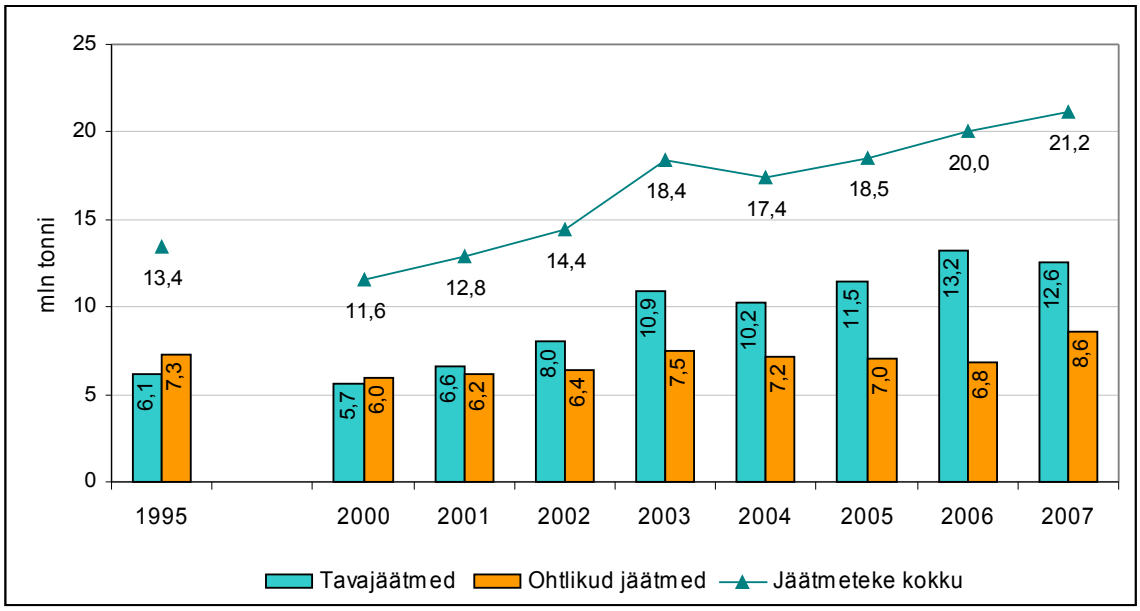
Estonia
UN CSD18: National Reporting on Waste management

The Estonian National Waste Management Plan 2008 - 2013 was adopted by Estonian Government in 2008. It is targeted at the further organisation of waste management, following the principles of sustainable production and consumption. The attaining of this is associated with the implementation of waste hierarchy: waste generation should be prevented, and if this turns out to be impossible, waste need to be recovered as much as possible, incl. waste reuse, recycling, and take possibly little quantities of waste to landfills.

During the observed period, it is of relevance to achieve a decoupling between environmental pressures and economic growth. Within the context of the waste management plan this means that the connection between the use of resources, generation of non-hazardous waste and hazardous waste and economic growth needs to be cut off. Such a principle has been highlighted both in the European Community Sixth Environment Action Programme (2002) and also in the Estonian Environmental Strategy 2030. Decrease in the negative environmental impact, proceeding from waste, is related to the minimisation of resource use and also the generation of hazardous waste.

The scope of the National Waste Management Plan 2008 – 2013 encompasses both hazardous and non-hazardous waste, including inert waste and packaging waste. Diagram 1 shows waste generation (million tonnes) in years 1995, 2000-2007 (blue – non-hazardous waste; yellow - hazardous waste; green line – all wastes).

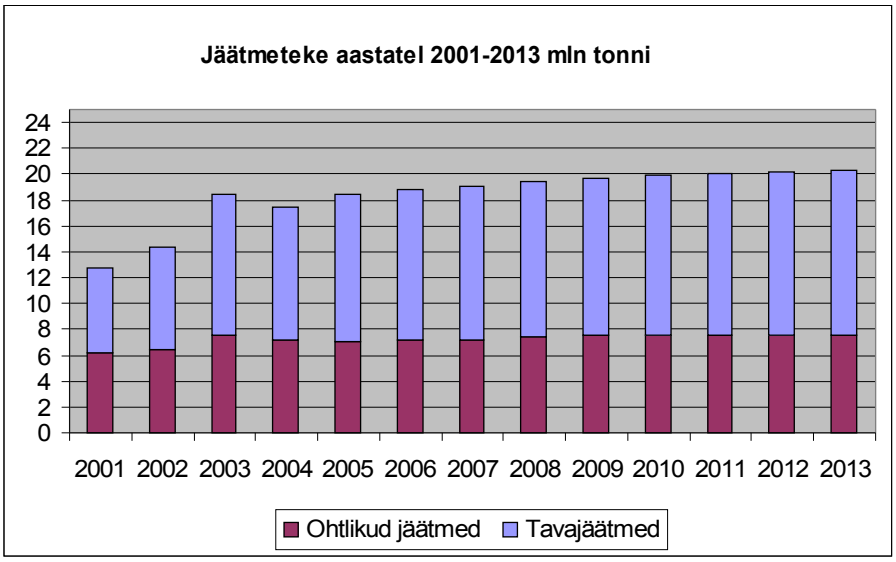
Diagram 1 Hazardous and non-hazardous waste generation, 1995, 2000-2007



Main type of waste generated in Estonia comes from oil shale industry - approximately 70-74 %. 10 % constitute construction waste, 8% industrial waste (incl. waste water treatment), 3% municipal waste, 3% waste from agriculture and 4% other waste. Although the generation of wastes has been increased, the hazardousness is decreased. Last five year average 39% of waste generated is hazardous. In the production of oil shale oil, there is an opportunity to reduce the hazardousness of generated waste by way of more widely introducing the technology of solid heat carriers.

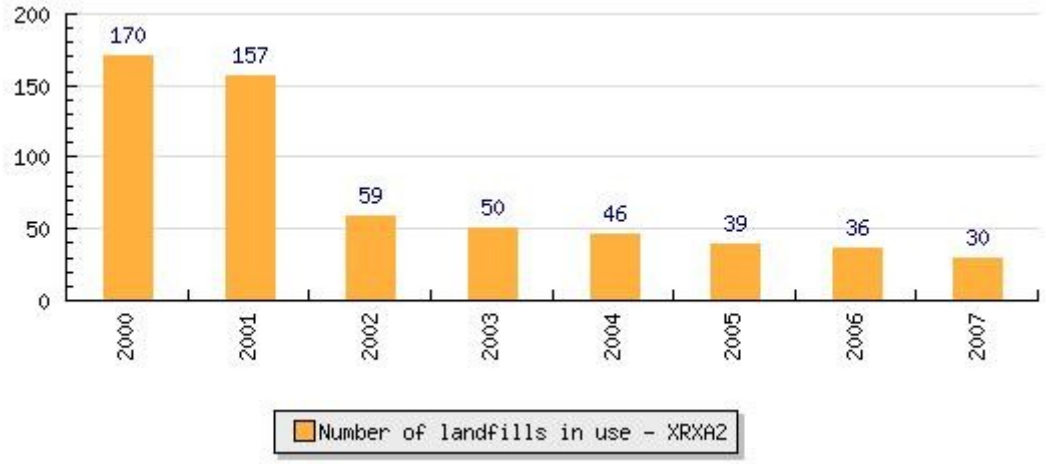
Diagram 2 below shows prognosis of waste genesis in 2001-2013 (million tonnes), where red colour marking hazardous waste and blue non-hazardous waste.

Diagram 2 Waste generation with prognosis to 2013



During the observed period, it is necessary to increase waste recovery and decrease the use of natural resources. The period 2008-2013 is of great significance as it involves actions connected with the closure of landfills and after closing conditioning in accordance with the requirements (16.07.2013). As of 16.07.2009, it is not permitted to deposit waste in landfills that are not in accordance with requirements and noncompliance landfills were closed. Now there are 5 landfills for non-hazardous waste and 4 landfills for hazardous waste. Below shown Diagram 3 gives an overview of landfills (hazardous and non-hazardous) used in years 2000-2007. In 2008 there were 28 landfills in use and 2009 after closedown 13 landfill remain.

Diagram 3 Number of landfills in use



In Estonia a decisive breakthrough has to be made in decreasing the proportion of biodegradable waste within the municipal waste deposited in landfills. The percentage of biodegradable waste in the total amount by weight of municipal waste going to landfills must be reduced to 45% by 16 July 2010, and 30% by 16 July 2013. The percentage of the above-mentioned biodegradable waste proceeds from the goals stipulated in the EU Council Directive 1999/31/EC on the landfill of waste, relying on the amount

of biodegradable municipal waste generated in 1995. In years 2007-2008 a case study of municipal waste composition showed that main waste type in municipal waste stream is biowastes, where Estonian average form 36,6% (all together biodegradable waste make ca 60 % of municipal waste going to landfills), following plastic waste 18,6 % and paper and cardboard waste 17,5 %. Most of the biowaste is kitchen waste (80 %) and majority of plastics is plastic packaging.

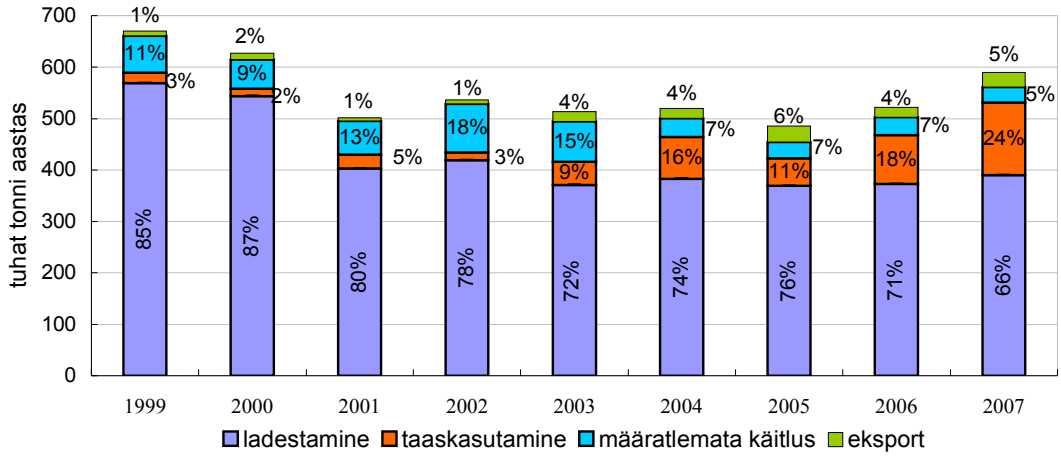
Average amounts of municipal wastes by types disposed on landfills, 2007/2008

Waste type	Estonian average (t)	Disposal per capita (kg/y)
Biodegradable waste	214 000	159,7
Packaging waste	132 000	98,4
Combustible material	322 000	239,8
Uncombustible waste	61 000	45,6

The Waste Management Plan puts a lot of emphasis on developing collection networks for the waste regarding the products of concern, packaging waste and hazardous waste. The handling of municipal waste pursuant to requirements is a very important issue. Upon the planning of a system for handling municipal waste it is relevant to reduce, as a first priority, the amount of waste deposited in landfills.

For increasing waste sorting and decreasing landfilling and hazardousness of wastes policy measures like banning unsorted waste disposal are set in Estonian Waste Act (entered into force in 2004). Local municipalities must develop the collection system through waste stations for reusable and municipal hazardous waste and in cooperation with recovery organisations also packaging waste collection. There are also requirements of collection for wastes from electrical and electronic equipment (WEEE). Diagram 4 (violet –landfilling; orange – recovery; blue – unknown handling; green –export) gives good overview of waste handling activities in years 1999-2007. It shows that last years landfilling has decreased despite increasing waste generation. A positive increase has been in recovery of waste – together with export it make 28%.

Diagram 4 Municipal waste handling, 1999-2007



According to current estimations, municipal waste (together with packaging waste) contains 60-65% of biodegradable waste. From the standpoint of environmental impact as well as economic costs, the most optimal waste management scenario would be the one where a possibly large quantity of municipal waste is recovered by way of

recycling the materials, and the rest of the waste, in possibly large quantities, is incinerated with an aim to produce energy.

Composting of biodegradable waste is expedient in case of more sizeable and cleaner waste quantities, and also is regions where it is not possible or expedient to send waste to incineration. In order to fulfil the requirements with regard to biodegradable waste, it is necessary to intensify the separation of relatively homogeneous biodegradable waste from the general flow of municipal waste. Relevant examples comprise gardening waste, paper and cardboard packaging waste.

Preliminary work for the construction of a waste incineration plants in Estonian regions has already started.

To control and prevent illegal transport, handling and depositing of different types of wastes it is required to have the waste permit according to the Waste Act. Actions like disposal of waste; waste recovery, except reuse of waste; collection or transport of hazardous waste, except the collection and transport of the waste generated by the activities of the persons themselves and etc (see § 73). There is also required hazardous waste handling licence in proof of the relevant competence of and suitability of the technology used by a person which gives the person the right to handle, in the business or professional activities thereof, hazardous waste generated and delivered by other persons. The Waste Act paragraphs 108-115 regulate transboundary movement of waste.

Issues that need to be solved in Estonia are as follows:

- It is complicated to reduce the total generation of waste; however, it is indeed possible and indispensable to reduce the generation of waste per one production unit, e.g. to decrease the amount of waste in energy production per kWh; there are possibilities for the recovery of waste by more extensive use of mine waste produced in the process of oil shale enrichment, and by increasing the recovery of construction and demolition waste and municipal waste.
- Quantities of municipal waste, incl. these of packaging waste, construction and demolition waste are ever increasing as consumer society does not favour reduction in waste. In the circumstances of current economic growth, it is primarily essential to cut off the direct connection between waste generation and economic growth, in a way that increasing waste generation would not exceed the increase in GDP; forecasts show that the generation of municipal waste would stabilise during 2012…2013.
- The pilot plant for thick slurry technology of oil shale ashes was completed in May 2007, however, the testing and adjustment has not yet been done, there is no tried-out technological solution; at the same time, the new technology for the disposal of oil shale ashes has to be implemented, in full extent, in the middle of 2009, and the large-scale pumping of liquid waste on ash deposits has to be halted.
    - The timely closure and conditioning of the landfills of industrial waste by mid-2013 is relatively stressful.
    - Despite the fact that we have relatively well-operating collection networks for different types of waste (packaging waste, waste electrical and electronic equipment, etc.), these networks need to be supplemented.
    - In connection with the demolition of old agricultural buildings, the quantity of demolition waste would increase significantly; problems will emerge

in connection with the handling of hazardous asbestos waste – i.e. the required compatible handling of the asbestos cement (roofing) generated in the course of the demolition of roofs and walls.
    - Approximately 10, 000 m^3 of abandoned hazardous liquid waste – the tank sediments and fuel residues need to collected as quickly and safely as possible and handled in a required manner.
- The handling of waste generated in the health care system is still not yet solved; the majority of relevant waste is deposited in landfills.
- Uncontrolled dumping of waste, illegal burying and incineration of municipal and other waste. This action has a significantly negative environmental impact and is in most cases conditioned by waste holders who are not covered by the organised waste transport system; relevant problems will continue to increase unless more attempts are made to include in the collection system as many waste holders as possible, by way of establishing organised waste transport.
- Waste handling related legal instruments of local governments (local government waste management plans, waste management rules) are frequently either totally non-existent or have shortcomings in their contents, i.e. they do not stipulate an explicit regulation, particularly with regard to waste collection according to different types thereof.
- The cooperation of local governments in the field of waste management, primarily within the collaboration structures formed with an aim to develop waste handling, is weak. There are counties where there are no cooperation structures whatsoever; in some counties, on the other hand, such cooperation structures have been launched, however, their contribution as a whole is not perceivable.

In order to tackle the above-mentioned problems and meet the requirements stipulated in the legislation, the actions foreseen by the Waste Management Plan have been grouped under the following objectives:

- Avoidance of and reduction in waste generation and an increase in the quantities of waste to be recovered. Reduction in the use of natural resources.
- Reducing the environmental impact and risk proceeding from waste disposal and waste disposal technologies.
- Increasing environmental awareness.
- Promotion of waste management

Total cost of the actions foreseen by the Waste Management Plan, for the period of 2008-2013, is ca 3,7 milliard kroons.

Priorities:

SECTORS AND ISSUES	Current Government Priority	Expected Future Priority
Solid waste manage-ment		
- Waste disposal	1) Landfills closed for waste deposit by 16 July 2009 shall be conditioned in accordance with the requirements not later than by 16 July 2013 (Waste Act § 131 (2)); 2) Enhance municipal waste sorting on sites as since 01.01.2008 acceptance and deposit in landfills is prohibited (Waste Act § 132 (3))	Prohibition concerning percentage of biodegradable waste deposited: The percentage of biodegradable waste in the total amount by weight of municipal waste deposited in a landfill shall not exceed: 1) 45 by 16 July 2010; 2) 30 by 16 July 2013; 3) 20 by 16 July 2020. (Waste Act § 134)
- Reuse and recycling	1) The economic measures to be implemented in order to guarantee the functioning of the system for the collection and recovery of packaging and packaging waste include the obligation to take back packaging, implementation of deposits and excise duty on packaging. (Packaging Act § 19); 2) Packaging Act § 36 set out recovery targets for packaging. 3) Develop municipal waste sorting by implementing more polluter-pays principle	With adaption of new EU Waste Directive into Estonian law new targets in recycling will be set: recycle 50% of household waste and 70% of construction waste by 2020
- Waste reduction,	Support solutions and operations with effective waste prevention and reduction; Awareness rising actions through media and training-actions in schools	Establishing Waste Prevention Programme not later than 2013;
- Others	-	-

Relevant links for additional information:

Legislation:

Waste Act: entered into force in 2004.

This Act provides the general requirements for preventing waste generation and the health and environmental hazards arising therefrom, for organising waste management with the objective to reduce the harmfulness and quantity of waste, and liability for violation of the established requirements.

http://www.envir.ee/orb.aw/class=file/action=preview/id=900330/Waste+Act+%28January+2008%29.pdf

Packaging Act: entered into force 2004.
This Act provides the general requirements for packaging and the use of packaging, the measures preventing or reducing the generation of packaging and packaging waste, the organisation of a system for recovery of packaging and packaging waste and the liability for failure to comply with the established requirements.
This Act covers all packaging placed on the market in the Republic of Estonia and all packaging waste, whether it is used or released on the industrial, commercial, household, office or any other level, regardless of the material used.
http://www.envir.ee/orb.aw/class=file/action=preview/id=1079689/Packaging+Act+%28consolidated+text+080826%29.pdf

Packaging Excise Duty Act: entered into force in 1997.
Excise duty on packaging (hereafter excise duty) is imposed on packaging of goods put on the market in Estonia or acquired in another Member State of the European Union (hereafter another Member State) and imported into Estonia.
http://www.envir.ee/orb.aw/class=file/action=preview/id=1079690/Packaging+Excise+Duty+Act+%28consolidated+text+September+2008%29.pdf

Statistics:
Waste generation:
http://pub.stat.ee/px-web.2001/I_Databas/Environment/01Environmental_pressure/06Generation_of_waste/06Generation_of_waste.asp

Landfills:
http://www.keskkonnainfo.ee/index.php?lan=EN&sid=82&tid=79&l2=44&l1=2

Recycling of waste:
http://www.keskkonnainfo.ee/index.php?lan=EN&sid=84&tid=80&l2=44&l1=2

Disposal of waste:
http://www.keskkonnainfo.ee/index.php?lan=EN&sid=85&tid=81&l2=44&l1=2

Generation of waste:
http://www.keskkonnainfo.ee/index.php?lan=EN&sid=278&tid=264&l2=44&l1=2

Use of toxic substances:
http://www.keskkonnainfo.ee/index.php?lan=EN&sid=89&tid=86&l2=43&l1=2

Remediation:
http://www.keskkonnainfo.ee/index.php?lan=EN&sid=91&tid=88&l2=43&l1=2

Statistical database, Generation of waste, :
http://pub.stat.ee/px-web.2001/I_Databas/Environment/01Environmental_pressure/06Generation_of_waste/06Generation_of_waste.asp

Environment Indicators of Estonia:
http://eelis.ic.envir.ee:88/seireveeb/envirind_avalik/index.php?l=en&t1=AVALEHT&t2=&t3=&t4=