REGIONS FOR RECYCLING

GOOD PRACTICES

TALLINN

FACTSHEET 2

System of hazardous waste collection

Content table

1. GENERAL INFORMATION ON THE GOOD PRACTICE (GP)

1.1 General information

Region	Tallinn
Country	Estonia
Short name of the good practice	System of household hazardous waste collection
Geographical level of implementation (country, region, municipality...)	Municipality, first of all large & medium-sized cities
Target group	Citizens, small offices
Date of implementation/duration	2000 / until now
Waste stream (and subcategory)	Households hazardous waste (chemicals incl. pesticides, mercury-containing goods, batteries, medicines, solvents, mineral oils etc.)
Legal framework	Regulation is carried out at the national and local level. All hazardous wastes producers - residents of the city and small offices must be involved. • Waste Act 2004 as amended • A government regulation of 06.04.2004 nr 102 as amended • Waste management rules 2011 as amended
Main local instruments involved	Technical • Separation at the source of one mixed waste fraction (mineral oil, • Mixed fractions (WEEE & batteries, medicines) • Collection in shops (batteries, WEEE) • Civic amenity site (CAS) • Recycling facility Economical • Financial support for municipalities

	• Fine for illegal dumping • Fines for non-respect of the sorting guidelines Communicative • Publicity campaign on TV • Publicity campaign in a local newspaper • Website • Help line Legal • Extended producer responsibility (EPR) for WEEE & batteries • Local waste management plan • Stepwise growth of recycling targets • National waste management plan • Ban on landfilling • Responsibility for municipal waste management • Mandatory selective collection • Waste collection permits
Scale (pilot/partially roll out /roll out)	Roll out
Initiator/coordinator	Ministry of Environment, the municipal government
Demography	
Population	419 830 (2013)
Number of households	182 535 (2,3 members in average)
Area (km²)	159
Population density (number of inhabitants/km²)	2 640

General waste data (Not necessarily related to the GP but to give some background information. Data about the GP should be included under 3.1)	
Year of the following waste data	2012
Sum of all waste streams excl. residual & bulky waste (kg/inhabitant/year) (Use indicator 1 or 2 from the R4R Online Tool)	269,59
Residual waste (including sorting residues) (kg/inhabitant/year) (Use indicator 8 or 9 from the R4R Online Tool)	226,19
Total waste (add up the previous two)	495,78
Sum of all waste streams excl. residual & bulky waste to DREC (kg/inhabitant/year) (Use indicator 3 of the R4R Online Tool)	247,2

1.2 Context

With the rise of living standards, the development and popularity of electric and electronic devices, increased use of household chemicals, the construction boom, etc., the amount of hazardous waste began to grow rapidly from the mid-90s. The share of unprocessed waste was considerable. It was necessary to take early action to reverse the situation.

1999 saw the opening of the first hazardous waste collection and treatment centre for companies on the outskirts of the city. In 2000 new household hazardous waste collection systems were launched in Tallinn.

1.3 Short description

Hazardous household waste collection can be implemented through a network of collection points in different places on the municipality territory. The use of mobile containers (such as reconditioned sea containers) is interesting since it is then possible to change their location. This possibility is a good tool to organize the collection in different places in the municipality. Points can be located:

- in densely populated areas of the city
  Collection point is more attractive if it is close to where waste is generated. Installation of collection points near residential buildings gives appreciable results on the separate collection rate of hazardous waste.
- at GAS stations
  Usually stations are open around the clock and for car owners it is comfortable to dispose of hazardous waste in the collection points as they fill their car up for example.

- on the parking at the shopping centres
  People who go to the supermarket can take hazardous household waste with them and leave them in the collection point.

All collection points must be equipped with special containers for separate collection. Also it is important to have a trained employee to assist in the sorting process and to service the collection point.

1.4 Objective

The main objectives of the implementation of the hazardous waste collection points system are:

- To improve the hazardous waste collection rate and increase recycle of hazardous materials.
- To increase the amounts of recyclable waste-materials – mineral oils, WEEE and etc.;
- To minimize the environment impact of hazardous waste production.

1.5 Method used to identify the good practice

Different methods were implemented in Tallinn to find the most suitable ones. Experiences of neighbouring countries were analysed and the possibility of their transfer in Tallinn was investigated with the participation of an expert group. A system of collection points is not ideal because it has some disadvantages but undoubtedly very effective in the long perspective.

1.6 External factors

Economic factors

The service of collection points is quite expensive and requires ongoing financial support. Gross domestic product (GDP) per inhabitant in purchasing power standard (PPS) as a percentage of the EU-27 average is 50-75 in Tallinn.

Competences.

According Waste Act 2004 municipality must organize hazardous waste collection on its territory.

2. IMPLEMENTATION

At least 1 year is needed for real implementation.

2.1 Preparation phase

Research is needed on the following important topics:

- What is the number of hazardous waste collection points needed for residential areas with dense buildings and for areas with mostly private houses?
- In which places is it best to arrange the items for the highest use?
- What types of household hazardous waste will be collected? What is the treatment capacity available in the region and in the nearest neighborhood for every type of waste?
- What size the collection points for the separate collection of hazardous waste should be?
- How the service of network points will be organized? How will it be financed?

It is best to put into operation the system gradually, starting with a small amount of points, but evenly distributed throughout the local government. Thus, with the increase of participation of the inhabitants the load on the receiving points can be adjusted, offsetting negative factors. Negative factors may be vandalism, excessive maintenance costs or on the contrary collection points overflown by high participation rates.

2.2 Technical implementation

Rreconditioned sea containers proved to be interesting technical solutions. They can be fitted with shelves, drawers and other reservoirs to receive hazardous waste. For each type of hazardous waste, specific containers shall be provided.

A collection point must be:

- equipped with ventilation (preferably compulsory), internal lighting, chemically resistant floor;
- lockable;
- equipped with the necessary reservoirs for collection of sorted hazardous waste;
- equipped with the necessary equipment to provide first aid, with information materials and pointers to assist in the sorting of hazardous waste.

2.3 Communicative implementation

A regularly published note in the local papers about collection points is important, as well as information about what kind and in what amounts hazardous waste can be brought. Also, information is provided to local residents through the home page of the municipality, social media, training programs for children, distribution of brochures and TV spots.

2.4 Organisations

1. Ministry of the Environment
   The Ministry controls the national waste reporting system (WDMS).
2. Producer responsibility organisation
   The producer responsibility organisation is a non-profit company. Its tasks are the organisation and coordination of collection, transport, sorting, counting and recycling of used WEEEs and batteries.
3. The Municipality
   The municipality purchases the necessary technical equipment through a tender, and appoints a private company to handle them. It also defines the places of installation collection points, types of hazardous waste received, collects data and analyzes them, taking steps to increase the efficiency of the system.
4. Operators of hazardous waste collection point
   A private company or a non-profit organization acts on the basis of the tender conditions. It must have a special license for hazardous waste treatment.

2.5 Key success factors

It is very important to regularly promote the system and to resort to different communication resources.

Do not change the location of collection points without providing an alternative. Some people might stop the selective collection of hazardous waste after the moving of their collection point.

A consultant in the collection point can help to put hazardous waste in the right bin and give some necessary advices on household waste management.

Rules on how to use the collection point must be clear and available (short, in two or more languages, etc.)

2.6 Resources

Almost all the costs of equipment and commissioning of the system are borne by the municipality. The municipality announces a tender for the purchase of a fully equipped collection points and separately holds tender for managing these points.

The cost of one container (collecting point) varied from 3 700 € to 4 500 € in 2005 depending on the size of the item (20-30 m^3).

The cost for managing a single collection point ranged from 46 € per month in 2004 to 70 € per month in 2013.

Only one fraction – car batteries provides revenues, because the local batteries treatment facility pays for the recovered materials.

Initial starting investments are about 70 000 € (collection points infrastructure with about 15 collection points with necessary equipment plus one year of services).

3. RESULTS

3.1 Monitoring of the progress of the GP

Nowadays, there are 14 working hazardous waste collection points in Tallinn. 4 of them are on the civic amenity sites, 6 – on the GAS stations and 4 – in the residential areas.

year	tonnes	kg/cap/year	evolution
2000	12,43	0,0336	
2004	56,53	0,1441	429%
2007	106,45	0,2667	185%
2011	110,73	0,2688	101%
2013	158,03	0,3764	140%

Table 1: evolution of hazardous waste collection in Tallinn 2000-2013

It is important to collect the following data:

- Amount of collected hazardous waste per type of waste;
- Number of visitors per collection point;
- Amount of collected waste on each point;

The single largest waste fraction is paint residues. Car oil and batteries are also collected in large quantities.

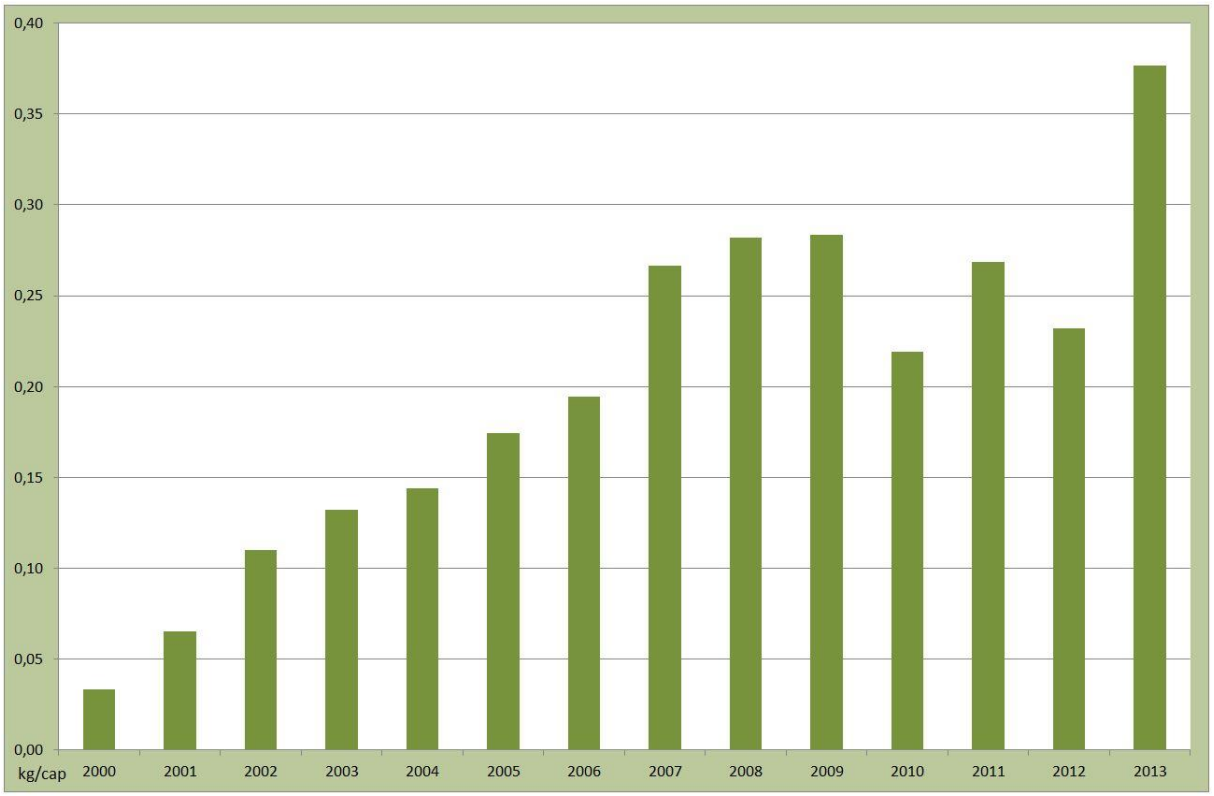


Chart 1: evolution of hazardous waste collection in Tallinn 2000-2013

3.2 Other results

- The hazardous waste collecting system is effective (about 16 % of all hazardous households waste are collected throw that system in the city in 2013), well understood by consumers, and optimal for localities with different population densities.
- The quality of materials for recycling is remarkably better, as well as the recycling rate, in comparison with sorting facilities. Collection system operator may send different types of waste from collection points directly to specific treatment plants.
- Recovery and recycling possibilities are available for many different types of hazardous waste. For example oils and paints are incinerated with energy recovery and heat production.
- The system reduces littering in the city and surrounding areas.
- The system constantly needs maintenance, which entailed the creation of additional jobs.

4. LESSONS LEARNED

4.1 Negative effects

- It is very difficult to replace with another collection system because consumers are already accustomed to the proposed system. It is not necessary to change the location of collection points. It is necessary to know in advance of their need for a particular location.
- Littering around the collection point if it opened a shot time. Item must be opened at a convenient time to visit and as much as possible for a long time.

4.2 Challenges

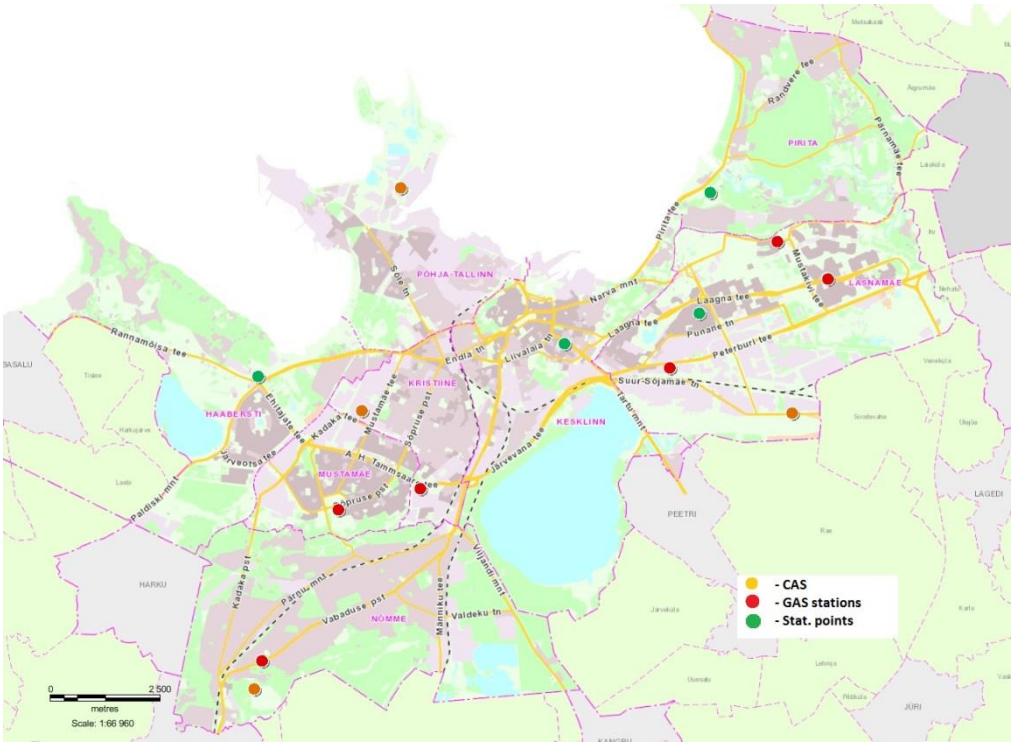
- System works effectively for the residents, but not for enterprises. Enterprises produce hazardous waste in large quantities and items are not suitable for the reception of such quantities.
- It is important to limit the amount of hazardous waste taken from one individual, as there is hidden transfer of hazardous waste from enterprises.
- Growth of the number of visitors directly depends on public awareness of the system.

5. PICTURES AND OTHER DOCUMENTATION

Examples of collection points:

Producer responsibility organisations logos:

Collection points in the city:



industrial areas | residential areas (private houses) | residential areas (apartments)

6. FURTHER INFORMATION

Organisation	Environment Department of Tallinn
Address	Harju str 13, 10130 TALLINN, ESTONIA
Contact person	Aleksandr Taraskin
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Website	http://www.tallinn.ee/eng/Environment-Department
Others	

7. OTHER REGIONS WITH SIMILAR GOOD PRACTICES

Organisation	
Address	
Region	
Country	
Contact person:	
Phone	
E-mail address	
Website	
Others	
Short description of the main differences.	

REGIONS FOR RECYCLING