

# Resource efficiency and circular economy in Europe – even more from less

## An overview of policies, approaches and targets of Lithuania in 2018

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## Acknowledgements

This country profile is based on information reported by the Eionet network and, in particular, the National Reference Centres on Resource Efficiency and Circular Economy. The information is current as of March 2019, when members of Eionet verified the content of this profile.



This country profile was prepared as part of the 2019 EEA review of material resource efficiency, circular economy and raw material supply policies, which aimed to collect, analyse, and disseminate information about experience with the development and implementation of these policies in EEA member and cooperating countries.

At the time of writing, a summary report is being finalised. The report reflects on trends, similarities and differences in policy responses, showcases selected policy initiatives from member countries and identifies possible considerations for the development of future policies.

These country profiles were compiled and finalised by members from the European Topic Centre on Waste and Materials in a Green Economy, namely Bart Ullstein, Bettina Bahn-Walkowiak, Jeroen Gillabel, Margareta Wahlström, Jutta-Laine Ylijoki, Dirk Nelen, Theo Geerken, Veronique Van Hoof and Evelien Dils. The responsible EEA project managers for the work were Pawel Kazmierczyk and Daniel Montalvo.

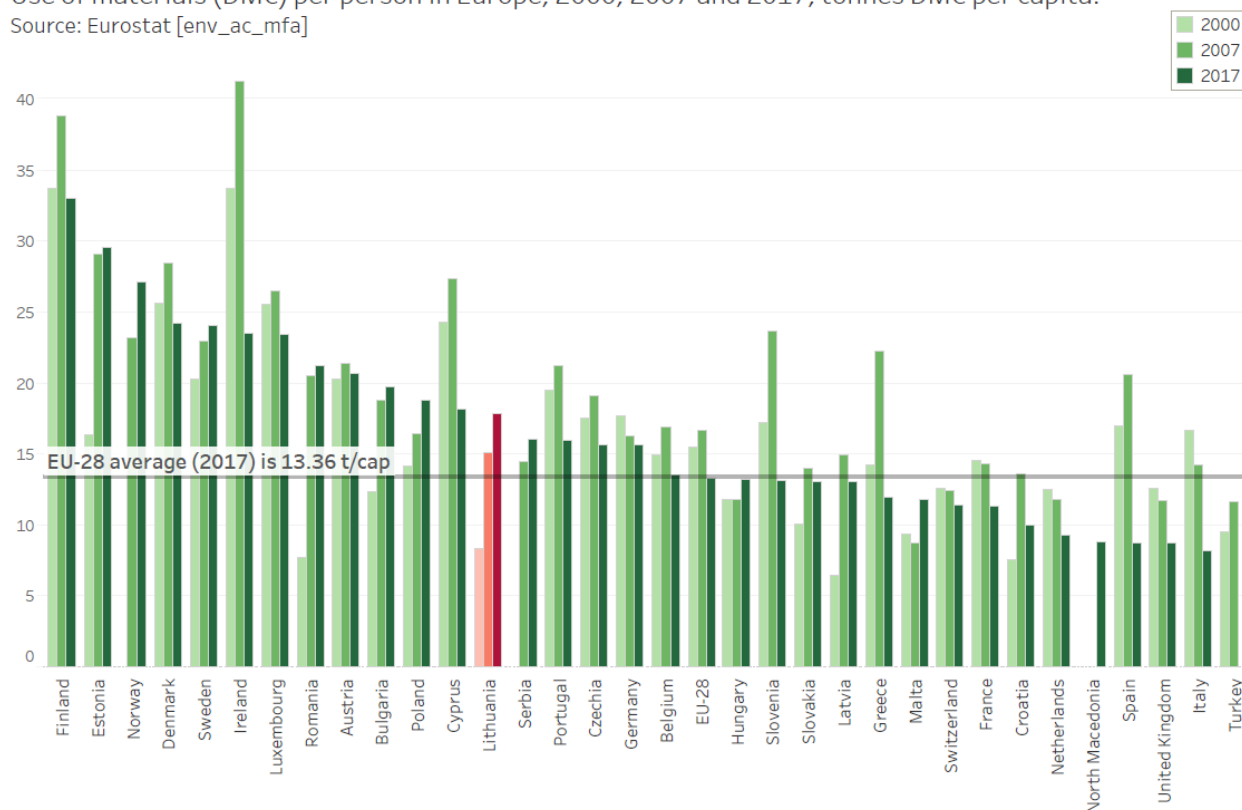
## Lithuania, facts and figures

Note: data in this section was sourced from Eurostat databases (April 2019), except where noted otherwise

	<p><b>GDP:</b> EUR 42.2 billion (0.3 % of total EU28 in 2017)</p> <p><b>Per capita GDP:</b> EUR 14,900 (purchasing power standard) (50.0 % of EU28 average per capita figure in 2017)</p> <p><b>Use of materials (domestic material consumption (DMC))</b>  50.4 million tonnes DMC (0.7 % of EU28 total in 2017)  17.8 tonnes DMC/capita (133.5 % of EU-28 average per capita in 2017)</p> <p><b>Structure of the economy:</b>  agriculture: 3.5 %  industry: 29.0 %  services: 67.5 %</p> <p><b>Surface area:</b> 65.3 thousand square kilometres (km<sup>2</sup>) (1.5 % of total EU28)</p> <p><b>Population:</b> 2.8 million (0.6 % of EU28 total in 2017)</p>
	

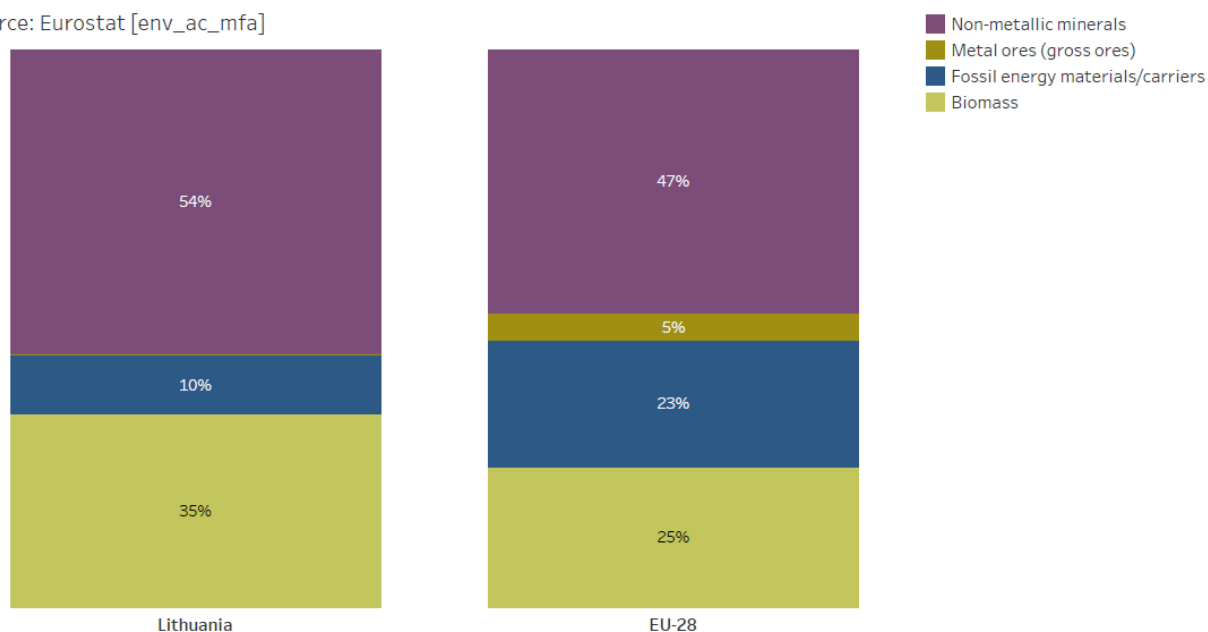
Use of materials (DMC) per person in Europe, 2000, 2007 and 2017, tonnes DMC per capita.

Source: Eurostat [env\_ac\_mfa]



## Lithuania & EU-28. Domestic Material Consumption by material category, 2017.

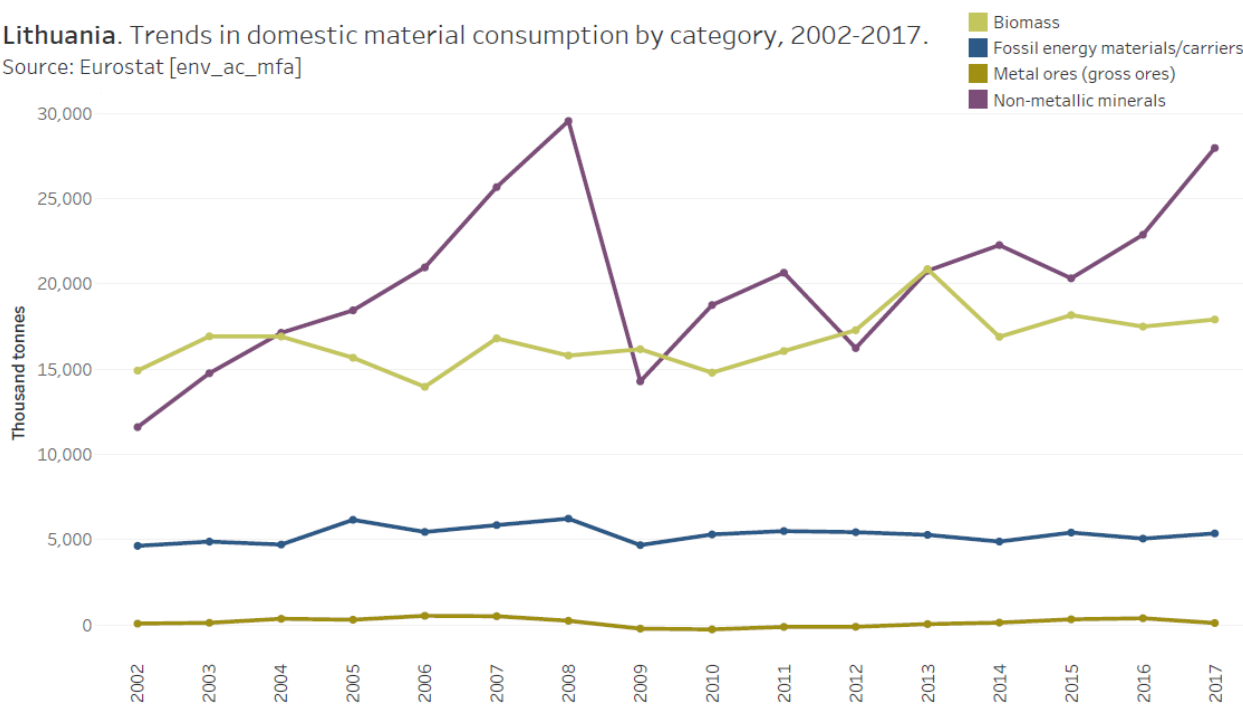
Source: Eurostat [env\_ac\_mfa]



Note: The domestic material consumption categories 'other products' and 'waste for final treatment and disposal' are excluded from the figure.

## Lithuania. Trends in domestic material consumption by category, 2002-2017.

Source: Eurostat [env\_ac\_mfa]

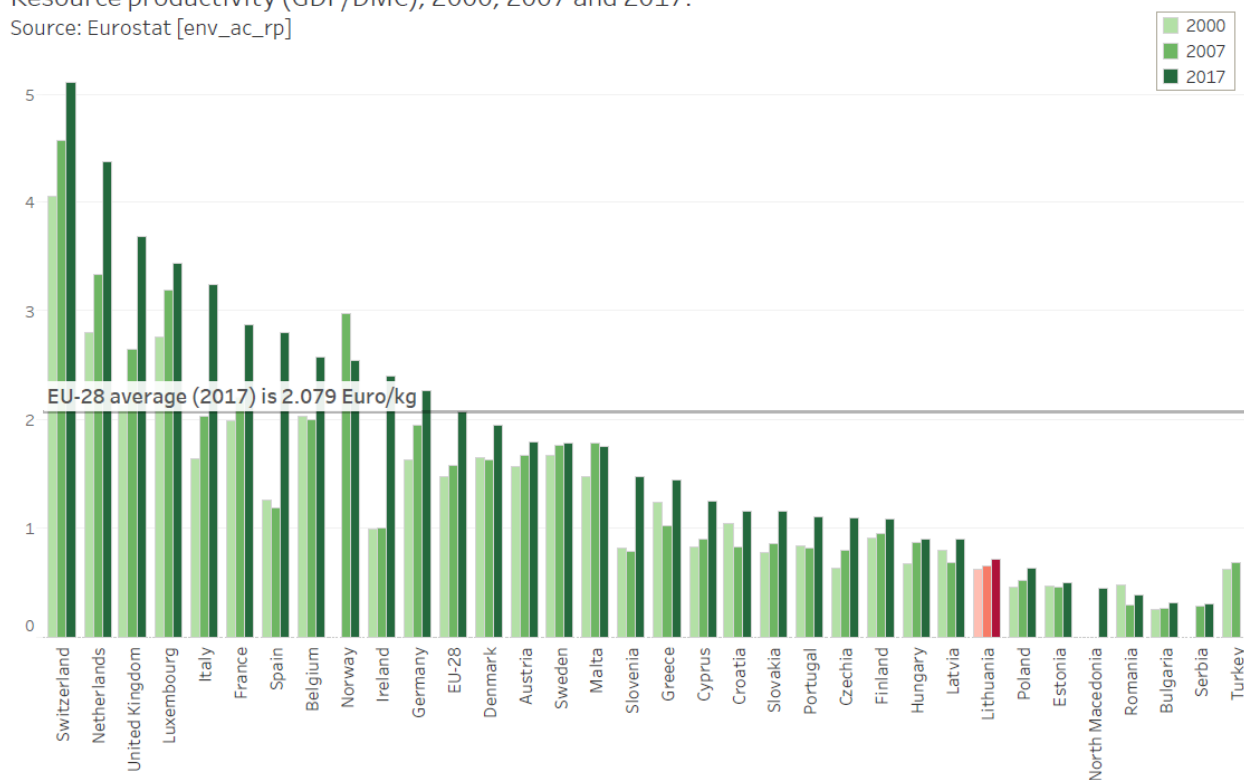


Note: The domestic material consumption categories 'other products' and 'waste for final treatment and disposal' are excluded from the figure.



## Resource productivity (GDP/DMC), 2000, 2007 and 2017.

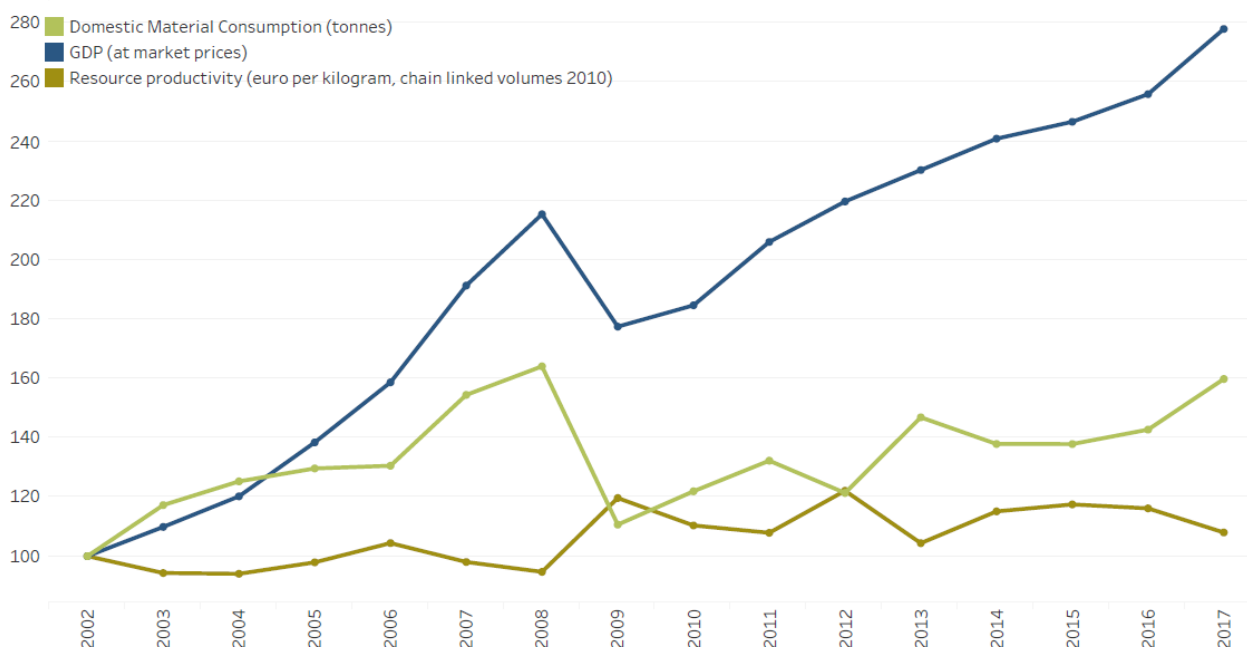
Source: Eurostat [env\_ac\_rp]



Note: GDP expressed in chain linked volumes 2010.

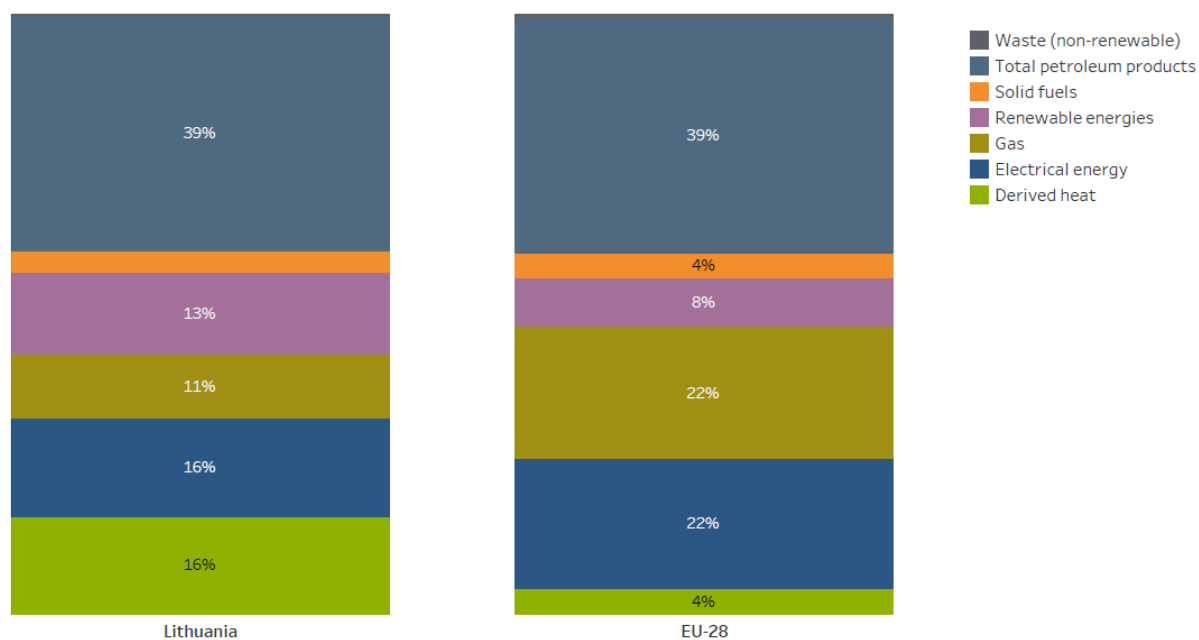
## Lithuania. GDP, DMC and resource productivity trends, 2002-2017, index 2002=100.

Source: Eurostat [env\_ac\_mfa], [env\_ac\_rp] & [nama\_10\_gdp]



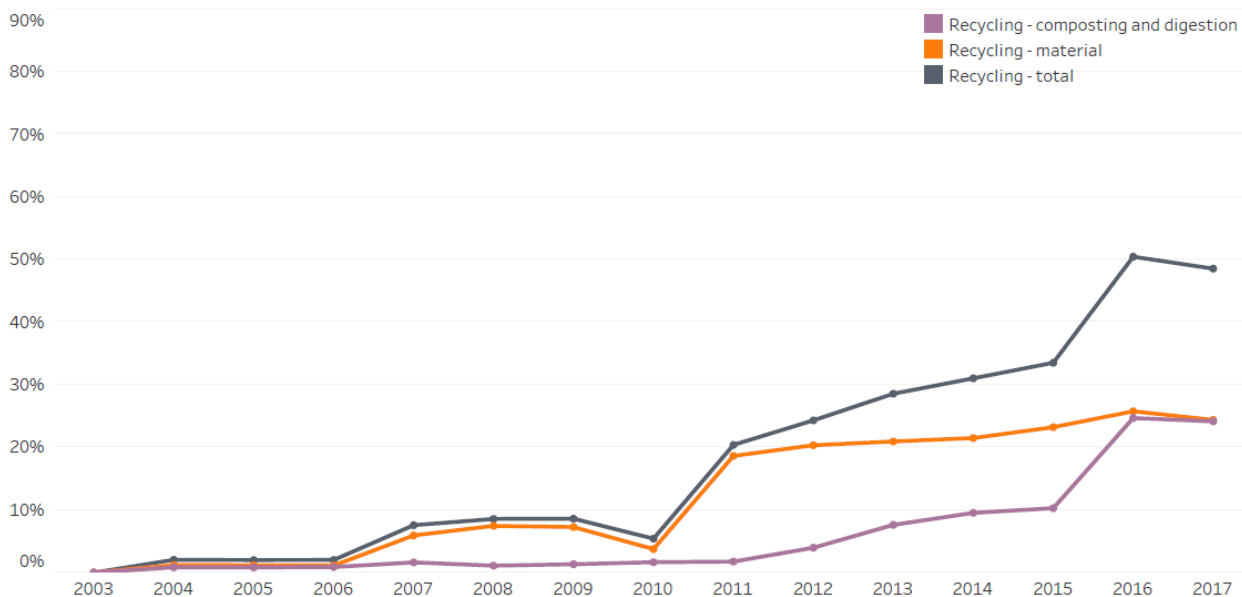
## Lithuania & EU-28. Primary energy consumption by energy product, 2016.

Source: Eurostat [nrg\_100a]



## Lithuania. Recycling of municipal waste, 2003-2017, as share of total waste treatment.

Source: Eurostat [env\_wasmun]



Note: The amount of municipal waste treatment is reported for the treatment operations incineration (with and without energy recovery), recycling, composting and landfilling.



## Policy framework

### Driving forces for material resource efficiency and circular economy

The factors and concerns that drive material resource efficiency policies in Lithuania include geopolitics and energy security of supply, European Union (EU) requirements, economic interests and competitiveness.

The factors that drive circular economy policies are new upcoming policies of the European Commission, including the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the regions, *Closing the loop – an EU action plan for the Circular Economy*, and the amendments to six waste directives.

### Dedicated national strategies or roadmaps for material resource efficiency and a circular economy

There is no separate national strategy or action plan entirely dedicated to resource efficiency, although goals and targets for resource efficiency can be found in many other strategic documents.

Lithuania has no separate national strategy entirely dedicated to the circular economy, although targets on circular economy can be found in other strategic documents (see section on Policies which include elements of material resource efficiency).

### Overview of dedicated national or sectoral strategies for raw materials

There is no separate national strategy entirely dedicated to raw materials, although goals and targets on raw materials can be found in other strategic documents (see section on Policies which include elements of material resource efficiency).

### Policies which include elements of material resource efficiency

As part of its objectives, the **Programme of the Government of the Republic of Lithuania** (adopted in 13-12-2016 No. XIII-82) and its implementation plan (adopted 17-03-2017 No. 167) identify measures to facilitate the transition to a circular economy (measures are planned up to 2020). They include:

- implementation of separate food waste collection;
- determination of compost requirements criteria and approval of certification procedures;
- determination of end-of-waste criteria for different waste flows (it is not certain which ones in particular, as this is only planned and not yet implemented; first of all, amendments of the Law on Waste Management have to be adopted, but the initial wastes are likely to be those from construction and demolition, used tyres, and waste electrical and electronic equipment (WEEE), but this could change);
- review of taxes on pollution in order to establish tariffs which encourage waste reduction and recycling.

The purpose of the **Law on Pollution Tax of the Republic of Lithuania** (adopted 13-05-1999 No. VIII-1183) is to apply economic instruments to encourage polluters to reduce environmental pollution, to carry out waste prevention and waste management, not to exceed the set standards for the emission of pollutants, and to accumulate funds for the implementation of environmental measures from the tax collected. The Ministry of Environment is currently revising existing taxes on pollution and proposing a more efficient and effective taxation model, primarily taking environmental issues into account. New changes to the Law on Pollution Tax should be adopted by parliament in the second quarter of 2018. The current tax rates for polluting the environment with waste disposed of at landfill are:

Type of waste disposed of at landfill	Tax rates, EUR per tonne of waste actually disposed of				
	2016	2017	2018	2019	from 2020
1. Waste disposed of at sites for non-hazardous waste, except for asbestos waste disposed of in separate sections of the site for non-hazardous waste	3	3	5	21.72	27.51
2. Waste disposed of at sites for inert waste, and asbestos waste disposed of in separate sections of the sites for non-hazardous waste	7.24	13.03	18.83	24.62	30.41
3. Hazardous waste disposed of at landfill sites	47.79	53.58	59.37	65.16	70.96

#### TAX RATES FOR PACKAGING

Types of packaging	Tax rates, EUR per tonne
Glass	57
Plastics	521
Polyethylene terephthalate (PET)	579
Composites	579
Metal	753
Paper	28
Other – wood and textiles	57

#### RATES FOR TAXABLE GOODS

Product	Tax rates, EUR per tonne
1. Tyres (weighing more than 3 kg):	
1.1. New	86
1.2. Regenerated	86
1.3. Used	104
2. Rechargeable batteries	144
3. Non-rechargeable batteries	2 896
4. Oil/fuel filters	463
5. Air filters	463
6. Hydraulic shock-absorbers	347

By the fourth quarter of 2018 the authorities will have to review **the Law on Tax on State Natural Resources of the Republic of Lithuania** in order to ensure maximum economic benefit for the state and the rational use of resources, as planned in the Programme of the Government of the Republic of Lithuania (adopted in 13-12-2016 No. XIII-82) and its implementation plan (adopted in 17-03-2017 No. 167). The purpose of this Law is to apply economic instruments to encourage the users of Lithuanian natural resources to use them in an effective and economical manner as well as to compensate the amount spent by the state on the investigation of natural resources and on the measures implemented for the preservation of their quantity and quality.

- **Determination of legal and financial conditions in order to facilitate establishment of reuse centres, etc.**

In 2017 the amendment of Waste Management Rules came into force. It identified specific requirements for hazardous waste storage sites and premises. The preparation for reuse activity code R10<sup>1</sup> was introduced and EU funds were designated to establish the infrastructure of preparation for reuse.

As regards material resource efficiency, there are many national policies and strategies that address it.

**A National Sustainable Development Strategy** was adopted on 16 September 2009 by the Government of the Republic of Lithuania. The strategic objectives of this document include the rational consumption of natural resources. The vision of the Strategy states that natural resources will be well protected and used in more rational and effective ways. The use of resources will be decoupled from economic growth and will increase more slowly than production and services. Local and renewable resources will become more important and the conditions required for the renewal of resources will be ensured. Extraction and consumption of the rather abundant mineral resources will be revived together with the revival of construction and the construction industry. The consumption of local and renewable resources as well as recycling will increase. In pursuance of the main goal of Lithuania's sustainable development, the plan is to, on average, double the eco-efficiency of various branches of the economy. Growth in the consumption of natural resources, for example, is expected to be half as fast as growth in production and services. Some of the implementing measures for long-term strategic objectives and tasks will retain their relevance beyond 2020.

The **National Environmental Protection Strategy** was adopted on 16 April 2015 by the Parliament of the Republic of Lithuania. The Strategy covers four priority areas of environmental protection: the sustainable use of natural resources and waste management; improvement in the quality of the environment; maintenance of ecosystem stability; and mitigation of climate change alongside adaptation to environmental changes caused by climate change. To ensure the rational exploitation of forest resources, the Strategy encourages the balanced development of the wood industry based on national forest resources; the balanced development of renewable energy; and the use of wood resources for the production of items with the highest added value. Except for this, there is no reference to material resources in the Strategy, only natural resources.

Several categories of natural resources have been identified as long-term natural resource priorities:

- underground resources;
- water resources;
- forests;
- fish resources;
- hunted fauna resources.

The **Strategy for National Climate Change Management Policy by 2050** was adopted on 6 November 2012 by Decree No. XI-2375 of the Parliament of the Republic of Lithuania. The Action Plan on Implementation of Goals and Objectives for 2013–2020 of the Strategy was adopted on 23 April 2013 by Government Resolution No. 366. This sets binding short-term (by 2020), indicative medium-term (by 2030 and 2040) and long-term (by 2050) climate change mitigation and adaptation goals and objectives in the following economic sectors: energy, industry, transport, agriculture, households, environmental protection and rational use of national resources (forestry, ecosystems, biodiversity, landscape), spatial planning and regional policy, health care, research and development (R&D), education and provision of information to the public, and international cooperation. The vision of the Climate Change Management Policy is that by 2050 Lithuania will have ensured the adaptation of the domestic economy to environmental changes caused by climate change and climate change mitigation through the reduction of greenhouse gas emissions; developed a competitive low-carbon economy; implemented eco-innovative technology; and achieved energy generation and consumption efficiency and the use of renewable energy sources in all sectors of the domestic economy, including energy, industry, transport, agriculture, etc. The strategic goal of Lithuania's climate change mitigation policy is to make sure that the growth of the country's economy is much faster than the increase in greenhouse gas emissions, which is directly linked with the sustainable use of resources and the achievement of decoupling.

The **National Forestry Sector Development Programme** for 2012–2020 was approved by Government Resolution No. 569 of 23 May 2012. The purpose of the Programme is to implement Lithuania's long-term forestry strategy and determine the objectives and tasks for the development of the forestry sector for

the period up to 2020. The strategic objective of forestry development is to increase the multiple benefits provided by forests to society, taking into account the long duration of forest growth, different forms of ownership and their interaction, and also by ensuring the implementation of sustainable forest management in all the country's forests. To achieve the strategic goal of forestry development while implementing the Programme, four forestry development objectives have been established:

1. preserve Lithuanian forests and increase their area and resources;
2. ensure the rational use of Lithuania's forest resources and increase the productivity of the stands;
3. increase the efficiency and competitiveness of forestry;
4. preserve and increase the sustainability of forest ecosystems, taking account of their ecological and social roles and the impact of climate change.

#### **National Waste Management Plan 2014–2020:**

Waste prevention objectives:

- avoid the generation of waste;
- reduce the amount of generated and not recovered waste;
- reduce the amount of harmful substances in materials and products;
- reuse or extend the lifespan of products.

#### **Objectives for 2014–2020**

1. To ensure that as industry and the economy grow, the generation of waste from manufacturing, construction and other sectors increases more slowly and the amount of waste generated does not exceed the average of EU Member States.

Targets:

- 1.1. promote prevention in manufacturing and other economic sectors;
- 1.2. increase materials and resources efficiency;
- 1.3. improve qualifications in waste prevention of businesses, farmers, agricultural companies and authorities.

2. To ensure that as consumption increases the generation of municipal waste, including packaging, WEEE and biodegradable waste, grow more slowly and that the amount of municipal waste does not exceed the average of EU Member States.

Targets:

- 2.1. improve waste management legislation, establishing requirements related to municipal waste prevention and reuse;
- 2.2. promote sustainable consumption;
- 2.3. promote the reuse of products and the preparation for reuse;
- 2.4. increase public awareness of and improve municipal staff training on waste prevention.

The **Programme on the Implementation of Priority Areas of Research and (Socio-Cultural) Development and Innovation (Smart Specialisation) and their Priorities** was approved on the 30 April 2014 by Government Resolution No. 41. In the Lithuanian Smart Specialisation Strategy, the circular economy is specifically targeted by the use of alternative fuels to increase energy efficiency, and efficient waste management and rationalisation of various production cycles to include recycled resources. The purpose of smart specialisation is to transform the Lithuanian economy and increase its competitiveness by concentrating resources on selected priorities. One of the tasks to be carried out to achieve the Programme's objectives is to promote research, development and innovation activities that would enable a greater diversification of energy sources, lowering of energy prices, economical and effective use of energy, and sustainable change in ecosystems (in particular, efficient waste management and air and water pollution control). Priority: energy and fuel production using biomass/waste and waste treatment, storage and disposal.

Other sectoral strategic documents identify relevant resources as a priority. In the **National Waste Prevention Programme**, for example, priority is given to packaging, WEEE, biodegradable wastes, and

hazardous and construction wastes. These priority waste streams are those that have the largest negative impact on the environment and public health and create the largest quantities of waste.

Raw materials are addressed within the framework of the **Investment Promotion and Industrial Development Programme for 2014–2020**, approved by Government Resolution No. 986 of 17 September 2014<sup>1</sup>. Its purpose is to set objectives and tasks for investment in the service and production sectors, the general policy for industrial development and its assessment criteria and values, with a view to raising Lithuanian competitiveness.

One of the objectives of the Programme is to encourage enterprises to use materials and energy more efficiently. As reported by Eurostat, Lithuanian industry is among the most energy intensive in the EU (EU average: 135.4 kilograms (kg) of oil equivalent per EUR 1,000 of gross domestic product (GDP), Lithuanian average is 175.7 kg. It is therefore crucial to promote energy efficiency in industry by increasing the use of renewable sources of energy and by introducing technologies that reduce carbon dioxide emissions. One of the main conditions of promoting Lithuanian industry's international competitiveness is the secure supply of raw materials. In the programme it is understood that a lot of attention should be devoted to sustainable development, the creation of decent industrial jobs, the transition to a more sustainable use of resources and the introduction of measures such as eco-design and European ecolabelling. In addition, it is necessary to take into account the common targets laid down in the Communication from the European Commission COM(2010) of 3 March 2010, *Europe 2020: A strategy for smart, sustainable and inclusive growth*, which stresses that the use of resources and energy and the reduction of greenhouse gas emissions should be decoupled from the raising of output. Industrial enterprises should enjoy better conditions to secure funding for the introduction of resource- and energy-efficient technologies as well as waste treatment technologies.

A Ministry of Economy study, *The Analysis of the Current Situation and Future Prospects of Securing Key Raw Materials for the Lithuanian Economy and the Effect of this Situation on Lithuania's Competitiveness*, was conducted in 2011. With regard to the prospect of securing essential raw materials for the Lithuanian economy, the analysis covered the consumption of each type of raw material by sector, accounting for more than 5 per cent of total raw material consumption, and the economic significance of each raw material and the possibility of importing it from other countries with higher stability criteria according to World Bank ranking. The degree of raw material processing and the possibility of raising it in Lithuania, and the degree of substitution in certain sectors of the economy and the possibility of reducing it, were also analysed. Based on the above criteria, a list of critical raw materials was drawn up and includes crude oil; natural gas; sulphur; caustic soda; cast iron; sodium carbonate; plywood; tin, and glass in building; aluminium; and polyvinyl chloride. For the purpose of reducing raw material imports as well as dependence on foreign raw material suppliers and producers and the related risks – and thus increasing the competitiveness of the Lithuanian industry – the following steps would be needed: to design measures on the basis of which a large number of enterprises would be trained to assess materials efficiency; to compare the materials efficiency of competitors; and to regularly introduce change for greater operational efficiency. Further steps are needed to encourage enterprises to become involved including support to enterprises, in particular small and medium ones (SMEs), and to advise them on constant improvement of materials efficiency and sustainable use; training for enterprises in the application of product eco-design as well as resource-efficient and cleaner manufacturing; promotion of sustainable consumption and green procurement; promotion and support of budgetary research into the efficient use of key raw materials; and encouragement of enterprises to work together to introduce principles of regional industrial symbiosis that enable raw material savings and waste minimisation.

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<sup>1</sup> <https://e-seimas.lrs.lt/rs/legalact/TAD/27aceff00acc11e687e0fbad81d55a7c/> (English)

If the above measures are adopted, the proportion of treated or otherwise utilised waste from manufacturing and other economic activities, apart from phosphogypsum waste, is likely to increase from 90 per cent in 2012 to 92 per cent in 2020.

Energy consumption intensity in Lithuanian manufacturing is expected to decrease from 222.9 kg of oil equivalent per EUR 1,000 GDP in 2012 to 182.9 of oil equivalent per EUR 1,000 GDP in 2020. More information on this programme is available online<sup>2</sup>:

### **Institutional setup and stakeholder engagement**

The Ministry of Environment is responsible for natural resources, waste prevention and management, water, climate and other policies. The Ministry is obliged to ensure the rational use of natural resources, including forests and those below ground (minerals).

The Lithuanian Geological Survey under the Ministry of Environment is responsible for material resource evaluation, approval and accounting, the issue of permissions to use mineral resources, and the inspection of raw material deposits used by licence holders.

The Environmental Protection Agency organises, coordinates and performs state environmental monitoring, provides methodological help to Regional Environment Protection Departments, and controls, analyses and evaluates the implementation of state environment protection.

The Ministry of Environment administers the Environmental Protection Support Programme, from which funds can be used by institutions under the Ministry of Environment and municipalities for environmental protection measures including the restoration and increase of natural resources. There is also the Lithuanian Environmental Investment Fund, which subsidises investment projects that reduce the negative impacts of economic activity on the environment. Applicants to this programme must be legal entities. The Fund has its own selection committee composed of representatives from other ministries and different institutions, such as the Association of Lithuanian Municipalities and NGOs. Projects, after evaluation by the Fund's specialists, are presented to the selection committee for discussion and to decide which are eligible for funding.

The Ministries of Environment and the Economy are responsible for the circular economy.

The Ministry of Environment is the main authority that regulates and administers the management of all wastes, controls the implementation of established requirements and tasks, and ensures the state's regulatory framework for environmental inspection. The Ministry of Environment also coordinates the activities of other national and municipal institutions and seeks additional funding for waste management projects.

The Ministry of Economy's functions can be found in the Law on Waste Management: it drafts and approves programmes promoting the prevention of waste and its reduction in manufacturing processes; promotes the introduction of low-waste technologies to create markets for products manufactured from secondary raw materials; coordinates the action of industrial enterprises when introducing industrial waste management; and initiates projects aimed at creating the waste management capacity required to reduce the amount of waste generated and to encourage the secondary recycling and use of waste in compliance with the principles of the circular economy.

The Ministry of Economy is also responsible for energy efficiency measures in the commercial sector. The main ones are:

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<sup>2</sup> <https://e-seimas.lrs.lt/rs/legalact/TAD/27aceff00acc11e687e0fbad81d55a7c/> (English)



- 1) energy audit for industry – EUR 7 million is budgeted for the energy performance audits in industrial enterprises;
- 2) compensation of interest for the installation of equipment and technological solutions enabling increased energy efficiency in industry, for which EUR 4.3 million has been budgeted, covering secured and unsecured loans and leasing contracts;
- 3) promotion of energy generation from renewable energy sources, for which EUR 13.6 million has been budgeted.

All these measures currently apply to industrial enterprises without partners. The Ministry of Economy is also responsible for raw material supply.

The Ministry of Economy is developing a concept and organising a publicity contest for products manufactured from recycled materials – Product of the Year from Recycled Materials. The main objective of the concept and contest is to promote the use of recycled materials in technological processes. This concept aims to promote cooperation between waste managers and industrial companies to achieve common goals.

Furthermore, working groups are being formed and meetings and public discussions arranged seeking to involve interested entities in the process of solving problems that arise in developing legislation. In this process, coordination is carried out by presenting drafts of potential legislation to all interested parties.

#### Approaches to resource efficiency and circular economy policy evaluation

In the Law of Environmental Protection of the Republic of Lithuania of 21 January 1992 No. I-2223, it is stated that *‘strategic assessment of consequences for the environment shall mean the process of determination, description and evaluation of likely consequences for the environment of the implementation of certain plans and programmes, in the course of which documents of strategic assessment of consequences for the environment shall be collected, and consultations provided. Account shall be taken of results of the assessment and consultations prior to adopting and/or approving a plan or a programme, and the information relating to adoption and/or approval of a decision regarding the plan or programme shall be provided’*. Strategic assessment must be carried out in cases where: *‘a plan or programme is planned for industrial, energy, transport, telecommunications, tourism, agriculture, forestry, fisheries, aquaculture development, waste management, or a special territorial planning document’*, and many other cases.

These assessments are carried out at the state, municipal and economic entity levels in accordance with the procedure established by the Law on Environmental Monitoring of the Republic of Lithuania to ensure the timely identification of unforeseen negative consequences for the environment and to take appropriate action to remedy the situation. For this reason, the Strategic Environmental Impact Assessment reports of the State Waste Management Plans are published and presented to the public. For example, the Strategic Environmental Impact Assessment of the State Waste Management Plan (2014–2020) was conducted to assess the current waste management system and status in Lithuania; to establish strategic goals for waste management; to determine the objectives and tasks for 2014–2020, their implementation and the criteria for their evaluation; to determine the waste management tasks of the state; and to identify national and EU sources of financial support and the implementation of the measures necessary for the achievement of goals.

In addition, before amendments are made to legislation, studies and calculations are conducted to evaluate their possible impacts. Before presenting the draft legislation to the relevant authorities, there is a need to elaborate an anti-corruption assessment of the draft, an evaluation of the comments and proposals received from interested institutions, an administrative burden assessment certificate and many others that have to be presented with the draft legislation.



Lithuania's ministries also order studies to be conducted in order to evaluate the impact of policies and legislation. For example, in 2015 the Ministry of Environment ordered a study on 'Services for the development of the criteria for determining the rates of vehicle circulation tax, based on the experience of other countries and statistical data and formulation of recommendations for the taxation of vehicles in Lithuania, with justifications of the recommended rates and expected outcomes', which was conducted with the aim of using its results as a basis for the development of recommendations for amending the Law on Pollution Tax of the Republic of Lithuania governing the taxation of sources of pollution and only partly implementing the polluter pays principle. The goal of this study was to analyse the taxation of passenger cars and goods vehicles and provide valuable insights for its development.

In 2014, a study on the naming of environmentally harmful subsidies, and determination of their common values in the tax system setting – methodology for evaluation of environmentally harmful subsidies was conducted in order to review the Law on Pollution Tax.

In addition, almost every year the Ministry of Environment orders a study of Lithuanian residents' attitudes to the waste management system to estimate how much citizens know and understand about waste and its management.

## Monitoring and targets

### Targets for resource efficiency and circular economy

As well as the targets determined by EU Waste Directives, Lithuania has set recycling and other recovery targets for combined packaging, 25 per cent; PET packaging, 50 per cent; and other packaging, 45 per cent; and from 2016, tyres, 80 per cent; oil or petrol filters for internal combustion engines, intake air filters for internal combustion engines, 80 per cent; and hydraulic shock-absorbers for motor vehicles, 80 per cent.

A deposit-refund system for refillable glass beverage containers has been established and targets are set for reusable packaging collection and reuse. An 85 per cent target for collection and reuse of reusable glass packaging and an 80 per cent target for other reusables were set in 2010.

### Indicators to monitor progress towards a resource-efficient circular economy

There are no separate indicators dedicated to resource efficiency, although there is a set of 84 that monitor sustainable development, of which resource efficiency is an important element. These cover, for example, groundwater consumption, waste recycling and final energy consumption in branches of the economy per unit of GDP.

The Programme of the Government of the Republic of Lithuania (adopted in 13-12-2016 No. XIII-82) and its implementation plan (adopted in 17-03-2017 No. 167) identify measures to facilitate the transition to a circular economy, the implementation of sustainable development goals and other measures to increase resource efficiency.

Indicators	2016	2020
Improved quality of degraded ecosystems, per cent	0	15
People who make a significant contribution to the sustainable use of resources, per cent of population	24 (in 2014 )	30
Share of recycled, reused or otherwise used (for example, for energy) municipal waste, per cent	33 (in 2015)	65
Increase in energy production from renewable sources and local energy production, megawatts	0	360

There are also criteria for assessing the implementation of the National Environmental Protection Strategy, but, as already explained (see section on Policies which include elements of material resource efficiency), it mainly sets criteria for strategic targets on natural resource use and climate change, amongst others.

### **Resource efficiency, circular economy and the 2030 Sustainable Development Goals**

A number of policies in Lithuania indirectly address Sustainable Development Goals, including those on waste management, resource efficiency measures, recycling or reusing materials or waste within the company, collection of packaging waste, law on tax on state natural resources, water field development programme, effective use of land resources, or conservation of landscape and biodiversity.

## **Examples of innovative approaches and good practice**

### **Examples of good practice and innovative approaches**

#### **Waste management**

In Lithuania, waste management is carried out in accordance with the waste hierarchy and according to the general environmental principles of precaution and sustainability, technical and economic feasibility and protection of resources, as well as the overall impact on the natural environment, public health, the economy and the social environment. Waste sector policy is implemented through administrative, economic and informative measures.

- Administrative measures include green procurement; prohibition on the disposal of certain waste and untreated waste in landfill; the requirement to apply separate waste collection measures; the introduction of separate waste collection systems; the setting of reuse, recycling or recovery targets; the application of product and waste management standards; restrictions on placing products containing certain hazardous substances on the market; etc.
- Economic measures include charges and payments for municipal waste management; taxes on packaging and chargeable goods (see section on Policies which include elements of material resource efficiency); deposit systems for beverage packaging (a deposit system was introduced in 2015); and subsidies and grants for waste management.

#### **Labelling and information**

A number of information measures help implement the waste policy, including environmental labelling; labelling of products and waste for waste management purposes; raising public awareness; information for manufacturers and waste managers on further uses of products and waste collection sites; hazardous substances contained in waste; and reporting to competent authorities.

#### **The polluter pays principle**

The polluter pays principle applied in the field of waste management means that the costs of waste management have to be paid by waste producers, waste holders or producers and importers of products. The Law on Environmental Pollution Tax lays down a tax on environmentally harmful goods (all goods are listed in the section on Policies which include elements of material resource efficiency) and a tax on all types of packaging sent to landfill. The waste management sector, including the development of infrastructure, public education, etc., is financed by the state budget, EU Structural Funds, international organisations and private capital. The waste policy is being put into effect by implementing environmental standards; state inspections of the waste sector; data and information management; environmental impact assessments; integrated pollution prevention and control; research; public procurement measures; and public participation, information and education on waste prevention and management issues.

#### **Financial support programmes**

The Ministry of Economy of the Republic of Lithuania is organising and has developed a financial measure (Eco-Innovation LT, Eco-Innovation LT+) with the main purpose of developing finance for projects that are intended to improve the environmental impact of products at all their life-cycle stages – raw material

selection and use, manufacturing, packaging, transportation and use, systematically integrating environmental aspects at the earliest stage of product design. The measure aims to encourage micro-enterprises and SMEs to install non-technological eco-innovative approaches such as introducing environmental management systems, to carry out production technology audits, environmental audits or both, and to design products that apply the principles of ecological design<sup>3</sup>. The main purpose of Eco-Innovation LT+ is to encourage micro-, small- and medium-sized enterprises to install eco-innovative technology.

The introduction of new or significantly improved products (goods or services) and technological processes leads to reduced negative environmental impacts from economic activities, the encouragement of industrial symbiosis and ensured continuous environmental protection. It also helps to reduce the adverse effects of climate change and the greenhouse effect as well as the generation of waste. Seeking to achieve industrial symbiosis, the aim is to implement the principles of the circular economy, which means that waste generated in a company may be used as a raw material for the manufacture of other products.

Activities of Eco-Innovation LT+ include:

- 1) investment in tangible assets that reduce the negative environmental effects of economic activity, promote industrial symbiosis and ensure continuous environmental improvement;
- 2) modification of existing production equipment to improve process efficiency and reduce pollution;
- 3) modification of technology and treatment processes to reduce pollution and the consumption of natural resources during the production process;
- 4) replacement of existing natural raw materials or auxiliary materials with low-toxicity or renewable materials or using auxiliary materials that have a longer effect on the process;
- 5) modification of the qualities of a product to reduce its environmental effects during its use phase or after its landfill, or to reduce the environmental effects of producing the product;
- 6) reuse of production waste in the same process that generated it or for other purposes within the company;
- 7) recycling the waste into new products in the company that generated the waste<sup>4</sup>.

Project finance is EUR 86.8 million. According to the financial instrument, 27 applications were received. The Ministry of Economy plans to publish information related to the projects on its official website so that other ministries, organisations and private-sector representatives can get acquainted with the information that interests them.

#### Seeking synergies with other policy areas

Lithuania has seen considerable activity in the field of bioenergy. The utilisation of waste biomass for energy is an entirely different way of developing bioenergy within the national agricultural sector; it does not compete with food production and meets the principles of the circular economy. Twelve biogas plants with 13 megawatts of installed capacity already operate in the agricultural sector. During the financial period 2014–2020, measures to support 30 biogas projects with a total installed capacity of 20 megawatts will ensure that agricultural and other waste will be utilised as much as possible and yield the maximum possible added value. The support will also contribute to energy saving, reducing greenhouse gas emissions and creating new jobs in rural areas.

#### Resource efficiency and circular economy policy initiatives from subnational to local level

Since 2015, the Ministry of Environment is a coordinator of the European Week for Waste Reduction (EWWR) in Lithuania. During this week different organisations, schools, kindergartens, universities, public authorities, etc. are encouraged to use less, reuse more, etc. The focus of EWWR 2016 was the prevention

<sup>3</sup> <http://lvpa.lt/lt/paraiskos/kvietimas-teikti-paraiskas-pagal-priemone-eco-inovacijos-lt-173> (Lithuanian)

<sup>4</sup> <http://lvpa.lt/lt/paraiskos/kvietimas-teikti-paraiskas-finansuoti-projektus-pagal-priemone-eco-inovacijos-lt-184> (Lithuanian)

of packaging waste, with events taking place on 19–27 November. Twenty-one organisations registered, implemented activities and provided reports, including three administrative/government institutions, one business organisation, 16 education establishments and one NGO. In addition, 18 organisations implemented activities on a Lithuanian scale although they did not register on the EWWR website. These included 12 education establishments, three administrative/government organisations, one business organisation, one NGO and a day-care centre.

## Other resources

### Examples of policies which go beyond “material resources”

#### Air pollution

As regards air pollution, in the Programme of the Government of the Republic of Lithuania (adopted in 13-12-2016 No. XIII-82), it is planned to prepare an Air Pollution Management Plan for effective implementation of air pollution reduction goals for 2020 and 2030. The Programme also lists other measures, including reducing the negative environmental impact of railways by electrifying lines, and developing access to charging points on highways for electric cars.

In addition, the **Resolution of Water Field Development Programme for 2017–2023** approved by the Government of Lithuania was drafted to identify the goals, tasks and results to be achieved by 2023.

The objectives of the programme are:

- improve the condition of surface- and groundwater bodies;
- achieve and/or maintain the good status of the Baltic Sea environment;
- reduce the risk of flooding and its effects throughout the country;
- provide a quality public drinking-water supply and wastewater treatment service and reduce sewage pollution;
- ensure effective implementation of water protection requirements.

The Ministry of Environment, under the Programme of the Government of the Republic of Lithuania (adopted in 13-12-2016 No. XIII-82) and its implementation plan (adopted in 17-03-2017 No. 167), has prepared draft legislation to change the procedure for the use of soil for the **effective use of land resources**.

Moreover, the **Action Plan on Conservation of Landscape and Biodiversity for 2015–2020** sets a strategic goal for Lithuania to halt biodiversity loss and degradation of ecosystems and their services and, where possible, to restore them. The process of preparation and implementation of management plans for protected areas, as well as action plans for protected species, is ongoing.

## The way forward

### Reflections on future directions of policies on resource efficiency and circular economy

Some of the challenges of implementing resource efficiency, a circular economy and raw material policies are the coordination of action between different institutions, a lack of infrastructure and a lack of knowledge among citizens.

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