

Reuse and recycling

Regional Background Analysis
Uusimaa region in Finland





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1

Short description of the project's objectives

This regional analysis was conducted as part of the Sustainable Reuse Centres -project (SUBTRACT), an Interreg Europe project, which will run from August 2019 to Jan 2023.

As part of a strategic exchange of knowledge and experiences, the project will research and create guidelines on how to develop the full potential of reuse centres and render them competitive. Overall, SUBTRACT will provide guidance to the ERDF managing authorities and other policy makers on how to assess and govern reuse centres in their territory.

The project will strengthen decision makers in their capacity to enact efficient policies of sustaining reuse centres in becoming more sustainable, evaluating key areas such as management, investment, innovation readiness whilst measuring their impact.

The elaboration of business principles and models will help actors along the reuse chain (regional and local governments, waste management authorities, NGOs, social enterprises) to collaborate effectively and strengthen networks. Measures will be identified and rendered operational that enforce waste prevention and preparation for reuse activities and favour citizens' contributions. Efficient awareness strategies, campaign models and other suitable measures will be developed and tested to stimulate the supply and demand of reusable goods and render them attractive and desirable.

The purpose of the Guidelines for the Regional Background is to provide the partners with a guideline and with methodological indications for the preparation of a report in which each partner will map the state of arts in the implementation of recycling centres and best practices in his or her region, the main obstacles encountered in terms of regulations, funding, public awareness and participation, rates.

The report has been drafted by people working in the Helsinki Metropolitan Area Reuse Centre so the most precise information has been obtained from this operator. Information about others has been sourced mainly on the internet. Some interviews via phone and/or email have been conducted to specify information and main points of this regional analysis have been discussed in workshops.





2

Executive summary of the regional analysis

The Uusimaa region is the capital area of Finland with 1,6 million inhabitants currently and increasing by 200 000 inhabitants by 2035. The amount of municipal waste is approximately 700 000 tons/year of which about 50% is utilized as energy and the other 50% as material. The largest municipal waste management authorities/operators in the Uusimaa region are Helsinki Metropolitan Area regional services (HSY) and Rosk'n Roll.

Reuse is not the responsibility of municipalities or governmental organisations, but rather second-hand shops directing goods to reuse are mainly run by NGOs or similar private companies such as consumer to consumer flea markets. The amount of goods ending up in reuse are unknown as there are no obligations to report amounts of materials directed to reuse by public authorities but a recent study estimated it to be about 2% of the waste amount in Finland.

As the reuse has been separated from the recycling in operative level, the reuse services for the inhabitants are more complex and scattered. There are four suggestions and conclusions for future work.

1. Combine recycling with reuse
2. Ensure service coverage for reuse
3. Define reuse centre as social enterprises official reuse providers which reuse all goods
4. Establish reuse targets

These suggestions will be studied further in the SUBTRACT project.



3

Circular economy stakeholders

a) Public stakeholders in regional and municipal level

The **Ministry of the Environment** participates in the preparation of Finnish, European and global waste policies. The preparation of Finnish waste legislation is based on international conventions and EU regulations. The Ministry of the Environment controls, develops and monitors the application and interpretation of the Waste Act within its sphere of administration. However, the Ministry of the Environment does not, as a general rule, comment on individual issues concerning application of the legislation.

Regional State Administrative Agencies issue environmental permits for major waste treatment facilities, such as landfills, waste incineration plants, hazardous waste treatment sites and large-scale waste recovery or final treatment plants.

Centres for economic development, transport and the environment guide and monitor the waste management in municipalities. The centres monitor compliance with environmental permits and prepare regional waste management plans. They also register professional waste carriers and transporters in the waste management database.

The **Centre for economic development**, transport and the environment for Pirkanmaa supervises compliance with provisions on producer responsibility on a national level. Producer responsibility concerns tyres, paper products, packaging, electrical and electronic equipment, batteries and accumulators.

The **Finnish Environment Institute** monitors international waste shipments and acts as the correspondent pursuant to the Waste Shipment Regulation.

The **Finnish Safety and Chemicals Agency (TUKES)** supervises compliance with product requirements concerning electrical and electronic equipment with the exception of medical devices in accordance with Act 387/2013, as well as the product requirements concerning batteries and accumulators as laid down in Government Decree 422/2008 and the product requirements for their packaging as laid down in Government Decree 518/2014.





3

Circular economy stakeholders

Municipalities are responsible for the management of domestic waste. In many municipalities, waste management duties have been transferred to local waste companies, who organise most of the municipal waste management, including transportation, landfills, composting and incineration plants and waste guidance.

Municipal waste management authority is responsible for the public administrative duties related to waste management, such as deciding on the municipal waste tariff and the waste treatment system. If several municipalities have co-operated to form a regional waste management company, the municipalities must also set up a joint organ to handle the administrative duties.

Municipal environment protection authorities can have one or several municipalities under their responsibility. The authorities issue waste permits to smaller operations, including the storage of hazardous waste and end-of-life vehicles. They also accept notifications of professional waste carriers in the waste management register. Municipal authorities supervise the compliance of businesses and the public with the Waste Act, including the obligation to belong to an organised waste management system, appropriate waste collection and the prohibition on litter. (*www.environment.fi, Waste management authorities and duties*)





3

Circular economy stakeholders

Uusimaa region has five regional waste management authorities and waste management companies: Helsinki Metropolitan Area regional services (HSY) in the capital area, Rosk'n Roll in western and eastern Uusimaa, Kiertokapula, Päijät-Hämeen jätehuolto and Kymenlaakson jäte in the north. These are responsible of the collection and treatment of municipal waste.

HSY

HSY is responsible for the municipal waste of the capital area cities Helsinki, Espoo, Vantaa, Kauniainen and Kirkkonummi. There were 1 208 717 people living in the area in the end of 2018. The land area is 770 km². HSY operates in the area with the largest past and expected future population growth.

Rosk'n Roll

Rosk'n Roll is responsible for the municipal waste of western and eastern Uusimaa. Rosk'n roll is a municipal waste management company providing the service for the waste authority of the operating area, which is Uudenmaan jätelautakunta. There were 234 124 people living in the area in 2018. The land area is 7 555 km².

Kiertokapula

Kiertokapula is responsible for the waste of 13 cities in northern Uusimaa and Häme region. Of these six are in the Uusimaa region: Kerava, Nurmijärvi, Tuusula, Järvenpää, Hyvinkää and Mäntsälä with the population of 228 183 in the end of 2018 and land area of 1554 km². The majority of the municipalities Kiertokapula services are outside the Uusimaa region. However, the available statistics cover the whole area of operations. For this reason, the municipalities in Uusimaa where waste collection is the responsibility of Kiertokapula are excluded from this report.

Päijät-Hämeen jätehuolto and Kymenlaakson jäte

Päijät-Hämeen jätehuolto and Kymenlaakson jäte have almost all of their operations outside the Uusimaa region, so they are also excluded from this report.





3

Circular economy stakeholders

b) Reuse centres and operators in the region

There is estimated to be 115 flea markets, secondhand shops, reuse centres etc. in the capital area of Helsinki, Espoo, Vantaa and Kauniainen (Eskelinen, H. & co 2018). No estimate is found for whole Uusimaa Region.

Operators with multiple shops

Helsinki Metropolitan Area Reuse Centre = HMARC or Kierrätyskeskus in Finnish, has nine stores in the metropolitan area: Vantaa, Espoo and Helsinki. The stores offer second-hand items at reasonable prices, as well as information about sustainable consumption. Helsinki Metropolitan Area Reuse Centre is a non-profit company working towards a better community. It was founded in 1990. The HMARC is a social enterprise and offers work for people in different vulnerable life situations.



The HMARC has the biggest second-hand shop in Finland as well as small boutiques.

In 2018 in estimation 4.3 million clothes and other goods found a new home via the reuse centre stores and e-commerce store. About 2/3 of these were sold and 1/3 given as free donations from the stores. The annual sales were 4.9 million euros. An estimated 480 people are employed in the Reuse Centre each month. Of the workers 310 are in employment relationship and 170 as trainees, with apprenticeship contract etc. (Kierratyskeskus.fi, Avainlukuja). The major owners of the reuse centre are the cities of Helsinki, Espoo and Vantaa and HSY waste authority as well as NGO's and few private individuals.





3

Circular economy stakeholders

The Finnish Red Cross Kontti Department Stores has three stores in Uusimaa, in Espoo, Helsinki and Vantaa. In all of Finland, there are twelve stores and the first one opened in 2001. There are no numbers available for just the Uusimaa region, but all the twelve department stores sold goods for 13.4 million euros in 2018 and had 1.15 million customers. (*SPR; Vuosikertomus 2018*) The proceeds of Kontti are used for the relief work of the Finnish Red Cross in Finland and abroad. Kontti employs people who have been unemployed for a long time. Employees receive work experience in several fields, such as retail. During the year 2018 there were 1 408 people working in the Kontti chain stores. The annual turnover of Kontti chain stores has been growing in recent years.

UFF Finland runs 20 secondhand clothes shops in the largest cities in Finland of which 12 are in Helsinki, two in Espoo and one in Hyvinkää and one in Vantaa. UFF was founded in 1987 and is a non-profit organization part of the Humana network. The purpose of the shops is to finance the clothes collection and sorting and to generate funds for development aid projects in Africa and Asia. UFF collects used clothes in 3300 containers and about 1500 collection points in 281 municipalities in Finland. Donations can also be left at UFF's shops. In 2018, UFF collected and recycled over 14,5 million kilos of clothes making it the biggest collector of clothes in Finland.

The collected clothes are sorted at the UFF sorting centre in Klaukkala, Nurmijärvi in Uusimaa. Clothes, shoes and textiles are separated into approximately ten different categories, according to their subsequent use. In 2018 UFF spent 7.6 million Euros in the environmental services, which includes the collection and sorting of the clothes. Wholesale is an important source of income for UFF.





3

Circular economy stakeholders

Fida has 25 stores in Finland, of which 14 are in the Uusimaa region. It is the largest charity working in the second-hand business in Finland. They have centralized sorting centre for clothes located in Roihupelto, Eastern Helsinki. Each year about 1.2 million kg of material is sorted for sale. In 2018 Fida stores had 950 000 customers nationwide. Numbers for just Uusimaa are not available (*www.fida.fi, Vuosikertomus 2018*). Fida has 144 collection points nationwide. Fida started operation already in 1979 so it has been in the second-hand market for the longest time of the charities. Fida is an organization focused on Pentecostal mission work and development cooperation in 48 countries.

Goodwill is a big international chain of second-hand shops, and it has started operations in Finland in 2014. It has six shops, one of them in the Uusimaa region in Porvoo. Like HMARC and Kontti, also Goodwill offers work for people who have difficulties in finding employment.

Wanhakierto is a small recycle chain store owned by Samaria rf. It has four shops, three of them in the Uusimaa region in Helsinki, Porvoo and Sipoo. Samaria rf is an organization that works by preventing abuse related problems. It arranges apartments to homeless, have support operation for people with variety of problems, day-centers and support and rehabilitation homes for abusers.

There are also some other small chains like Wanhakierto operated by charity organizations. These are run by **Salvation army** (*Pelastusarmeija, Vuosikertomus 2018*) and **Emmaus** (*Emmaus, Vuosikertomus 2018*).





3

Circular economy stakeholders

	Number of stores in Finland/ Uusimaa	Sales, milion euros	Kilos of goods, millions	Customers	Personnel	Web shop	Good to know
HMARC Kierrätyskeskus	8/8	8.75	3.1	697 391	480	yes	
Fida	25/14	8	1.6 (clothes only)	950 000	114	no	
Kontti SPR	12/3	13,4		1 150 000	1 408	no	
UFF	20/16	15.16	14.5 (clothes only)		268	no	Mostly wholesale aboard, only 5% sold in shops
Goodwill	6/1					yes	
Samaria	4/3						
Emmaus	2/2	0.34			Aprox.5 + 300h/ week by volunteers	no	volunteer based organisation
Salvation Army	16/2	(profit 0.06€)				no	4 under the new brand name icare

Comparison of the second-hand chains, numbers from 2018

These are only the largest operators in the Uusimaa region, and there are also smaller reuse operators. Most are operated by a municipality or NGO.

Loviisa <http://www.rs-mauter.fi/>

Lohja <https://fi-fi.facebook.com/kierratyskeskuslohja>

Porvoo <https://fi-fi.facebook.com/Uusiokeskus>

Karjaa <https://fi-fi.facebook.com/tolitori/>

Järvenpää <https://www.kierratysmylly.fi/>

Hyvinkää <https://www.hraks.fi/valmennusymparistot/hyvinkaa/kike-kierratyskeskus/>





3

Circular economy stakeholders

c) Existing informal sector and consumer to consumer business in reuse

There is estimated to be 115 flea markets, secondhand shops, reuse centres etc to operate in the capital area of Helsinki, Espoo, Vantaa and Kauniainen (Eskelinen, H. & co 2018). A majority of these are privately run flea markets.

The most of these are **self-service flea markets** for people selling their excessive goods. The shop provides the facilities including a small booth indoors and a shop operator who charges the customers. An average rent for a selling booth is currently around 40 euros / week. This kind of flea market combines private people selling their goods and a company running the flea market. In addition to these company run flea markets, different organizations run their own markets in an **reuse event** form. For example, the Mannerheim League for Child Welfare organizes popular flea markets for children's clothes and gear. These are held in the weekends and often in school premises.

The internet is also a busy place for second-hand selling and shopping. The trading places are nationwide, but most of the users live in Uusimaa region since the population of Finland has concentrated there. The biggest C2C operator is **Tori.fi**. On the 18.12.2019 it had about 1 million announcements for second-hand goods for sale on the internet. In addition to goods, people can sell cars and even houses via Tori and it has also a section for job announcements. Tori.fi has about 2,4 million users each month. Huuto.net is a similar service, but smaller with about 350 000 visitors weekly (*www.huuto.net, Tavoita verkkokuluttajat...*).

Emmy.fi is a commission based service and a little bit different from Tori.fi and Huuto.net. The goods are sent to Emmy and the operator takes pictures and makes the internet announcements on behalf of the seller. It also posts the goods to the buyer. Emmy sells only clothes and accessories from certain popular brands.

Facebook is also popular for second-hand sales and there are several different kinds of groups for reuse. For example, **Haaga kierrättää**, a reuse group for the district of Haaga in Helsinki, had over 15 000 users and approximately 180 new announcements each day in September 2017 (Eskelinen et al 2018).



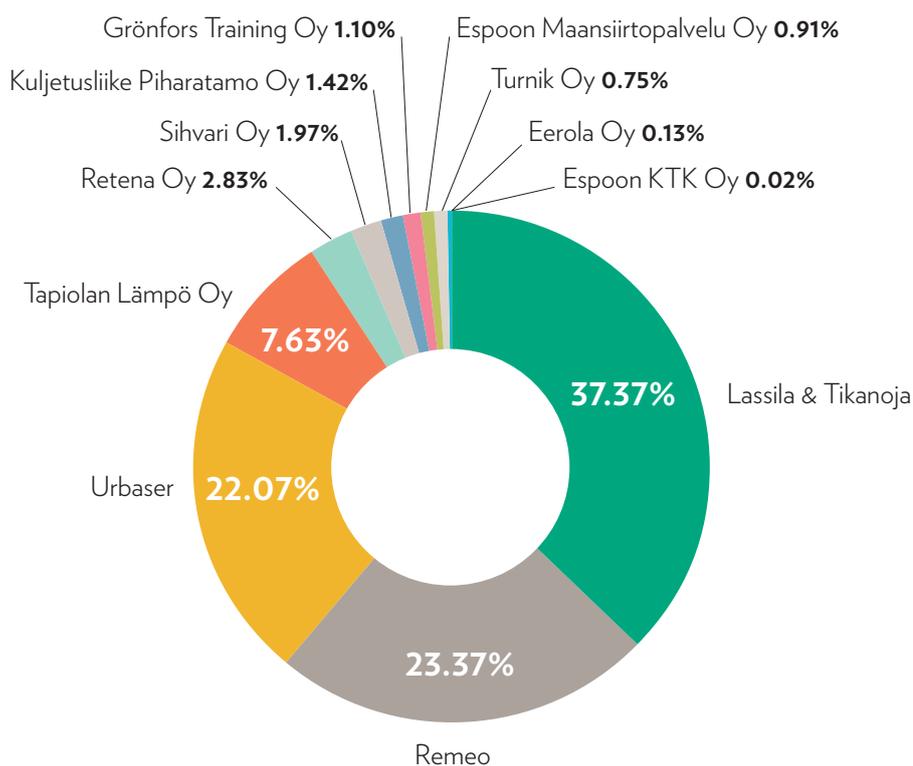


3

Circular economy stakeholders

d) Private waste management stakeholders

There is no public listing of all the companies operating in the waste sector in the Uusimaa region available, but there is a lot of different companies involved. If we look at only the waste transportation provided by HSY, it had contracts in 2018 with the 12 waste/transportation companies listed in the figure below. The percentages show the size of the share the company has of the HSY waste transports.



Source: HSY annual statistical report 2018 (HSY2019)





3

Circular economy stakeholders

In the table below are listed some of the companies working in the waste sector in 2019, but the list is in no means complete.

Waste handlers	
Vantaan Energia	Waste-to-energy powerplant
Gasum	Biogas plants using waste
St1	Ethanol plants using waste
Fortum waste solutions	<ul style="list-style-type: none"> • Hazardous waste treatment plant • Plastic refinery • Waste-to-energy plants
Encore	Recycling especially paper
Delete Finland	Especially construction waste
Desta clean	Construction waste to fuel
Stena recycling	Specializes in metal and electric and electronic waste treatment
Kuusakoski oy	Specializes in metal and electric and electronic waste treatment

Consults	
Pöyry	
Ramboll	
FCG	
Several other firms	

Examples of companies working in the waste sector in Uusimaa.

e) Educational institutions

Education of environmental issues including reuse are offered at all levels of education from vocational training to universities. Several Universities in Uusimaa Region offer education related to reuse and circular economy. Often, reuse and waste management can offer an interesting and fruitful challenge for students of multidisciplinary groups or project studies.

Also many of the Vocational Schools have educational programs related to reuse topics such as material management, recycling or commercial subjects. As the adult training and workplace integration is significant part of the studies in vocational school, there are numerous examples of successful co-operations in the reuse and waste management.



State of the art

a) Geographical coverage of the waste collection service

The Uusimaa Region is situated on the south coast of Finland, and it is home to around 1.6 million inhabitants, which is 30 percent of the total population in Finland. There are 26 municipalities in the region (*Helsinki-Uusimaa regional council, Helsinki-Uusimaa region facts*).



” Uusimaa region. Helsinki-Uusimaa regional council

Uusimaa region

The population in the region has been growing and is estimated to grow also in the future. However, the population is not growing in the whole region. West and East Uusimaa have also municipalities where the population is declining. The growth is concentrating to the capital area, to the cities of Helsinki, Espoo and Vantaa. By 2035 the estimated population growth in Uusimaa is 200 000 inhabitants (*Helsinki-Uusimaa regional council*).



4

State of the art

b) Relevant legislation in place and authorization regimes

Finnish waste legislation

The Finnish waste legislation covers all wastes with exceptions only to certain specific types of waste such as radioactive wastes, which are covered by separate legislations. The Finnish waste legislation is generally based on EU legislation and mentions the waste priority and reuse as preferable methods over recycling. However, reuse is combined with recycling in many of the requirements and in practice there are no separate targets for reuse.

In accordance with the Waste Act, waste holders, such as private individuals, property owners or companies, are primarily responsible for the management of waste. An exception to this rule is the responsibility municipalities and certain manufacturers have for organizing waste management.

The main principle behind the legislation is the order of priority (*Ministry of the Environment www.environment.fi, Waste*):

- The first priority is to prevent waste.
- If waste cannot be prevented, it must be prepared for reuse.
- If waste cannot be reused, it is to be primarily recycled as material and secondarily recovered as energy.
- Waste can be disposed at landfills only if recycling it is not technically or economically feasible.

The most economically viable technology and the best practices for preventing harmful environmental or health effects must be used in waste management. The Waste Act prohibits uncontrolled dumping or treatment of waste.

Responsibilities in waste management

Municipalities are responsible for organizing the management of waste generated in dwellings and by the municipality's administrative and service functions.

- Municipalities are also responsible for arranging the recovery and treatment of hazardous waste generated in dwellings as well as from agriculture and forestry unless excessive quantities are involved.
- In addition, municipalities are in charge of providing information and advice on the waste management services for which they are responsible.





4

State of the art

In practice, many municipalities have delegated their waste management duties to regional waste management authorities and practical waste management is conducted by municipal or private waste management companies. When municipalities co-operate to form a waste management company, they also have to form a separate waste authority to organize the duties of the authorities. This is the case also in the Uusimaa region (*Environment.fi, Organisation and responsibilities of waste management*).

In addition to waste management authorities, the environmental protection authorities also have responsibilities. They issue waste permits to small businesses and accept notifications for professional waste transportation register.

Municipalities are not responsible for types of waste covered by the so-called producer responsibility. Producer responsibility obliges manufacturers and importers (i.e. “producers”) to organize and pay for the management of waste resulting from their products.

Producer responsibility is applied to the following products: tyres from motor vehicles, other vehicles and equipment; cars, vans and comparable vehicles; batteries and accumulators; printing paper and paper for manufacturing other paper products; electronic and electrical appliances and packaging. The producers of producer groups are obliged to organize regional collection points for waste of this type (*Environment.fi, Organisation and responsibilities of waste management*).





4

State of the art

c) Type of collection in place and existing selective collection

All waste is collected in containers of different size. The household collection for mixed waste is the minimum requirement for waste management. In sparsely populated rural areas also joint collection containers or a collection point at a waste station can be used for this purpose. The selective collection provided depends on the region and the size of the house or amount of waste generated. Composting at the property is also a possibility, but not compulsory.

Waste sorting obligations in the HSY region

Separate collection of different types of waste must be arranged on the property as follows from 1.1.2021 onwards (*www.HSY.fi, Waste management regulations, 2020*).

Waste	Residential property	Other property
Mixed waste	always	always
Biowaste	5 apartments or more	25 kg / week
Carton packages and cardboard	5 apartments or more	25 kg / week
Glass packages	5 apartments or more	25 kg / week
Small metal items	5 apartments or more	25 kg / week
Plastic packages	5 apartments or more	15 kg / week
Paper	in accordance with the Waste Act	in accordance with the Waste Act

Waste sorting obligations in the Rosk'n Roll region

(*Uudenmaan jätelautakunta, jätehuoltomääräykset*)

Waste	Residential property	Other property
Mixed waste	always, can be also a joint collection	always, can be also a joint collection
Biowaste	5 apartments	20 kg / week
Carton packages and cardboard	20 apartments	20 kg / week
Glass packages	20 apartments	50 kg / week
Small metal items	20 apartments	20 kg / week
Plastic packages	20 apartments	15 kg / week
Paper	Not mentioned	Not mentioned





4

State of the art

The household collection is limited in capacity and therefore the waste companies supplement it with waste stations for larger amounts of waste. A map of the locations of these waste stations is in chapter e.

In addition to the mandatory household collection, there are public collection points for recyclable waste organised as part of the **producer responsibility legislation** such as cardboard, glass, metal and plastic packaging and paper. These are often located by shopping centres. There are over 1 850 collection points for cardboard, glass and metal packaging in all of Finland and over 600 for plastic in the Rinki network provided by the producers. Unfortunately the info of how many of these is in the Uusimaa region is not available, but collection places can be searched at Rinkiin.fi <https://rinkiin.fi/for-households/rinki-eco-take-back-points/>.

The producers have also organised the collection of batteries and accumulators as well as electronic and electrical appliances. These are always in locked or otherwise supervised places and only open when there are workers at the site. Producers also organise the car tires collection at stores which sell new ones. Cars have their own collection with almost 300 locations nationwide. The number of locations in the Uusimaa region is not available, but collection places can be searched at the www.autokierratys.fi.





4

State of the art

d) Disposal methodology

Mixed waste

Mixed municipal waste is incinerated. The incineration plant in Vantaa started operation in 2014. Currently it burns annually 374 000 tons of unusable waste supplied by HSY and Rosk'n Roll Oy. The amount of waste used by the waste-to-energy plant meets about half of the district heat needed by the City of Vantaa. In addition, the electricity produced in the plant covers about 30% of the annual electricity demand of Vantaa (*Vantaan Energia, www.vantaanenergia.fi, Waste-to-energy gives a new life for rubbish*).

Vantaa Energy is planning to expand the waste-to-energy plant in 2020. This will increase the capacity to incinerate waste coming from the business sector that is lacking capacity at the moment. The maximum expansion means building a third separate kettle to the plant. This increases the capacity with 180 000 tons making the new maximum capacity 600 000 tons of waste annually (*Ympäristö.fi, Vantaan Energia Oy:n jätevoimalan laajennus*).

From the northern part of Uusimaa the waste collected by Kiertokapula is transported to a similar plant in Riihimäki. Before the Waste-to-energy plant at Vantaa started operation, the mixed waste was landfilled by HSY in Ämmässuo, Espoo and Rosk'n Roll in Munkkaa, Lohja (in western Uusimaa) and Domargård, Porvoo (in Eastern Uusimaa). There is a waste-to-energy plant also in the seaside city of Kotka, close the eastern boarder of Uusimaa. A small part of the waste from Eastern Uusimaa is transported to this plant because it is closer than the one in Vantaa.

Sorted waste

The sorted waste is used as raw material for new products. Some materials are exported.

Paper is taken to intermediate storage, where it is baled and transported to paper factory to be used as raw material. Collection of paper includes all newspapers as well as packaging papers where as the collection of carton, glass, plastics and metal only applies to packaging waste.





4

State of the art

Carton is also taken to intermediate storage, where it is baled before transport to carton factory to be used as raw material. At the factory, carton is separated from plastic and aluminum coatings. Carton fibre is used for tube board, among other things, and as raw material for new packaging products. Other uses for recycled carton include the production of corrugated cardboard, packaging board, envelopes, laminating paper and many types of cores. The coating separated from the fibre mainly contains plastic. The coating is dried and taken to a power plant to be used as energy. Some of the aluminum coating on carton packaging is separated and reused as raw material for new products (*www.rinki.fi, Recycling packaging in Finland*).

Glass packaging waste is turned into new glass packaging, i.e. glass bottles and jars. Glass can be recycled for an unlimited number of times for new packaging without any deterioration in its quality or purity. Glass packaging waste is transported to one of the 38 intermediate storage in Finland. Glass that is sorted correctly and meets all quality requirements is taken from intermediate storage to a port and on to England and The Netherlands, where it is used in the production of new glass bottles and jars. The glass that is unsuitable for recycling (for example heat-resistant glassware, window glass) and ends up in collection points by mistake has applications in earthworks, e.g. in field and road structures. Applications in construction are not, however, classified as recycling (*www.rinki.fi, Recycling packaging in Finland*).

Metal, ergo steel and aluminum packaging waste, is turned into raw material for the metal industry in Finland and overseas. Recycled metal is used for new metal packages and other metal products such as bicycle frames, spades and car parts (*www.rinki.fi, Recycling packaging in Finland*).

Plastic packaging is turned into raw material, which the industry can use for manufacturing plastic products. These include products such as plastic refuse sacks, bags, pipes and sheets. Plastic packaging can also be used in the manufacturing of profiles that can be used for example for outdoor furniture, railings, traffic and noise barriers and fence posts. The plastic collected in Finland is treated in the Fortum plastic refinery in Riihimäki (*www.rinki.fi, Recycling packaging in Finland and www.fortum.fi*).



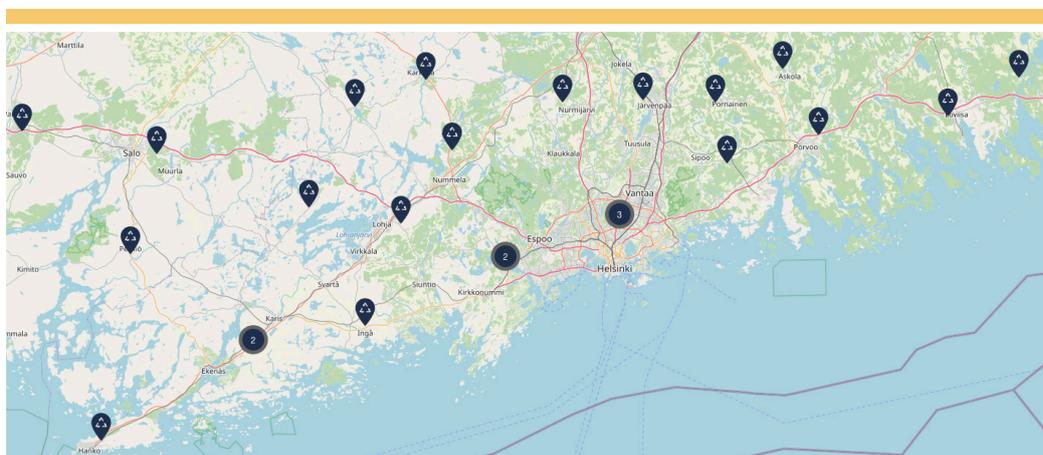


4

State of the art

e) Recycling and collection facilities currently in operation

The waste stations operated by the municipal waste companies for larger amounts of mixed waste. They have also recyclable fractions and therefore it is supplemented with waste stations operated by the municipal waste companies. There are five (5) of these in the HSY region and 15 in the Rosken'n'Roll region. These are marked on the map.



Waste stations in the Uusimaa region. Picture from www.kierratys.info

HSY biowaste

HSY transports household collected biowaste to the Ämmässuo Waste Treatment Centre in Espoo. The treatment plant for biowaste has a composting facility, in operation since 2007, and a biogas facility, completion in 2015. The capacity of the plant for biowaste is ca. 60 000 tons of biowaste a year. At the moment it processes ca. 51 000 tons of biowaste annually of which around 35 000 tons is directed to the digestion process. Of this amount, the biogas facility produces six million cubic meters of biogas per year (www.HSY.fi, *Treatment of Biowaste*).

Rosk'n Roll biowaste

The biowaste is transported to a biogas plant operated by the gas company Gasum. The closest plants are in Turku and Riihimäki outside the Uusimaa region. However, Gasum is building a biogas plant to Munkkaa waste station in Lohja in western Uusimaa. It is due to start operation in 2020. The operations will manage municipal biowaste and sludge from industry (www.gasum.fi, *biokaasulaitokset*).





4

State of the art

f) Awareness raising campaigns and material for waste reduction

According to the waste legislation, municipalities are responsible for providing information and advice on the waste management services for which they are responsible. Because the legislation requires advice, also the cost of this work can be included in the waste fees. However, the Waste companies/authorities are free to choose how to implement the community outreach, and as a result, practices differ in each region. In addition, some organizations offer environmental education in waste related issues.

HSY

HSY offers environmental education both to children via schools and kindergartens as well as adults. The face-to-face guiding offered by HSY to children and adults reached approximately 36 000 people in 2018. In addition to own staff, HSY uses subcontractors for the education and material development. The Helsinki Metropolitan Area Reuse Centre has been a long-term partner in the education directed to schools and kindergartens and also performed some of the face-to-face education for adults.

Educational programmes

For many years already, HSY has offered the schools an environmental expert who comes to schools and uses games, puppets, outdoor education and drama as education methods to educate about sorting, reuse and environmentally responsible consumption. The topic can be chosen by the teacher from a list of designed education programmes.

In addition, each school year HSY chooses also approximately ten schools for a more intensive partner programme. The programme includes among other things materials and training to teachers and lessons to pupils. The partner schools have their own environmental educator which is available for the school regularly during the school year as an extra resource. The programme has been running for over ten years and is popular among schools.

HSY offers teachers also lot of free teaching material in the internet. Latest educational materials have included gamified online materials on nationwide learning platforms. For pre-schoolers it has made a popular exercise book that teachers can order for free.





4

State of the art

For adults, HSY offers lectures in sorting, reuse and environmentally responsible consumption. HSY has also a more personal approach, a meeting with a **Waste Trainer** available. The visit with the trainer is more personal than the lectures and can include for example designing the sorting facilities of a home.

HSY offers also guided visits to the waste stations and the Ämmässuo waste treatment facility. The guidance is free, but the group has to have their own transportation (*www.HSY.fi, Tilaa neuvontaa*).

Other community outreach

In brochure and poster materials, sorting is promoted with pictures which are easy to follow and comprehend. There are people from many nationalities in the capital area and not all speak Finnish, Swedish (the national languages in Finland) or English.

HSY has also harnessed the waste trucks to campaigning about reducing waste. Artwork is commissioned from different artists from different waste themes. The first themes have been food waste, the multi-box collection and recycling plastic packaging. More themes and art works are to come in 2020 (*HSY 2019, Kenties Suomen...*).



Artwork by JussiTwoSeven about recycling plastic packaging.
Source: HSY





4

State of the art

A new interesting form of waste education is the **escape room** launched by HSY in 2019. It has been designed for four people. The team needs sorting skills to get out from the room. The room has been built to a movable container and has also been to different events during the summer season 2019. Approximately 10 000 people were reached during the summer tour. The target group of the escape room are 18–35 olds. The concept was promoted also with co-operation with Youtubers in the social media (*www.HSY.fi, Pakojätehuone*).

A very successful campaign reaching a wide audience among children was the co-operation with **Donald Duck magazine**, Helsinki Energy, HSY and Kivo, the association representing municipal waste companies in Finland. The November 2019 magazine of Donald Duck had an insert about environmental issues with short stories and worksheets about waste and energy issues. It can be read here:

<https://www.akuankka.fi/lue/4817/tarina/31510/ymparistoliite-sisus>

An internet quiz completed the theme:

<https://www.akuankka.fi/akkari-ymparistovisa>

Before Christmas HSY promotes the “Give something else” campaign about immaterial gifts, <https://www.annajotainmuuta.fi/>

In 2019 HSY took part to white Monday 25.11., a campaign day for circular economy in the wake of the consumption carnival of black Friday.

HSY has also worked in co-operation with the Museum of technology in Helsinki and Science center Heureka in Vantaa. With Heureka HSY offered expertise to a permanent exhibition about circular economy, the Circular Factory (Heureka, Circular Factory). The Museum of technology has a new exhibition about imagination and exploring science aimed at children from 6 to 9 years, where HSY helped with an exhibit about sorting (*www.HSY.fi, Kierratysaihe...*).





4

State of the art

Rosk'n Roll

Rosk'n Roll meets the residents at fairs and other public gatherings. Also, lectures are offered to groups on request. Rosk'n Roll sends a popular wall calendar to all households in its' area. It is not just a calendar, but has lots of information about sorting, waste reduction and other waste issues. Also, a magazine called Roskis, is published and sent to all customers with information about current waste issues and of course also brochures. In addition to these print forms, social media is an important channel of communication.

In schools Rosk'n Roll targeted in 2018 the 8th graders. Rosk'n Roll offered them a lecture and a tour to the waste centre. All the junior high schools in the Rosk'n Roll area took part, altogether 160 teachers and almost 3000 pupils. (Roskis 1/2019) The visit included also the bus tour to the facility which is a big help to the school as busses are expensive to rent. For smaller pupils Rosk'n Roll offers teaching material. The "Otto and Ronja recycle" -material is made for grades 1–6. It has background information for the teacher and ready to copy handouts for the pupils. (Otto ja Ronja kierrättävät) For the 4th graders Rosk'n Roll has a competition about waste and recycling issues. 36 schools and 180 teams participated in 2019. The best teams are invited to the waste centre for the final competition (*www.RosknRoll.fi, 4. Luokkalaiset kisasivat...*).

Rosk'n Roll has also had some co-operation with the local reuse centre in Lohja. In 2015 Rosk'n Roll and the Lohja reuse centre made a puppet show about consumption and the need to protect the environment. The show toured the schools in the area.

Vantaa Energy

Vantaa Energy offers free guided tours to the waste-to-energy powerplant it operates. In addition, Vantaa Energy organises a community outreach programme called "Wastecops", recycling specialist which visit schools, kindergartens, and housing cooperatives. Wastecops can be invited to visit any municipality in the Uusimaa region.





4

State of the art

Helsinki Metropolitan Area Reuse Centre

The HMARC executes most of the lectures and school programmes funded by HSY.

In addition to the HSY funded programmes, the HMARC is part of the KULPS-education concept of the city of Espoo, which offers students changes for lessons outside the school premises. As part of the programme school groups can have lessons and gamified reuse adventures at the reuse centres in Espoo. Also, a music school session called “The Earth” can visit the schools as part of this programme.



*Music school session
the Earth in progress.
Picture from HMARC.*

Helsinki Metropolitan Area Reuse Centre’s environmental education reaches approximately 60 000 clients annually. This number includes most of the contacts mentioned in the HSY part because the HMARC implements a major part of the HSY sponsored visits with a subcontract.

Environmental education has been an important focus of the work of the HMARC from the beginning and some of the revenue from selling reused goods is directed to environmental education.





4

State of the art

g) Public Procurement policy promoting circular economy and reuse

Public procurement has been one of the obstacles in reuse and circular economy, but significant steps have been made to remedy the situations. Initiatives supporting reuse of public goods, which are not needed, have tackled the situation and few good solutions have been found.

These public procurement initiatives rely heavily on good examples of procurements where circular economy has been considered as part of the procurement process. Good results have been made for example through KEINO Procurement Competence Centre, which is funded by the Ministry of Economic Affairs.

Reuse is even more challenging for public procurement as the acquisitions are usually quite big in numbers and reused goods come in smaller batches and vary in size and quality. Usually the procurements are targeted for reuse sector only and might consist of for example laptops for students. For the larger cities, it is possible to even withhold from procurement and improve the reuse of the existing goods within the city. One such example are the internal internetshops for furniture few cities have launched. The work is not finished yet and there is development to be made in order for the reuse to be competitive possibility in public procurement.

h) Existing initiatives -promoting circular economy and waste reduction

There are numerous initiatives currently in Uusimaa region on circular economy as it is considered quite widely in the regional plans of different authorities and private companies. Here are just few, which have been on-going for few years already.

Self-service collection point for reusable goods

The HMARC has a self-service reuse collection point for small household items at the shopping mall of Sello. It is located at the shopping center eco-point where also recyclable waste materials can be dropped off. Sello is one of the biggest shopping centers in Finland so having a collection point there makes donations for reuse easy for the public.





4

State of the art

Renting your clothes

Renting goods instead of owning them is a useful idea when promoting reuse and circular economy. The concept of commercial borrowing of clothes has been growing in recent years. New rental services are emerging all the time, but one of the first chain stores was company called the Vaatepuu. They started in 2014 and have now five rental shops in five cities around Finland. Two of these are in the Uusimaa region in Helsinki and Järvenpää. From Vaatepuu the participants can rent high quality designer and/or retro clothes for a certain fee. If the borrower likes the piece, it is also possible to buy it after the rental. Vaatepuu had a growing selection of 4000 clothes in December 2019 (www.vaatepuu.fi).

Multi-box container for waste

An interesting innovation which has improved sorting is the multibox collection Rosk'n Roll offers. The multi-box collection has not been very popular in Finland as the infrastructure is build for the single houses to have only a mixed waste collection at the yard and recyclable waste has been taken to public collection points at shops due to low population density. In a multibox collection the household has the possibility to collect four different recyclable waste types at their own yard. The container contains compartments for carton, glass, metal and plastic. These are emptied with one waste truck that has multiple compartments in the container. When the service was on a trial phase, a study of the sorting results was made: 80% of waste was sorted and only 20% went to the mixed waste collection. HSY has also an ongoing trial about this type of collection at the moment (www.rosknoll.fi, *Monilokeropalvelumme on uudistunut*).

From waste to craft materials

The HMARC turns waste to materials suitable to arts and crafts. The material consists of supplies such as paper crafts, hobby horse materials, yarn and wooden beads, pieces of cloth and ribbons. These arts and crafts materials are sold in all reuse centre shops under the brand name Näprä. In addition, the HMARC gives craft materials to educators and other non-commercial uses for free.





4

State of the art

i) Main challenges experienced

The differences between the reuse sector and the recycling are quite easy to detect. Where as recycling is heavily regulated and coordinated by municipalities the reuse sector is not regulated and is run by private or non-profit sectors. The focus of the legislation and authorities has been on the recycling part of the waste hierarchy.

However, the situation is not as dire, as there are number of operators and many social enterprises have thrived and succeeded in providing reuse services. The willingness of the inhabitants to reuse can be seen in success of the customer to customer services.

The adverse effect can be also observed.

- Reuse services are difficult to reach for some residents. There are areas in Uusimaa where the residents do not have a reuse centre or some other type of second-hand operator nearby.
- Most of the private operators only reuse high-profit items which leads to poor level of reuse as most of the goods are not high-profit.
- Reuse can come second to recycling on some goods as the reuse and recycling services are separated for customers.

The reuse sector has expanded and grown on its own but as the reuse sector operators are mainly private entities, there is no service guarantee for all inhabitants. There is still a huge demand and potential for reuse services, but the cost structures make it challenging to guarantee service for also densely populated areas and for goods with low profit margins.

The reuse sector would be stronger if there were national targets for reuse. At the moment reuse is mentioned at the waste legislation as a desirable outcome to reduce the amount of waste, but no numeral targets are set for it as there are for recycling. If there were targets for reuse in the waste legislation, it would require for recycling operators to enable significant reuse of the goods. Also, finances to develop reuse services could then be collected from the producers of waste.

The data collection of materials reused is lacking in the first place. Since there is no obligation for the reuse operators to report the amounts of reused goods, there is no relevant data on it.





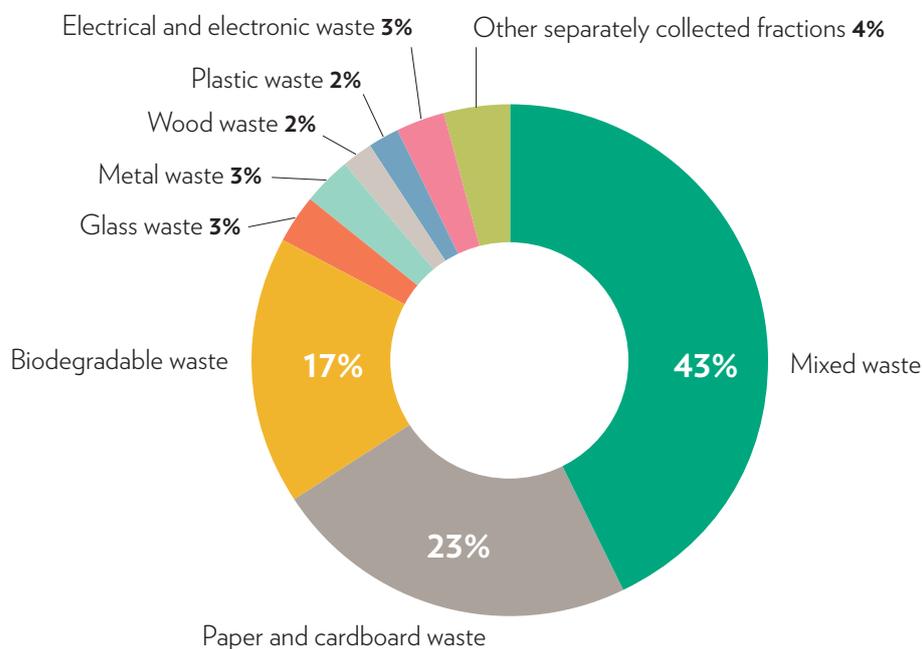
5

Collection of data

a) Quantities of collected waste

In the Uusimaa region approximately 700 000 tons of waste is produced and collected annually.

The data concerning the whole Uusimaa region is readily available is unfortunately a bit old, from 2016, but it gives still a good enough picture of the current situation. Since 2016, collection of plastic packaging has started, which will change the amount of waste to energy collection. Still the volumes of plastic are not significant compared to the amount of other waste, especially when measured in tons because plastic is a light material.



*Municipal waste in tons by streams in Uusimaa in 2018.
Statistics from Uudenmaan Elykeskus, Yhdyskuntajätteet.*

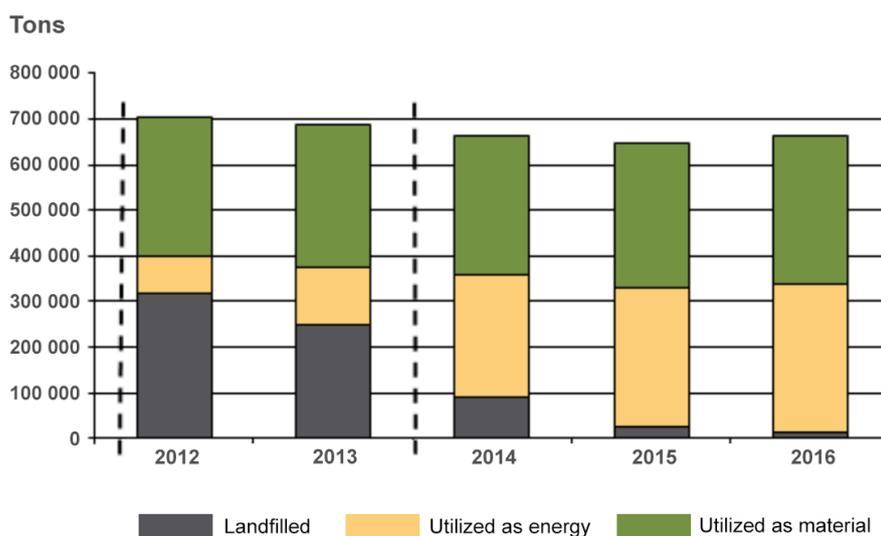




5

Collection of data

The following picture demonstrates the change in the treatment of waste in the past years. The key driver to the change has been the changes in legislation. In 2016 it became prohibited to dispose waste containing organic material to the landfill. The current waste amount is approximately the same as in 2016 with nearly 50% of waste used for energy utilization and 50% to recycling. This is a better result than in the whole of Finland, where 42% of municipal waste was directed to recycling in 2016 (Syke 2018).



*The treatment of municipal waste in the Uusimaa region 2012–2016.
Source: Uudenmaan Elykeskus, Yhdyskuntajätteet.*





5

Collection of data

b) Quantities of reused goods

At the moment, there is no statistical information about the reuse quantities in Finland. However, a study published in 2018 by the Finnish Environment Institute has estimated the reuse rate of certain products in Finland. The four product groups chosen for assessment were as follows.

- clothes and shoes,
- electrical and electronic devices,
- furniture and
- sporting equipment (incl. skates, skis and bicycles).

It was estimated that the volume of the four product groups in second-hand stores and online shops accounts for over **56 000 tons**. This equates to around 2% of the total amount of municipal waste. When measured in weight, the largest quantities are in furniture; when measured in units, clothes and shoes outnumber other categories. The study estimated 23% of the clothes bought in Finland each year end up in reuse (*Eskelinen, H. & co 2018*).

The Reuse-report revealed also the reuse quantities and opportunities vary between the six largest cities in Finland (Helsinki, Espoo, Tampere, Vantaa, Turku and Oulu). In the Helsinki region various reuse options are better available than in other parts of Finland. In the Helsinki region there are active consumer to consumer online markets, local flea markets and shops belonging to national second-hand chains. Based on the assessment, people in the capital city region are also more active in buying and selling used clothes and shoes than elsewhere in the country but people in other cities were more active in buying and selling furniture and electronics.

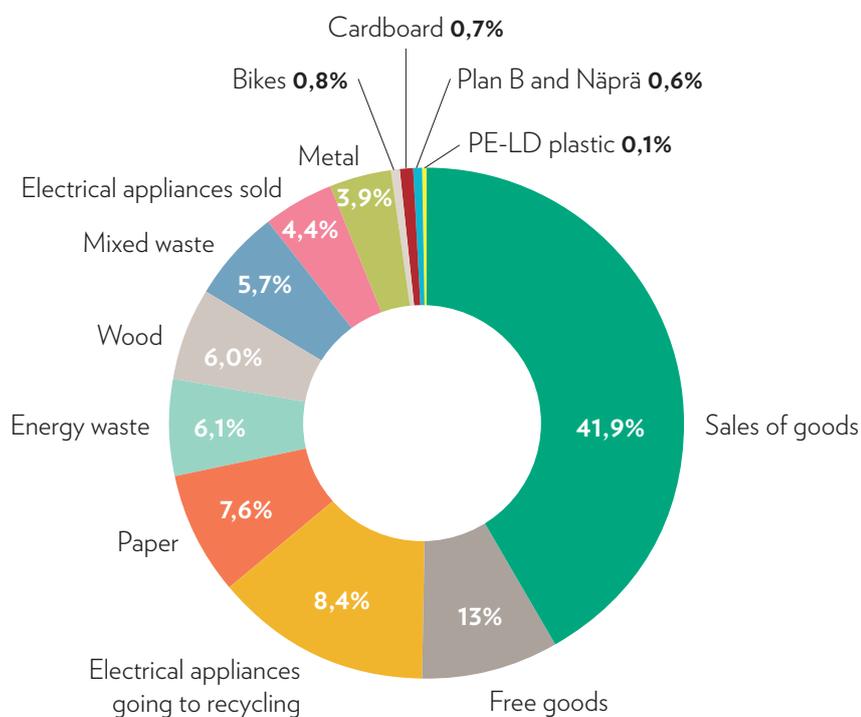




5

Collection of data

As an example of the material streams of a reuse centre, the material streams of HMARC are presented in the image below. Over half of the incoming goods can be reused and more than 35% is recycled as materials. Only about 12% is incinerated as energy waste or mixed waste.



The material flow chart of the HMARC shows where the incoming material goes to.



6

Financial aspects of waste management and reuse

a) Trends in cost of the household waste collection service

The waste fees have grown in the past moderately as investment to new technology are needed. The next change of fees in the HSY region will take place in 2020. The mixed waste cost will rise approximately 4.8%. However, at the same time the price of biowaste will decrease 3.8%, carton 0.1% and plastic containers 12.8%. The cost of glass and metal waste containers will stay the same. These changes reflect both the rising costs and changes in the legislation, but the price is also used as means to steer households toward recycling. The waste fees will rise on average 1.9% (*HSY/Inkinen, R. 2019*).

In the Rosk'n Roll region, the Uusimaa waste board has made small changes to the waste fees in the summer of 2019. The majority of the changes concerned decreasing the fees. The change was made as the fees were different in municipalities in the Western and Eastern parts of Uusimaa. The new fees from 1.7.2019 onwards are the same in the whole area of Rosk'n Roll (*Uudenmaan jätelautakunta, Uudenmaan jätelautakunnan päätökset 21.5.2019*).

HSY and Rosk'n Roll both invite tenders about the transportation of waste. The contract is usually for 3–5 years and after which the procurement process is renewed. HSY has divided the area it manages into smaller shares to make it possible for also smaller firms to take part in the procurement process. The procurement process in general helps to manage the costs, but the cost of transportation in general is increasing as the wages and other costs in transport rise.

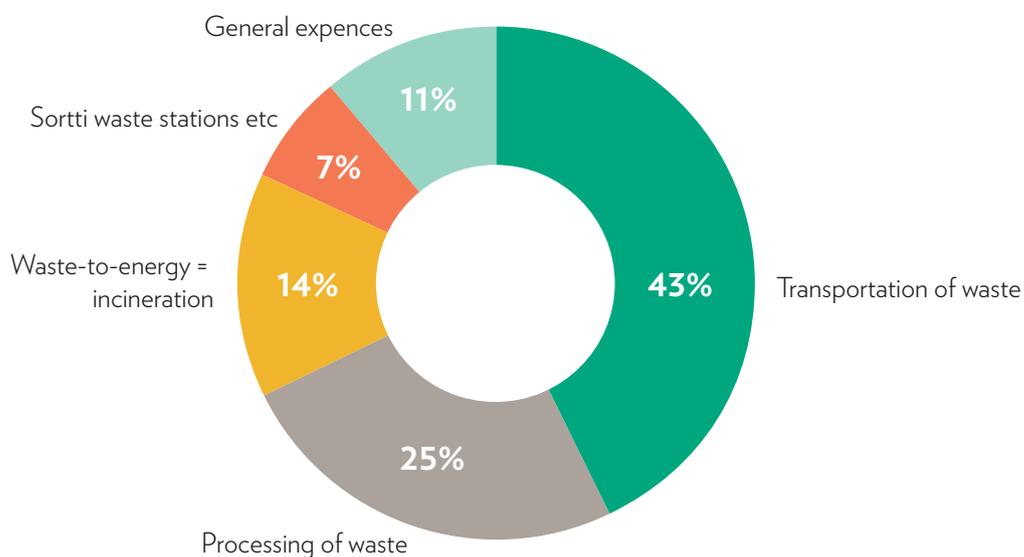




6

Financial aspects of waste management and reuse

HSY has made a breakdown of how the costs of waste management were formed in 2018. It can be seen in the following picture. The transporting of waste is the major part of the costs.



Breakdown of costs of waste management in HSY area in 2018. Statistics from www.HSY.fi Jätehuollon hinnat.

b) Trends in cost of processing, disposal, incineration

Landfilling of waste has almost ceased because the legislation does not permit landfilling of mixed waste. Hence, there are no new investments made on landfilling. Of course, the already existing landfills need managed and the monitoring of old landfills continues, but the maintenance costs are constant. A waste tax is imposed to waste going to the landfill. Currently, it is 70 eur / ton of waste.

HSY, Rosk'n Roll and Vantaa Energy have a long-term contract for the treatment of waste in the waste-to-energy powerplant. The contract was made already before the plant started operations so the cost of treating mixed waste is stable for the time being. The actual cost is confidential.





6

Financial aspects of waste management and reuse

The cost of processing other types of waste depends on the type of the waste. The waste company / authority either asks for bids from waste operators processing a certain type of waste, or if the material is under the producer responsibility legislation, the waste is processed by the processor chosen by the producer. The prices of processing are not available.

The processing of biowaste in the HSY region is performed by HSY. The cost of processing has grown in the past moderately because of new investments. The latest were the biogas plant, which started operation in 2015, and the powerplant in 2017. In the future, investments to new technology will likely result in the increase of the cost of biowaste processing. The fee for processing biowaste is at the moment between 62–100 eur / ton of waste (including vat 24%) when the waste is taken directly to the processing plant at Ämmässuo (*HSY, Jätehuollon hinnasto 2019*).

The producer responsibility legislation diverted some of the costs of waste management from the municipalities to producers of waste. In the future, it is likely this type of legislation will extend to other product groups also.

c) Fee applied to households for the service

Municipal waste fees cover the cost of municipal waste management. This includes costs incurred by waste transportation, the establishment, maintenance, decommissioning and after-care of treatment facilities and the costs of register maintenance and waste guidance.

Waste charges are imposed to encourage the public to reduce waste, make it less harmful and utilise it. A smaller fee is charged for waste that is sorted and fit for use, as opposed to mixed municipal waste that is unfit for practical applications. (*www.environment.fi, Waste charges and taxes*).

The fee for emptying a waste container at a dwelling depends on the waste type, the size of the container and how often it is emptied, not the actual amount of waste inside the container. If the container is rented from the waste management company, there is also a small rental fee. Some waste companies have also a flat fee in addition to the cost of emptying containers. Rosk'n Roll has a small fee of this kind, 2.33 eur / month for permanent housing and 1.17 eur / month for holiday houses.





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Financial aspects of waste management and reuse

When waste is transported to the waste station with households own transportation, the fee depends on the volume and the quality of the waste. Waste, which can be recycled is cheaper than mixed waste. The most expensive waste type is waste which will be landfilled. This is incombustible material like mineral wool or old sinks and toilet bowls from renovations. For example, HSY has the following pricing policy at the Sortti waste stations.

Prices at Sortti waste stations. HSY, Hinnasto.

	eur / m ³	eur / 200 l	eur / 50 l
Wood	10	2	
Mixed waste	25	5	
Gypsum	25	5	
Non-combustible waste	60	12	3
Aggregates	60	12	3
Garden waste	5 eur / load		

d) Income generated by selective collection schemes

The revenue from selective collection schemes is divided to several stakeholders and most information available is only from the public bodies in waste management. In general, revenue from selling recycled materials is in general small compared to the costs of processing, and especially collection, which is usually the main expense.

As for the collection materials, the metals have most value and also, electronic and electrical appliances that contain metal parts have some value. Paper, cardboard and plastic are not as valuable. The collection phase effects the value and for example, packaging materials from stores are more valuable than household materials, which have many types of plastics and carton.



6

Financial aspects of waste management and reuse

The treatment of the slag produced at the waste-to-energy powerplant is also financially rational: The metals in the ashes are valuable enough to make the management feasible.

In addition, HSY also sells compost, but the revenue of this is marginal compared to treatment costs of biowaste and sludge.

The Helsinki Metropolitan Area Reuse Centre, the electronic and electrical appliances and the metal items received from the public that cannot be reused create some revenues. The HMARC has also a service where a customer can send non-reusable furniture to be dismantled with the reusable goods picked up from the household with a small fee for the disassembly work. The revenue received from the recycled materials and the disassembling of furniture is about 100 000 euros annually which does not cover the waste costs.

e) Support to reuse centres

As the reuse centres are usually independent operators, there is little support available. Private companies focus on the most profitable parts of the reuse when majority of the goods to be reused are not high-end items.

For the Helsinki Metropolitan Area Reuse Centre funding comes mainly from the goods sold, which was approximately 65% in 2018. The HMARC does not distribute dividends to owners and all the revenues are used for environmental work. Pricing of the products is crucial for the successful operation. The Reuse-report (*Eskelinen, H. & co 2018*) studied the value of the reusable products. The price of the products chosen for the report decreased at least by 25%, but as much as 80% from the original price. High brand products seemed to have less of a value loss. This is a challenge since most of the reused goods are not brand products.



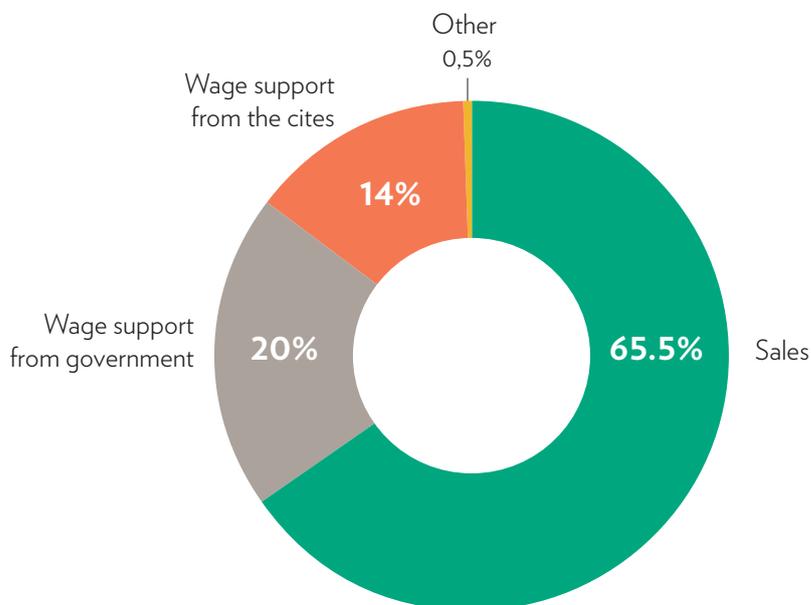


6

Financial aspects of waste management and reuse

The relatively low prices of used goods make it a challenging combination with the rising wages and rent costs. The solution to this dilemma has been the support to wages from the government and cities. This funding accounted 34% of the funding of the Helsinki Metropolitan Area Reuse Centre in 2018.

The picture below shows how the financing of the HMARC is built.



The financing structure of the reuse centre in 2018

The possibility for wage support is not exclusive to second-hand operators or non-profits but any company that employs workers who are entitled to wage support can obtain it. The support mechanism is not directed to reuse, but support aimed at decreasing unemployment. Still, it is a very important form of income to the HMARC and other reuse centres since sorting of goods is very labour intensive and approx. 75% of the expenses consist of wages. The next largest expense is rent with a 14% share.



7

How to make reuse successful

a) The beginning of Metropolitan area Reuse Centre

Why has the HMARC been successful in its operation even though it has had challenges to overcome like the shortage of funding?

The whole idea of a reuse centre came in the 1980s' from environmentally conscious active citizens and NGOs who organized happenings where people could exchange products with other people. This was rather laborious to organize so it led to the idea of a permanent place to direct goods for reuse. The active people got a grant from the Ministry of the Environment to start operations and a space from the City of Helsinki.

The people who came to work in the reuse centre were also committed to environmental values, and the popular movement has slowly evolved to the modern day HMARC. It is now a business, but the history in an environmental movement shows still in the fact that revenues are directed to environmental work and improvement of operations.

The fact that the company has no permanent funding from the city or government has been a challenge, but also a strength: It has forced the company to grow the revenues coming from the sales of goods and to find other forms of funding.

b) Reuse it all, not just the valuables

To make a reuse centre work, it is important to have effective processes and move significant amount of material that is low value. Most popularly received items are clothes, books, toys and other small items. It is quite easy for the citizens to sell the high-quality brands and other more expensive goods directly via the internet or at flea markets. For this reason, a well-functioning reuse centre will need an operator which is not considering only the profit, but who focuses also on the environmental value of reuse.

From purely profit-making point of view, specialist operators such as shops selling second-hand office furniture thrive as they can reuse large amount of items in a small product group. For all the product groups and also the low value items to be reused, a non-profit organization is required.





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How to make reuse successful

For example, the private repair shops of electronic and electrical appliances have almost disappeared but HMARC can prevent material from going to waste with the repair shops. The repair work is economically feasible with precision in process management, sales and marketing expertise and wages support.



The HMARC has repair shops for bikes, electronic and electrical appliances and unique furniture.

c) The Purpose is focused on the environment

When the reuse centre is focused on the environmental benefit, the reuse will be number one in consideration in operations just as the waste priority dictates.

The HMARC has an internal system of estimating how much natural resources are saved by reusing different kinds of goods. The reuse of electronic and electrical appliances, bicycles and furniture saves more resources than other types of goods like clothes, books or toys. This is also one reason why bikes and electronic and electrical appliances are repaired. Furniture on the other hand are expensive to manage because they need a lot of space in the shop and require a transport service. Still, the HMARC has decided to have furniture for sale, partly because the environmental benefits are high.



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How to make reuse successful

The unique part of the operation at HMARC is the role of environmental education. The HMARC is not only a reuse centre for material but offers also teaching and training services about environmental issues. The long-lasting co-operation with HSY has helped in advancing this part of operation. Now the reuse centre employees about 10 people in environmental education and/or training. Community outreach and the environmental expertise remain at the core of the operations and validate the purpose of the company.

d) Social enterprises are a key factor

A combination of reuse and employment measures is an effective method to acquire resources to the labour intensive reuse. Of course, the social benefits from offering people employment are significant.

The second-hand operators run by non-profits like Red Cross owner Kontti and the HMARC offer work to people who have difficulties finding employment. The wage subsidies are directed to personnel who are in vulnerable position at the job market, for example immigrants with limited language skills. The support for labour costs is essential for many of the non-profits working in the reuse field. In exchange, some of the second-hand employers offer training possibilities to the employees and coaching on job market.

The challenges with the social funding are, that they depend on the political will. It leaves many uncertainties as governments change quite often and the budget negotiations are tough. For the social benefits to have long lasting effects, more long lasting solutions should be made.





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How to make reuse successful

e) Governmental support to reuse initiatives

Circular economy is one of the top priorities in development funding schemes and regional programmes. Also, reuse has been mentioned in the previous Uusimaa Regional Policy programme. The competition for the funding is quite tough in the Uusimaa region as it has many operators as a capital area. The EU programmes for funding period starting from 2021 are designed at the moment (*Uudenmaanliitto, Rakennerahastokauden 2021–27...*).

Besides funding, governmental support is crucial in drafting the guiding legislation and norms for reuse. So far, the legislative framework in Finland has not been able to promote reuse despite the mentions in the legislation and supportive spirit of the legislation.

There are quite a few local governmental circular economy roadmaps and policies which have mentions of the reuse sector. Reuse is important part of the circular economy future.

f) Promotion of B2B initiatives to increase volumes

The Helsinki Metropolitan Area Reuse Centre has the following B2B co-operation at the moment. These are examples of services that can be extended further. The information on similar initiatives from other reuse centres is not available.

Donations via moving service

The customers of a moving company can directly donate furniture and other goods they do not want to take to their new home to the reuse centre. Niemi will take these goods to the reuse centre. This is a nationwide concept. In the capital area the donations come to the Helsinki Metropolitan Area Reuse Centre and in other cities to local reuse centres.

Collection of computers and other electronics from companies

The HMARC has a service for businesses to collect and reuse electronic equipment such as computers. If needed, also the data in the computers can be removed securely. The machines are repaired if it is possible or sent to the waste collection for electronic and electrical appliances if not. The saved natural resources are calculated for the company.





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How to make reuse successful

Fridges and ovens from demolition and renovation sites

When a larger housing companies decide to do demolition or renovation, the fridges and stoves are removed from the kitchens and brought to the reuse centre. The machines are repaired if it is possible or sent to the waste collection for electrical and electronic waste. The saved natural resources are calculated for the company.

Co-operation with HSY

HSY collects a lot of electric and electrical appliances at the Sortti waste stations it operates. All the flat televisions brought to the collection point are redirected to the HMARC. The TVs are repaired and sold in the reuse centre. Annually, over 2000 TVs get a new life via this route. HSY has also a container for reusable furniture and goods all the Sortti stations. The reuse centre collects the items every day. Annually, about 5000 pieces of furniture are received via this route.

Co-operation with a private waste company

A waste company offers a service called “Easy collection”. They will come and take all the waste from the person or firm and sort the material to correct waste types. If there is furniture that is in good shape it is taken to the HMARC.

g) Supply of space for reuse centre

In some countries the municipalities or governmental agencies might offer free premises to reuse centres. The HMARC receives little support to the rents from the cities of Helsinki, Espoo and Vantaa. However, this sum is marginal compared to all rental costs. The possibility to have free business premises sounds attractive. However, a good location is the key to successful reuse operation, and it is more advisable to pay for the premises if the free location is not easily accessible to customers.

The second-hand shops need central locations in the city to be able to reach the customers. More remote locations can of course be suitable for sorting centres etc. but for the shops a central location is very important from the experience of the HMARC.





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How to make reuse successful

h) Results from the reuse questionnaire

A questionnaire was conducted to find out stakeholder views on improving the practice of reuse. The ten respondents were working in reuse centres' management, waste management, public authorities and non-governmental organizations. As the answers were quite few, they are presented here as one entity and should be considered as guiding rather than conclusive.

Approximately half of the respondents evaluated reuse as not properly advertised. All ten respondents found educating children and teenagers during school hours a highly recommended solution. Also advertising campaigns, public events and re-locating the centres were beneficial. Eight respondents found central locations better for reuse shops' functioning. On the other hand, informative paper documents were the least recommended means to promote reuse: those were unnecessary in five respondents' views.

The current legal framework regulating waste and the reuse practice was reasonable in eight respondents' views. Also eight respondents agreed the framework needs urgent changes. Especially setting national reuse targets per product type as part of the producer responsibility schemes seems an important change. However, one respondent added the endless amounts of categories and many measurements: kilos, units and euros, make the suggestion difficult to implement. In addition, existing markets for the products are essential. The respondents reported furniture, home decor, textile and clothing as the most profitable product types. Secondly, the respondents left positive or neutral evaluations also for the suggestion of redefining exported reuse to products proven to be reused by the receiver.

Of the economic aspects, funding for firstly business development activities and secondly pay subsidies were regarded as important. Seven respondents found it urgent to receive EAKR/ESR funding to business development activities promoting the practice of reuse, e.g. in order to transform the business models of reuse centres with respect to customer needs. Six respondents found it urgent to receive long term pay subsidy funding for people with reduced ability, for working for social enterprises in the field of reuse.

Lastly, it seems as if not as much improvement is needed in personnel training. The most recommended improvement suggestion of this aspect was courses in the field of reuse. It received five recommendations and one neutral evaluation. Most personnel training suggestions received mainly neutral evaluations.





8

Conclusions

The reuse field has developed quite extensively in the Uusimaa region with little legislative guidance as social enterprises provide the service. The inhabitants reuse quite well their goods but there is significant room for growth.

As the reuse has been separated from the recycling in operative level, the reuse services for the inhabitants are more complex and scattered.

We can draw following conclusions for next steps.

1. Combine recycling with reuse

The reuse should be first priority and these two should be offered to inhabitants as a service package.

2. Ensure service coverage

The funding structure of the reuse centres forces them to outskirts of the city where rents are low. As most of the people live in the center areas, they are left with poor reuse service.

3. Define reuse centre as social enterprises and official reuse providers which reuse all goods

Without a clear definition of what is a reuse centre, it is not possible to provide the service or the legislative frameworks. Reuse is susceptible to cherry picking for better profit margins which leads to poor environmental performance. The social enterprises can make reuse of all goods successful and provide significant social benefits also.

4. Require reuse targets

Reuse is the number one requirement in the legislation and should have targets for which to aim to. The first step should be the obligation to report statistics to a public authority for a clearer picture of the current situation. It will help in setting targets for reuse.

These topics will be discussed and developed further in the Sustainable reuse -project.





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