critical. Thorough ex-post and ex-ante analyses of planned instruments are also essential. Studies on the externalities of the extractive sector and manufacturing sectors should be continued through to their conclusion, but those alone will not give enough insights to design the environmental charges. This is because the environmental charges need to be analysed and modelled with the planned changes in excise duties, social and income taxes and other administrative instruments, and also in combination with parallel governmental support and/or subsidy programs (e.g. feed in tariffs for renewable energy, investment support for resource efficiency activities).

The new Government seems to be more open to adjustments in fiscal policy, including resource taxation. The taxation of natural resources are not discussed in the coalition agreement, but for example the increase of the fuel excise tax will be stopped, fuel excise tax on gaseous fuels is due to increase, and changes to income taxation are planned (to increase the level of tax-free income).

4.3 Suggestions for replicability

Since national contexts across the EU are very different, it is difficult to suggest whether this instrument would be suitable for replication in other Member States. However, the basis for natural resource taxation (the Earth's Crust Act, which deals with ownership of Estonian natural resources, how they can be investigated, extracted, etc.) may be a useful concept to consider when designing instruments for the preservation of resources for future generations.

References

EIC (2016). The Year Book 2015 of Environmental Investment Centre: http://www.kik.ee/sites/default/files/kik_ar_2015_eng_veebi.pdf

Estonian Association of Chemical Industries (2014). Campaign against the increase of environmental charges „Natural Resources are our Happiness", video (In Estonian): http://arileht.delfi.ee/news/uudised/propagandavideo-keemiatoosturite-massiivne-kampaania-sihikule-on-voetud-minister-pentus?id=69950525

Government of Estonia (2011) Government work plan 2011-2015. (In Estonian) https://www.riigiteataja.ee/aktilisa/3100/5201/1001/VVk_209_lisa1.pdf

MoE / Ministry of Environment (2005). Environmental Charges Act. Passed 07.12.2005, RT I 2005, 67, 512. Entry into force 01.01.2006. (In English) https://www.riigiteataja.ee/en/eli/514072016005/consolide

MoE (2011) National Development Plan for Construction Minerals 2011-2020 (In Estonian): http://www.envir.ee/et/ehitusmaavarade-kasutamise-riiklik-arengukava-2011-2020

MoE (2015) Earth's Crust Act. Passed 15.06.2015, published RT I, 07.07.2015, 3, In force 17.07.2015. Para 25^2 (in English): https://www.riigiteataja.ee/en/eli/510082015001/consolide

MoE (2016_a). Environmental Charges website for processes, studies and data (In Estonian): http://www.envir.ee/et/eesmargid-tegevused/keskkonnakorraldus/keskkonnatasud

MoE (2016_b) Extraction charges of State Owned Mineral Resources Government Regulation. Passed 07.07.2016, RT I, 09.07.2016, 26. (In Estonian). https://www.riigiteataja.ee/akt/109072016026

MoE (2016_c). The Strategy for Earth's Crust of Estonia. Under the development (In Estonian): http://www.envir.ee/et/eesmargid-tegevused/maapou/maapoue-strateegia

Ministry of Finance of Estonia (2016). Historic overview of fuel excise taxes in Estonia, 1995-2015. (In Estonian) http://www.fin.ee/2021/

OECD (2016). OECD database on Policy instruments for Environment (2016). http://www2.oecd.org/ecoinst/queries/Query_2.aspx?QryCtx=1

Oras, K., Salu, K. (2013). Environmental Taxes Account (*Keskkonnamaksude arvepidamine*) Eesti Statistika Kvartalikiri 4/13. Quarterly Bulletin of Statistics Estonia. ISSN 1736-7921. http://www.stat.ee/dokumendid/75148

SEI Tallinn and UT RAKE (2013). Impact assessment of Environmental Charges. (*Keskkonnatasude mõjuanalüüs*). Project Report. ISSN: 1406-6637. Government Office of the Republic of Estonia. http://www.envir.ee/sites/default/files/keskkonnatasude_m6juanalyys.pdf

Statistical Yearbook of Estonia (2016). Chapter Environment. ISSN 2346-6030 (PDF). Statistics Estonia. http://www.stat.ee/valjaanne-2016_eesti-statistika-aastaraamat-2016

Statistics of Estonia Database on Environment (2016). http://pub.stat.ee/px-web.2001/I_Databas/Environment/databasetree.asp

Statistics of Estonia Environmental Taxes Accounts (2016). http://pub.stat.ee/px-web.2001/I_Databas/Environment/01Environmental_accounts/05Environmental_taxes_accounts/05Environmental_taxes_accounts.asp

Statistics of Estonia Material Flow Accounts (2016). http://pub.stat.ee/px-web.2001/I_Databas/Environment/01Environmental_accounts/07Material_flow_accounts/07Material_flow_accounts.asp

The Supreme Court of Estonia (2013). The Court Case No. 3-4-1-27-13, decision on Dec 16, 2013. (In Estonian) http://oiguskantsler.ee/sites/default/files/field_document2/kohtuotsus_nr_3-4-1-27-13.pdf

Taxation Act. Passed 20.02.2002, published RT I, 25.10.2016, 13. https://www.riigiteataja.ee/en/eli/531102016007/consolide

Annex A: Mineral resource extraction charges 2016-2025 in Estonia

Government of the Republic of Estonia
"Rates of the mineral resource extraction charge for the extraction of mineral resources belonging to the state". Appendix 1

Rates of the mineral resource extraction charge for the extraction of mineral resources belonging to the state, except energy production mineral resources, for the years 2016–2025

Type of mineral resources		Unit	Rate of the mineral resource extraction charge (in euros) since									
			01.01. 2016	01.01. 2017	01.01. 2018	01.01. 2019	01.01. 2020	01.01. 2021	01.01. 2022	01.01. 2023	01.01. 2024	01.01. 2025
Dolomite	Backfill	m^3	0.83	0.87	0.90	0.94	0.99	1.04	1.09	1.15	1.21	1.27
	Low-quality	m^3	1.18	1.25	1.32	1.40	1.49	1.57	1.67	1.77	1.88	1.99
	High-quality	m^3	2.10	2.18	2.27	2.36	2.46	2.58	2.71	2.85	2.99	3.14
	Technological	m^3	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34
	Finishing dolomite	m^3	2.55	2.63	2.71	2.79	2.87	2.96	3.05	3.14	3.24	3.34
Phosphatic rock		t	2,05	2.15	2.26	2.37	2.49	2.61	2.74	2.88	3.03	3.18
Chrystalline building stone		m^3	1,70	1.76	1.83	1.91	2.00	2.10	2.21	2.32	2.43	2.56
Gravel	Backfill	m^3	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
	Construction gravel	m^3	2.22	2.29	2.36	2.43	2.50	2.60	2.71	2.82	2.93	3.05
Sand	Backfill	m^3	0.35	0.37	0.39	0.42	0.44	0.47	0.50	0.53	0.56	0.60
	Construction sand	m^3	1.42	1.46	1.51	1.55	1.60	1.68	1.76	1.85	1.94	2.04
	Technological and	m^3	1.81	1.90	1.99	2.09	2.20	2.33	2.47	2.61	2.77	2.94
Limestone	Backfill	m^3	0.90	0.92	0.95	0.98	1.01	1.04	1.09	1.15	1.20	1.26
	Low-quality	m^3	1.30	1.35	1.42	1.49	1.57	1.64	1.73	1.81	1.90	2.00
	High-quality	m^3	2.10	2.18	2.27	2.36	2.46	2.58	2.71	2.85	2.99	3.14
	Technological	m^3	2.15	2.26	2.37	2.49	2.62	2.75	2.88	3.03	3.18	3.34
	Finishing limestone	m^3	2.77	2.83	2.89	2.94	3.00	3.05	3.11	3.17	3.24	3.34
Clay	Ceramics clay	m^3	0.67	0.70	0.72	0.75	0.78	0.81	0.85	0.88	0.92	0.95
	Light pellet clay Pellet clay	m^3	0.69	0.73	0.77	0.82	0.87	0.92	0.98	1.04	1.10	1.16
	Melt-resistant clay	m^3	1.25	1.30	1.35	1.42	1.49	1.56	1.64	1.72	1.81	1.90
	Cement clay	m^3	0.68	0.72	0.75	0.79	0.83	0.87	0.91	0.96	1.01	1.06
Peat	Low-decomposed	t	1.50	1.53	1.56	1.59	1.62	1.70	1.81	1.91	2.03	2.15

Government of the Republic of Estonia
"Rates of the mineral resource extraction charge for the extraction of mineral resources belonging to the state". Appendix 2

Rates of the mineral resource extraction charge for the extraction of energy production mineral resources belonging to the state for the period of 1 July 2015 to 31 December 2017

Oil shale

Average global price of heavy fuel oil with 1% sulphur content, Rotterdam	Rates of the mineral resource extraction charge
EUR / tonne	EUR / tonne
Above 4310	2,21
421 - 430	2,14
411 - 420	2,07
401 - 410	2
391 - 400	1,93
381 - 390	1,86
371 - 380	1,79
361 - 370	1,72
351 - 360	1,65
341 - 350	1,58
331 - 340	1,325
321 - 330	1,205
311 - 320	1,085
301 - 310	0,965
291 - 300	0,845
281 - 290	0,725
271 - 280	0,605
261 – 270	0,485
251 - 260	0,415
241 - 250	0,345
Below 270	0,275

Well-decomposed peat

Price of wood chips as quoted by RMK EUR / m^3	Rates of the mineral resource extraction charge EUR / tonne
Above 34	2,20
33 - 34	1,91
31 - 32	**1,27**
28 - 30	0,64
Below 28	0,29

Annex B: Revenues from environmental charges and allocation between state budget, local authorities and the Environmental Investment Centre

Revenue from environmental charges, 1000 eur	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Environmental charges, sum	**51 786**	**71 047**	**85 782**	**87 531**	**71 770**	**67 222**	**75 847**	**78 790**	**92 025**	**90 521**
Allocated to the Environmental Investment Centre	*	*	57 060	57 007	53 809	41 715	40 645	35 680	36 223	36 013
Allocated to state budget	*	*	11 650	12 341	491	6 651	15 648	22 972	37 677	39 650
Allocated to local authorities	10 009	13 945	17 072	18 183	17 471	18 856	19 553	20 137	18 125	14 858
Revenue according to charge type										
1) Charges for waste disposal, sum	**11 982**	**17 066**	**22 032**	**26 967**	**28 114**	**14 222**	**16 126**	**16 587**	**20 161**	**26 720**
Allocated to state budget	10 788	14 909	19 881	24 780	26 272	12 787	14 578	15 619	19 730	26 478
Allocated to local authorities	1 194	2 157	2 152	2 187	1 842	1 435	1 547	967	431	243
2) Charges for emissions into ambient air, sum	**9 106**	**12 089**	**17 589**	**11 144**	**7 882**	**10 125**	**12 364**	**9 925**	**11 412**	**11 802**
3) Charges for emissions into water bodies and soil, sum	**3 652**	**3 782**	**3 967**	**4 556**	**4 935**	**6 360**	**5 500**	**4 921**	**5 153**	**5 424**
4)Charges for water abstraction, sum	**5 935**	**7 618**	**9 426**	**10 236**	**10 862**	**12 951**	**12 901**	**13 372**	**14 181**	**12 212**
Allocated to state budget	3 016	4 048	5 112	5 446	5 685	6 843	7 006	6 994	8 804	7 765
Allocated to local authorities	2 918	3 570	4 314	4 789	5 177	6 108	5 895	6 378	5 377	4 447
5) Charges for mineral extraction, sum	**7 872**	**13 458**	**17 801**	**18 878**	**18 082**	**22 315**	**27 712**	**32 514**	**39 855**	**33 223**
Allocated to state budget	2 104	5 243	7 204	7 677	7 632	11 003	15 601	19 722	27 538	23 055
Allocated to local authorities	5 768	8 215	10 597	11 201	10 450	11 312	12 111	12 792	12 317	10 168
6) Charges for fishing, sum	**1 127**	**1 154**	**421**	**532**	**549**	**516**	**575**	**775**	**825**	**699**
Allocated to state budget	1 126	1 154	421	532	548	516	575	775	825	699
Allocated to local authorities	1	0	0	0	0	0	0	0	0	0
7) Charges for hunting, sum	**417**	**422**	**425**	**422**	**424**	**425**	**425**	**425**	**233**	**129**
Allocated to state budget	416	421	424	421	423	425	425	425	233	129
Allocated to local authorities	1	1	1	1	1	0	0	0	0	0
8) Charges for regeneration of forest stand, sum	**11 343**	**13 690**	**13 713**	**14 523**	**578**	**1**	**0**	**0**	**0**	**0**
Allocated to state budget	11 217	13 688	13 705	14 519	578	0	0	0	0	0
Allocated to local authorities	127	2	8	4	0	1	0	0	0	0
Other (costs for environmental damage), sum	**461**	**436**	**407**	**272**	**345**	**307**	**245**	**271**	**204**	**312**
Packaging excise duty	**0,1**	**0,0**	**0,0**	**0,1**	**0,0**	**0,0**	**0,2**	**0,3**	**0,4**	**0,3**

* Allocation not shown.

Source: Ministry of the Environment

[i] This case study was prepared as part of the study 'Capacity building, programmatic development and communication in the field of environmental taxation and budgetary reform', carried out for DG Environment of the European Commission during 2016-2017 (European Commission Service Contract No 07.027729/2015/718767/SER/ENV.F.1) and led by the Institute for European Environmental Policy (www.ieep.eu). This manuscript was completed in December 2016.