

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

An overview of policies, approaches and targets of Estonia in 2018

July 2019



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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.

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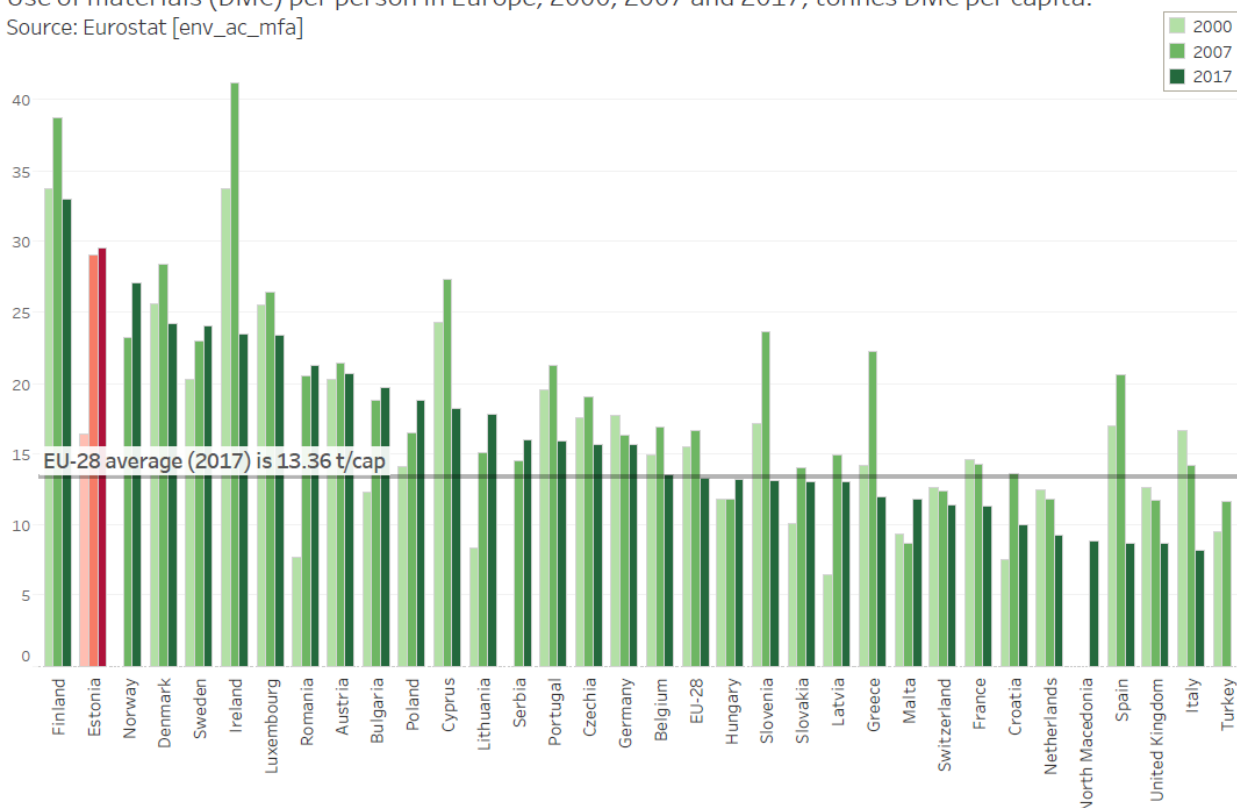
Estonia, facts and figures

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

	<p>GDP: EUR 23.6 billion (0.15 % of total EU28 in 2017)</p> <p>GDP per capita: EUR 18,000 (purchasing power standard) (59.8 % of EU28 average per capita figure in 2017)</p> <p>Use of materials (domestic material consumption (DMC)) 38.8 million tonnes DMC (0.6 % of EU28 total in 2017) 29.5 tonnes DMC per capita (220.6 % of EU28 average per person in 2017)</p> <p>Structure of the economy: agriculture: 2.7 % industry: 28.2 % services: 69.1 %</p> <p>Surface area: 45.2 thousand square kilometres (km²) (1.0 % of total EU-28)</p> <p>Population: 1.3 million (0.3 % of EU28 total in 2017)</p>
	

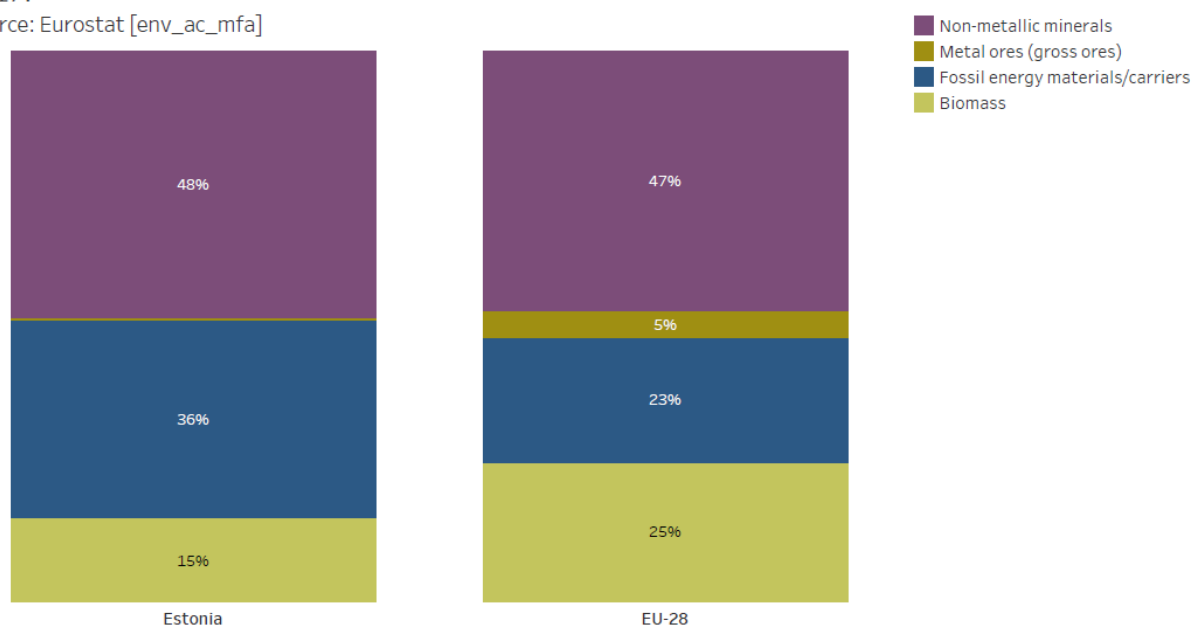
Use of materials (DMC) per person in Europe, 2000, 2007 and 2017, tonnes DMC per capita.

Source: Eurostat [env_ac_mfa]



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

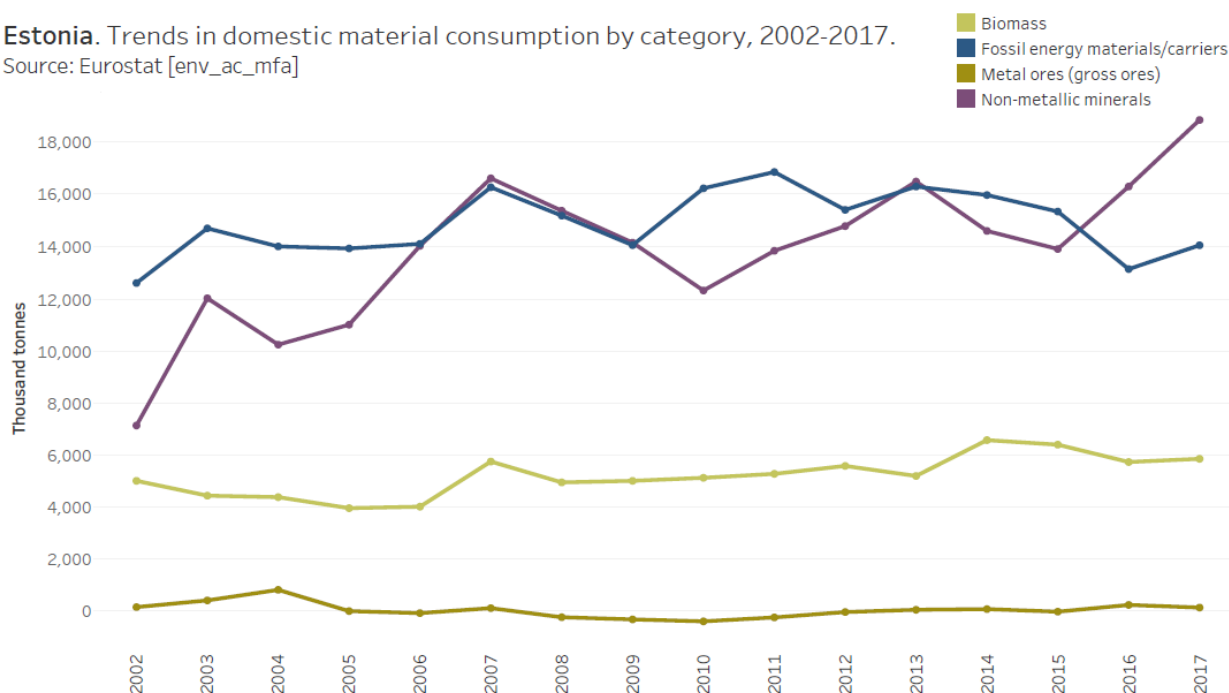
Source: Eurostat [env_ac_mfa]



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

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

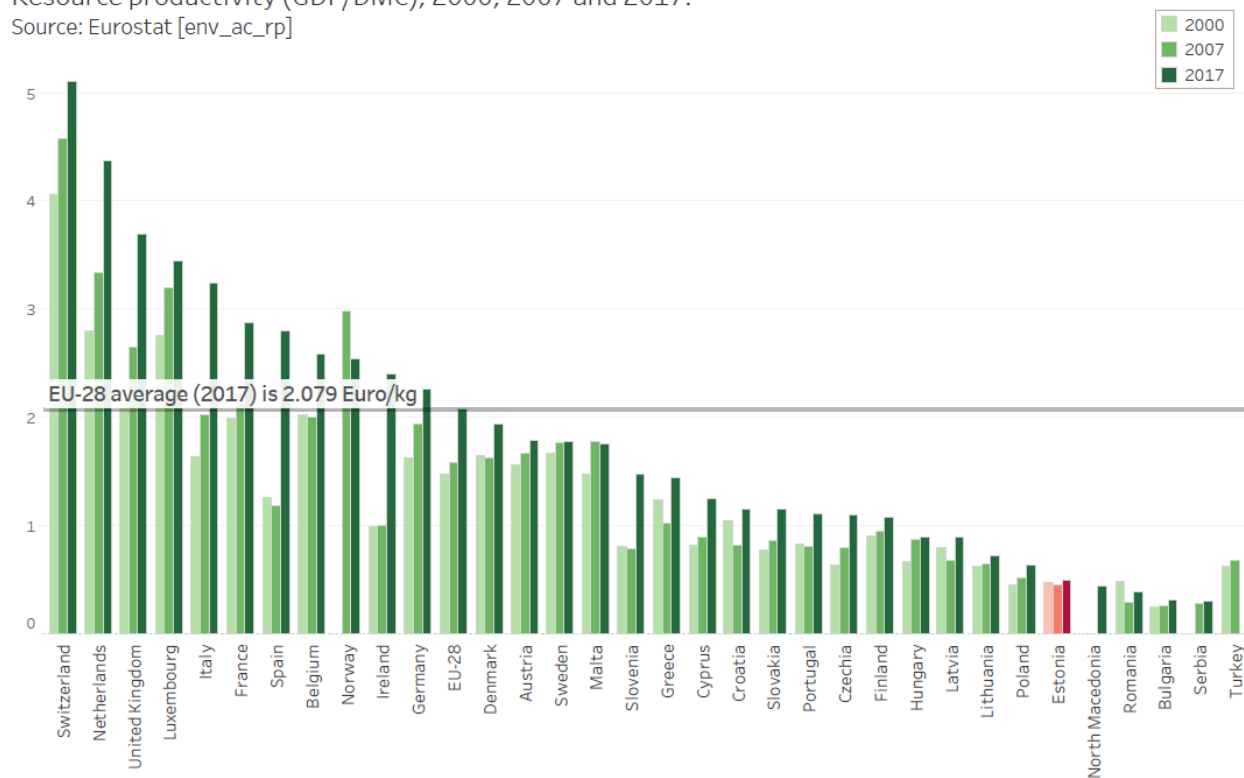
Source: Eurostat [env_ac_mfa]



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.

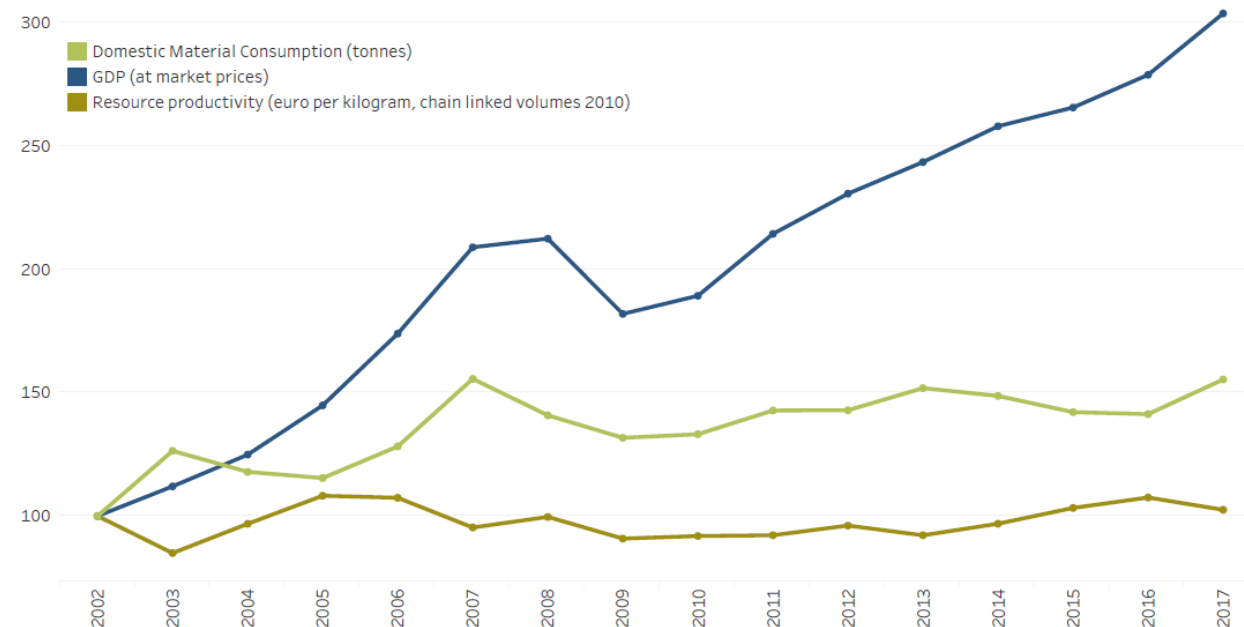
Source: Eurostat [env_ac_rp]



Note: GDP expressed in chain linked volumes 2010.

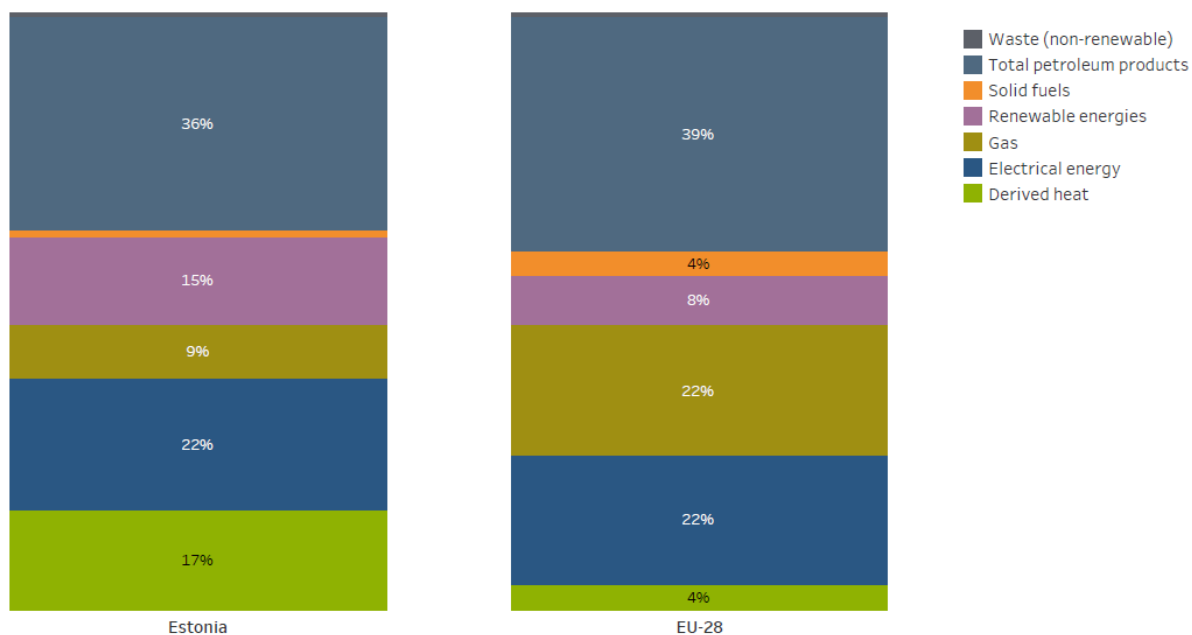
Estonia. GDP, DMC and resource productivity trends, 2002-2017, index 2002=100.

Source: Eurostat [env_ac_mfa], [env_ac_rp] & [nama_10_gdp]



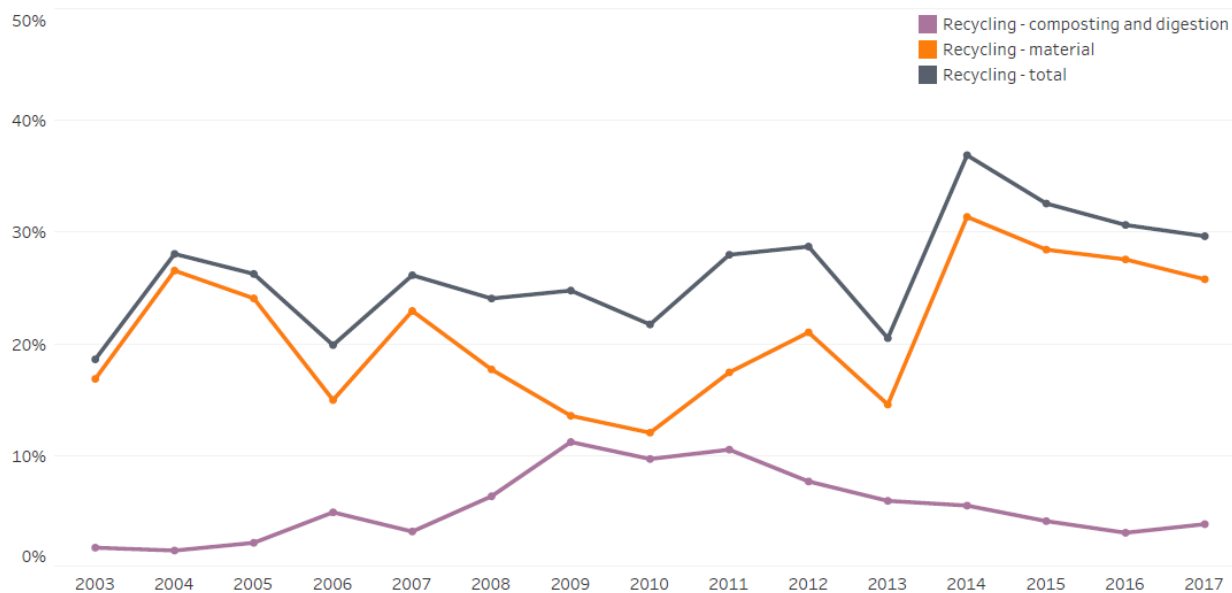
Estonia & EU-28. Primary energy consumption by energy product, 2016.

Source: Eurostat [nrg_100a]



Estonia. 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

In Estonia, the main needs and motivations are linked with the competitiveness of Estonia's economy and the kind of primary resources it has. Also, over time more and more environmental aspects, including the depletion of resources, biodiversity, etc., are taken into account as nature has been found a valuable asset. As Estonia is a small country, it needs to find solutions that can be used on a small scale rather than a large one. Regulatory requirements from EU legislation have also had an influence in this process.

Another motivation has been the Estonian Presidency of the European Council in the second half of 2017. In preparation, Estonia had to identify priorities, and one of its top environmental priorities was eco-innovation. This is not new in Europe – there are many success stories and great examples. However, it is still an exceptional rather than a common way of doing business.

One of Estonia's overarching priorities during its Presidency was digital Europe and the free flow of data. Estonia is well-known for its digital solutions, e-governance, e-health, e-elections, etc., and it would like to share its experience. Such solutions help make government services more efficient in terms of resources and enable savings in raw materials. Paperless services, for example, reduce the use of raw materials, while web services promote resource efficiency as service users' needs are spread throughout the 24-hour day.

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

Estonia has not adopted a dedicated national material resource efficiency strategy, action plan or roadmap, but resource efficiency is increasingly covered by other policies.

A strategic document and action plan for a circular economy is currently being planned in Estonia with a view to adoption by 2021. The aim of the document is to support a strategic approach on moving towards a circular economy. In 2019-2020 two analyses are conducted: circular economy indicators for Estonia and mapping of the current situation and priority areas. In addition, a working group will be established made up of public and private sector representatives.

Overview of dedicated national or sectoral strategies for raw materials

In June 2017, the General Principles of Earth's Crust Policy Until 2050 were adopted in Parliament¹. The long-term aim is to ensure knowledge-based and environmentally clean management and use of the Earth's crust's resources (minerals, groundwater, geothermal heat, the Earth's crust as support, and as a building environment) to promote the country's economic growth, by increasing resource efficiency and reducing dependence on raw materials and non-renewable natural resources. Further action will follow in the coming years, for example a systematic approach to research on the Earth's crust.

Estonia has sectoral development plans with implementation plans. These include: Forestry Development Plan to 2020 (2011)²; a new is under development covering 2021-2030³.

National Development Plan for the Use of Oil Shale 2016–2030 (2016)⁴.

The key objective for all these plans is the effective and efficient use of specific resources and ensuring sectoral sustainable development.

¹ http://www.envir.ee/sites/default/files/mpp_2050_kujundatud_eng.pdf (English)

² <http://www.envir.ee/et/metsanduse-arengukava-2011-2020> (Estonian)

³ <https://www.envir.ee/et/metsanduse-arengukava-aastateks-2021-2030> (Estonian)

⁴ http://www.envir.ee/sites/default/files/2016_2030ak_ingl.pdf (English)

The National Development Plan for the Use of Oil Shale also includes a National Strategy for Oil Shale Mining and Use which is not part of older plans.

The oil shale Development Plan sets three strategic objectives arising from the necessity of promoting the national interest:

1. increasing the efficiency and reducing the environmental impact of oil shale mining;
2. increasing the efficiency and reducing the environmental impact of oil shale use;
3. developing education and research activities related to oil shale.

Details of action, divided into eight measures, responsibilities and estimated costs, were submitted in an implementation plan and explanatory report attached to the oil shale development plan. The 2016–2019 implementation plan was approved in October 2016.

Policies which include elements of material resource efficiency

The **National Strategy on Sustainable Development: *Sustainable Estonia 21***⁵, which came into force in 2005, has four development goals: viability of the Estonian cultural space, growth of welfare, the development of a coherent society and ecological balance. One of the components of the ecological balance goal is ‘the use of natural resources in ways and quantities that ensure ecological balance’, which reflects the idea of resource efficiency. It broadly covers the country’s national resources.

The **Estonian Environmental Strategy 2030** (2007)⁶ is a strategy for developing the sphere of the environment which builds upon the principles of *Sustainable Estonia 21* and serves as the basis for the preparation and revision of all sector-specific development plans within the sphere of the environment. One of the main objectives is ‘sustainable use of natural resources and reduction of waste generation’. It broadly covers the country’s national resources.

Resource efficiency is part of the National Reform Programme **Estonia 2020** (2011)⁷, which is Estonia’s strategy for achieving the EU’s Europe 2020 objectives. One priority of government policy is ‘reducing the general resource and energy intensity of the economy’. Estonia 2020 describes objectives for 2015 and 2020 established to improve competitiveness. In addition, the Programme includes the main activities required to improve competitiveness. The two central objectives of the Programme are increasing productivity and employment in Estonia. Measures are described in the Action Plan 2015–2020⁸.

Among the measures described in the Action Plan (under the heading *Reducing the general resource and energy intensity of the economy*), the most important ones include:

- developing and implementing companies’ resource-efficiency measure;
- preventing and reducing waste generation and increasing recycling and the reuse of waste;
- following better the principles of resource efficiency when carrying out public procurement.

Other policies:

In 2016, the **Climate Change Adaptation Development Plan until 2030**⁹ was approved by government, and in 2017, the **General Principles of Climate Policy until 2050**¹⁰ were adopted by parliament. Estonia’s long-term goal is to switch to an economy with low carbon emissions, which means gradually and

⁵ http://www.envir.ee/sites/default/files/elfinder/article_files/se21_eng_web.pdf (English)

⁶ http://www.envir.ee/sites/default/files/keskkonnastrateegia_inglisek.pdf (English)

⁷ <https://riigikantselei.ee/en/national-reform-programme-estonia-2020> (English)

⁸ https://riigikantselei.ee/sites/default/files/elfinder/article_files/eesti_2020_action_plan_2017-2020.pdf (English)

⁹ http://www.envir.ee/sites/default/files/climate_change_adaptation_development_plan_until_2030_summary_0.pdf (English)

¹⁰ http://www.envir.ee/sites/default/files/low_carbon_strategy_until_2050.pdf (English)

purposefully redesigning economic and energy systems to be more efficient, resource efficient and environmentally friendly. In addition to climate change mitigation by reducing greenhouse gas emissions, adjusting to the impacts of climate change is also important in transitioning to a resource-efficient economy.

Estonian Rural Development Plan (ERDP) for 2014–2020 (2015)¹¹

One of the Plan's priorities is 'promoting resource efficiency and supporting the transition to a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors', with the following objective: 'the agriculture and the food industry has made energy saving and energy efficiency investments, greenhouse gas and ammonia emissions have been reduced and the conservation and capture of carbon dioxide has been promoted in agriculture and forestry'. An *ex-ante* evaluation of the ERDP for 2014–2020 was undertaken in 2014¹².

Knowledge-Based Estonia 2014–2020 (2014)¹³

One of this strategy's objectives is for research and development (R&D) to make the structure of the economy more knowledge intensive, and the more effective use of resources is one of the three growth areas to achieve that objective.

National Waste Management Plan 2014–2020 (2014)¹⁴

The National Waste Management Plan mainly focuses on modern product design, clean resource-saving production and the recycling of existing materials. The National Waste Management Plan 2021+ will be included, possibly integrated, in a new strategic document to be adopted by 2021.

Institutional setup and stakeholder engagement

The Ministry of the Environment is responsible for resource efficiency and circular economy in general. However, the Ministry of Economic Affairs and Communications also shares a part of it. The same is true of raw materials, which need attention from both ministries. In 2017, the waste department and environmental management department were merged into the environmental management department.

Concerning stakeholder involvement, an annual partner day organised by the Ministry of the Environment. In 2017, for example, it addressed the circular economy for the first time, waste and the Earth's crust, among others. All stakeholders who wish to can take part.

As a result of a request from a circular economy and waste group to gather more frequently, another two partner days were held in 2017 to address unfinished topics and discuss issues and possibilities. Partner days and other events continued in 2018 to find solutions to meeting the municipal waste recycling target of 50 per cent by 2020 and developing a strategic document for the circular economy.

Relevant stakeholders – non-governmental organisations (NGOs), organisations and others – usually participate in such processes as Estonia has guidelines for the development of legislative policy. The main guidelines for the involvement of stakeholders are:

1. discuss the main solutions of the draft with those affected by the regulation to identify all impacts of the draft and adhere to the principles of democracy;
2. submit the intent of developing the draft, the concept of the draft and the draft itself for discussion;
3. involvement is efficient only provided it is carried out by clearly formalised rules of procedure.

¹¹ <http://agri.ee/en/objectives-activities/estonian-rural-development-plan-erdp-2014-2020> (English)

¹² <https://www.agri.ee/sites/default/files/content/arengukavad/mak-2014/erdp-2014-ex-ante-evaluation-2014-06-16.pdf> (English)

¹³ https://www.hm.ee/sites/default/files/estonian_rdi_strategy_2014-2020.pdf (English)

¹⁴ http://www.envir.ee/sites/default/files/riigi_jaاتمekava_2014-2020.pdf (Estonian)

The government has developed and laid down a procedure, which applies to all governmental authorities, for submitting draft acts for public discussion and the results of the discussion to the Riigikogu (Estonia's parliament).

When the policy is more promotional in nature, Estonia has a handbook for stakeholder involvement, in which guidelines for participation are recommended – these guidelines apply to legislative policy as well.

If a draft is accompanied by an impact analysis report, this is submitted along with the draft for public consultation.

The Good Engagement Practices are also used in forming government positions on EU issues: decision makers must be notified of the results of the consultation with interest groups. A government authority prepares a summary of the consultation results, which sets out interest groups who were invited to participate, presents the proposals and comments made, explains consideration of the proposals or comments, and provides a justification if they were not adopted by the government authority preparing the decision.

As Estonia has resource efficiency measures for enterprises, stakeholders are part of the working group that works out requirements. The stakeholders include industry and university representatives.

The Mineral Resources Commission advises the Ministry of the Environment and its administrative authorities on issues related to the exploration, use and protection of the Earth's crust and on keeping records of mineral resources. The Commission includes representatives from different professional associations and meets monthly.

In 2017, the Estonian Geological Survey was established under the Ministry of Economic Affairs and Communication. It will research and map Estonia's Earth's crust resources. The permit system falls under the remit of the Environmental Board, which is under the Ministry of Environment. In 2017, funding for research into the Earth's crust resources was secured from the knowledge-based policy formulation RITA programme¹⁵. The RITA programme is supported by the European Regional Development Fund, which aims to increase the role of the state in the strategic management of research and the capabilities of R&D institutions in carrying out socially relevant research.

Approaches to resource efficiency and circular economy policy evaluation

Estonia has yet to carry out any comprehensive analysis. However, in preparation for Resource efficiency in enterprises, for example, two studies were undertaken.

The first was an evaluation of the potential target group and what they had been doing in terms of resource efficiency. Secondly, Estonia made an *ex-ante* assessment of financial instruments in five priority industries – mining, food, wood, pulp and paper, and production of other non-metallic minerals. The situation in these industry sectors is always closely monitored.

Monitoring and targets

Targets for resource efficiency and circular economy

Increase resource productivity (GDP/DMC) by 10 per cent by 2023 – EUR 0.49 per kilogram (Performance framework of EU Structural Funds 2014–2020) compared to 2013.

¹⁵ <http://www.etag.ee/en/funding/programmes/rita/> (English)

Increase productivity per employed person (GDP per hour worked) to 80 per cent compared to the EU average by 2020 (Estonia 2020).

Concerning waste-related targets, those that go beyond, or differ from EU requirements, include the following:

- the landfill share of biodegradable municipal waste is not to exceed 20 per cent by 2020 (National Waste Management Plan 2014–2020);
- the recycling target for biodegradable waste is 13 per cent of total municipal waste generation by 2020 (National Waste Management Plan 2014–2020);
- the demolition and construction waste recovery rate is to be 75 per cent by 2020 (National Waste Management Plan 2014–2020);
- increase the share of renewables in final energy to 27 per cent by 2019 (Coalition Agreement of the Estonian Government 2016–2019).

Indicators to monitor progress towards a resource-efficient circular economy

Estonia uses the same indicators as other countries and the situation has not changed much since the 2016 report. Estonia has launched an analysis in 2019 to find suitable ones for Estonia.

At the moment, the resource productivity indicator (GDP/DMC) is the only one monitored closely in the resource efficiency context. By the end of 2019, Statistics Estonia will publish graphs and tables of material flow accounts (for example, export, import and use of different materials) and of environmental goods and services statistics, which started in 2017.

In 2015 and 2018 two of Statistics Estonia's publications related to the UN Sustainable Development Goals (SDGs).

*Quarterly Bulletin of Statistics Estonia – Estonia in the light of sustainable development indicators (2015)*¹⁶ Estonia will be on a sustainable course if there is progress towards the four main goals: growth of welfare, a coherent society, viability of the cultural space and ecological balance. These are the components of sustainability as defined in the Estonian National Strategy on Sustainable Development. Life in Estonia has improved but not enough to catch up with the leading countries in the EU. The sustainable development strategy has been in place for about 10 years but there have not been any major changes in Estonia. Even now, based on various indicators, Estonia has more or less the same ranking among EU countries as 10 years ago.

*Indicators of Sustainable Development (2018)*¹⁷

The publication includes 87 visualised and analysed indicators that show progress Estonia has had in the light of the SDGs. Links are drawn to the Estonian National Strategy on Sustainable Development and to several national development and action plans. The publication was prepared in cooperation with the Strategy Unit of the Government Office and field experts. While the focus is mainly on sustainable development, the publication provides a wide range of information for people interested in the developments of Estonia. One indicator is resource productivity.

Resource efficiency, circular economy and the 2030 Sustainable Development Goals

The measure on resource efficiency in enterprises (see section Examples of good practice and innovative approaches as an example of good practice) has the goal of increasing resource productivity of Estonia

¹⁶ http://www.stat.ee/publication-2015_quarterly-bulletin-of-statistics-estonia-2-15 (Estonian and English)

¹⁷ https://www.stat.ee/publication-2018_indicators-of-sustainable-development (Estonian and English)

through improving manufacturing industry and its resource use. The measure is closely linked with two of the most relevant SDG targets, 8.4 and 12.2, although the link is not formally established as the measure was introduced before the SDGs.

Examples of innovative approaches and good practice

Examples of good practice and innovative approaches

Reuse Centre/Uuskasutuskeskus¹⁸

The non-profit organisation Uuskasutus is an independent social undertaking established in 2004 by the Good Deed Foundation, the Estonian Fund for Nature, the Caritas Foundation and two individuals. Its objective is to put used things back in circulation and to make reuse and redesign easily accessible and commonplace for everyone in Estonia.

The Reuse Centre mostly uses two approaches to promote reuse: put clean and usable things back into circulation and find ways of giving new life to old things. They accept anything that is in good condition, including clothes, furniture, crockery, toys, books, shoes, accessories, hobby items, music/films, plants and household appliances. At the moment, they have 11 centres in 6 cities. In 2016, they helped to save 900 tonnes of goods from landfill and gave them a new life. Close to 100,000 people donated goods that they no longer needed.

The Centres' objective is to reuse things or redesign old things, giving them new value and a new purpose. Whilst recycling mainly means reprocessing packaging, paper and other items into raw material, the objective of reuse and redesign is to extend the lives of things or increase their value. If you have anything that is still usable, clean and in good condition, but you just don't need it anymore, then you can donate it to the Centre, which will find the item a happy new owner either with the help of their charity partners or by selling it at a reasonable price. Any money made will be used to promote reuse and re-design further.

Resource efficiency in enterprises¹⁹

In the context of the Multiannual Financial Framework 2014–2020, Estonia decided to support a EUR 111 million investment for more resource-efficient solutions, mainly in small- and medium-sized enterprises (SMEs) in manufacturing industry, to increase the resource productivity of Estonia's economy under the measure Resource efficiency in enterprises.

The overarching goal is to increase Estonia's resource productivity, GDP/DMC, by 10 per cent by 2023 compared to 2013. Activities include raising awareness in companies, training resource specialists/auditors, supporting resource audits and investment in resource-efficient solutions. Waste collection, reuse and recycling of sorted waste are also covered.

Since 2016, the initiative includes seminars, consultations, workshops and other events to inform enterprises on resource and energy efficiency, opportunities offered by the government, resource audits, waste management, innovative solutions, digitalisation, automation, etc. These activities will continue until 2023. We are looking for new ways of raising the awareness of resource efficiency among enterprises and keeping them up to date with the best available practices. During the same period, we will organise training for specialists who are then able to conduct resource-use analyses in enterprises. The specialists are not licensed but are given a certificate of completed training carried out according to training rules in Estonia.

¹⁸ <http://uuskasutuskeskus.ee/en> (English)

¹⁹ <http://ressurss.envir.ee/> (Estonian) and <http://www.envir.ee/et/eesmargid-tegevused/keskkonnakorraldus/ressursitohusus> (Estonian and English)

Training is done by a consortium of universities and private consulting companies. The programme was outsourced before the first training started. These experts help enterprises understand the best ways to improve their processes and make investment easier and more profitable. Minimum requirements have been set for resource audits, with one important part being the requirement for auditors²⁰.

Enterprises themselves do not always have the time and knowledge to find the best solutions for their processes and an outside specialist conducting a detailed resource-use analysis can be of great benefit. We are also supporting enterprises in conducting, on a voluntary basis, resource-use analyses. This will give enterprises and us a picture of their resource use.

Once a detailed resource analysis has been made, enterprises can apply for funding to support investment, which will allow them to employ the best possible technologies and solutions that reduce their resource use.

We have also set up a working group consisting of representatives from relevant ministries, universities and business associations. The group's task is to provide input and find best solutions for regulations of a given measure, to monitor the progress and find solutions for problems occurring during its application period. Meetings are scheduled as appropriate, usually two or three times a year. Further meetings took place when setting up the regulations.

Some progress has already been made – visuals, communication messages, methodology for audits and a training programme for auditors. Forty-nine resource auditors have been trained and more than 800 participants have taken part in awareness-raising activities. For enterprises, 54 resource audits have been finished out of 90 that got support. In addition, 31 investment projects have been given support, for example in the wood and mining industries. Ten projects have finished. The main principle of the projects has been how to use raw materials more efficiently, producing less waste and generating more value.

Seeking synergies with other policy areas

Estonia has put a National Reform Programme 2020 and its Action Plan 2015-2020 in place that deliberately seek to create synergies and co-benefits between resource efficiency, the circular economy, and other policy areas. Estonia also has some initiatives which seek to make imports of materials and products more sustainable, such as awareness raising activities and campaigns in the food sector.

National Reform Programme Estonia 2020 (2011)²¹ and its Action Plan 2015–2020²²

Estonia 2020 is Estonia's strategy for achieving the EU's Europe 2020 objectives. It is a reform programme that describes the objectives established to improve competitiveness and the activities needed to achieve them. Estonia 2020 describes objectives to improve competitiveness for 2015 and 2020. In addition, the Programme includes the main activities required to improve competitiveness. The two central objectives of the Programme are raising productivity and increasing employment in Estonia. Estonia 2020 is updated annually by government decision (at the end of April).

Resource efficiency synergies with other policies are described under Priority 13, *Reducing the general resource and energy intensity of the economy*, and set between resource efficiency and other policies at government level as all policies must do, in line with Estonia 2020, 'to achieve sustainable growth we must continue to develop an economy that has lower carbon emissions, is more resource efficient, greener and more competitive'.

²⁰ http://www.envir.ee/sites/default/files/ressursitohusususe_metoodika_inglise_keeles.pdf (English)

²¹ <https://riigikantselei.ee/en/national-reform-programme-estonia-2020> (English)

²² https://riigikantselei.ee/sites/default/files/elfinder/article_files/eesti_2020_action_plan_2017-2020.pdf (English)

Although the circular economy is not explicitly mentioned in these documents, many activities are related to the concept. To ensure sustainable growth, for example, it is essential to promote a circular economy which aims to keep products, materials and resources at their highest utility and value at all times and produce as little waste and pollution as possible.

Resource efficiency is relevant to environmental taxes, climate policy, research and development, waste management and other policies. Some of the most important measures include reconstruction of street lighting systems; development of a new concept of environmental charges; taking into account the results of analyses of the external cost of the use of the environment and of optimal remuneration of the oil shale sector; developing and implementing companies' resource efficiency measures; preventing and reducing waste generation and increasing recycling and reuse of waste; and following better the principles of resource efficiency in public procurement. Implementation is ongoing and most of the measures will run through 2020, especially those that include EU structural funds measures.

Concerning an environmentally sustainable economy and energy sector (energy and resource savings), the three objectives set for 2020 have already been achieved with 2017 – greenhouse gas emissions in 2020 compared to the 2005 level, increasing the share of renewable energy to 25 per cent of final consumption of energy by 2020; and maintaining the level of final energy consumption in 2020 at the 2010 level.

Through **awareness-raising activities** consumers have come to prefer local products. For example, campaigns promote groceries produced in Estonia as more environmentally friendly and healthier than imported ones which need preservatives to maintain their freshness. Such campaigns also pressure imports to be more sustainable as low-quality materials and products have difficulty competing in the market.

A **campaign by the Food Industry Association** – Notice the flag (Märka lipu märki)²³ has been under way since 2009, including TV campaigns. Products produced in Estonia can display the Estonian flag on the packaging and, during campaigns, on price tags as well. Some internationally well-known products use this flag as a proof of Estonia's high-quality food industry. The scheme works on a voluntary basis.

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

Estonia has a Certification Centre for Recycled Materials operated by the Estonian Waste Recycling Competence Centre. The City of Tartu is part of the international SmartEnCity project with a goal to make the city environmentally smart and sustainable and to inspire people to make environmentally conscious decisions.

Certification Centre of Recycled Materials of the Estonian Waste Recycling Competence Centre²⁴

The Estonian Recycling Competence Centre was founded in September 2013 as a non-profit organisation with the aim of increasing waste recycling in Estonia and supporting waste recycling companies in producing high-quality and certified materials from waste. The activities of the Estonian Recycling Competence Centre are focused on the development of waste recycling projects including international ones, training for all stakeholders in waste management/recycling and sharing the experiences of Estonian waste recycling companies internationally.

Three waste-product categories have been identified as priority areas in the working programme of the Recycling Competence Centre: production of compost, recycled aggregates and recovered fuels. The main objective is to provide quality standards to meet end-of-waste criteria. If a company wants to create a

²³ <http://toiduliit.ee/tegevused/marka-lipumarki> (Estonian)

²⁴ <http://www.recycling.ee/> (Estonian)

product from waste, they have to apply for a certificate for certain materials and meet standard requirements.

In 2015 the Estonian Recycling Competence Centre established the Certification Centre of Recycled Materials, the main task of which is the certification of waste products. The first certification scheme was developed for compost together with a compost user's instruction leaflet.

Additionally, their own trademark Kvaliteetne toode (Quality product) for certifying the quality of recycled products was developed. In February 2016 the Estonian Accreditation Centre officially confirmed that the Certification Centre of Recycled Materials conforms with requirements of a certification body. At the moment there are four certified compost providers in Estonia, and the Centre also certifies compost from sewage-sludge. Possible certification of other recycled materials in near future includes digestate and crushed concrete.

There is also a construction and demolition waste (CDW) project that has been largely successful in providing much needed knowledge and hands-on experience on CDW recycling issues and on the use of recycled products across the CDW management sector. Key results include the construction of a test road as proof of concept by using recycled aggregates as the base material, and an increase in CDW recycling.

Evaluation by a European Commission study²⁵ found that there is a good replicability potential that could enable other small and medium-sized Member States or regions to learn from this case study, and ultimately apply similar concepts in their own territories.

Smart Tartu²⁶

Tartu is part of the international SmartEnCity project, which received funding from Horizon 2020. Other cities are Vitoria-Gasteiz (Spain), Sonderborg (Denmark), Lecce (Italy) and Asenovgrad (Bulgaria). Tartu is one of three Lighthouse demonstrators. A project goal is to make the city environment smart and sustainable, to inspire people to make environmentally conscious decisions and to be easily replicable in other European cities as well. The key activity is renovating the old Soviet apartment buildings in the downtown area into energy-efficient and modern houses – from Hrustovkas to Smartkovskas. The project started in Tartu in 2016 and will run for at least five years, and it is planned to renovate 900 apartments (23 buildings) at the cost of EUR 8.2 million, and develop energy systems and an electric car network.

All buildings that will be renovated will also be equipped with a smart home (smart home management) solution that will make day-to-day living more convenient and help to monitor energy consumption. In addition to renovations and smart home solutions, the smart city project will also entail innovative solutions in district heating, transport, street lighting and renewable energy use, and will emphasise citizen engagement and awareness raising. Electric vehicle charging points and electric bicycle and vehicle rental stations will be installed in the smart city district (pilot area) as well.

Other resources

Examples of policies which go beyond “material resources”

Estonia, in its Presidency of the Council of the European Union, together with Trio partners Austria and Bulgaria, highlighted the role of eco-innovative solutions for sustainable growth. This was done in the context of the Agenda 2030 for Sustainable Development in the EU and on upcoming Commission

²⁵http://ec.europa.eu/environment/waste/studies/cdw/CDW_Task2_Case%20studies_Estonia_Recycling%20Competence%20Center.pdf (English)

²⁶ <http://tarktartu.ee/eng/> (English)

initiatives of the Circular Economy Package. EU also needs a comprehensive long-term vision for post-2020 EU strategies.

The Trio Presidency examined the role of transparency of information related to the use and impacts on the environment of materials and hazardous chemicals in the context of creating favourable conditions and awareness for sustainable consumption and production. It also looked closely at the production policy perspective with the focus on whether and how policies create favourable conditions for innovative solutions. This mainly included strategies related to the circular economy, the use and recycling of plastics, and the development of sustainable finance in support of implementation.

During its EU Presidency, Estonia in particular focused on eco-innovations to facilitate material circularity and product durability, integrated and inclusive urban planning to promote sustainable smart cities, and finally on effective financing for sustainable growth. Estonia led the adoption of Council conclusions on eco-innovation in December 2017 to lay the way forward²⁷. It will support efforts to move towards a circular economy and sees eco-innovation as a key element in this transition.

Member States are calling for a comprehensive EU policy that would cover the whole life cycle of products: this would increase transparency and make sure crucial elements are not missed. At the same time, governments should make it as simple as possible for businesses to take innovative products to market. On both the EU and Member State levels, there is huge potential in digital solutions to make the move to a circular economy faster and easier.

The Trio Presidency aimed to identify entry points for promoting eco-innovative solutions across all relevant policy areas and pursued concrete activities over the 18 months between July 2017 and December 2018. In addition, throughout the EU Presidency period, Estonia decided to emphasise the importance of implementing the SDGs.

Another priority of the Estonian Presidency of the European Council was digital Europe and the free movement of data. The Digital Presidency means digital solutions influence every aspect of our society. From soil management to space exploration, the future of the world is digital. For the last 20 years, Estonia has witnessed the transformative effect of digitalisation on society. Many are now calling the Estonian Presidency the Digital Presidency because of its ambition to realise the benefits of a digital society for every European. Estonia is committed to doing its utmost to meet these expectations and to live up to the mantle of the Digital Presidency. Therefore, Estonia's Presidency was organised around three pillars: digital policy, digital events and digital legacy²⁸. A good example of these is the paperless services linked to Estonia's ID-cards²⁹, which are convenient for citizens while, at the same time, saving resources.

Estonia has also used innovative solution-oriented cooperative partnership formats for the development of real solutions. In October a hackathon was organised with Garage48, dedicated to finding innovative circular economy solutions through eco-innovation and resource efficiency³⁰. The ideas were pitched during two pre-events and at the start of the main event when teams came together. Solutions came in the form of apps, technological systems or prototypes, and business models.

The 48-hour event brought together a variety of high-quality international experts from the information and communications technology (ICT) and start-up community, universities, policymakers, the private sector, civil society and enthusiasts from many different countries. The event created specific conditions for success – limited space and time, a specific focus and goal-oriented people with different skills. By the

²⁷ <http://www.consilium.europa.eu/en/press/press-releases/2017/12/18/council-conclusions-on-eco-innovation-transition-towards-a-circular-economy/> (English)

²⁸ <https://www.eu2017.ee/news/insights/digital-europe-and-the-free-movement-of-data> (English)

²⁹ www.eesti.ee (Estonian)

³⁰ <http://garage48.org/blog/garage48-circular-economy-2017-winners-3cular-eu2017> (English)

end of the event, nine teams presented their solutions. The winner of the hackathon, 3cular, is creating a 3D printer that uses wood waste and circular design to produce new valuable objects.

The way forward

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

For Estonia the biggest challenge, when it comes to the implementation of resource efficiency, circular economy and raw materials policies, is how to get different actors together in the transition to a circular economy and how to ensure policy coherence. Major challenges also include low awareness of resource efficiency, especially its advantages and best practice; lack of confidence and risk-taking in financing sustainable projects; and lack of information on material content and hazardous substances in products. Another challenge is how to encourage a secondary raw materials market.

The key to overcoming challenges is raising awareness at every level – private, public and society. Possible solutions are in having good practice to show the difference between traditional and new solutions and why they should be used, and creating more reliable information about environmental impacts, for example, product footprints, digital product factsheets and product passports. In addition, secondary raw materials standards will be helpful to make the transition. A key enabler for a circular economy will be collaboration.

A digital product factsheet would encompass product-specific key information in digital form about the material and substance content of a product, as well as information about key attributes regarding sustainability and circularity. This information could be accessed through a suitable digital application.

Estonia runs awareness-raising activities on resource efficiency and will continue to do so through 2023, focusing on smarter resource use and monitoring. At the same time, Estonia plans to increase circular economy awareness activities through campaigns, public sector training and Green School competition.

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