

THE YTV WASTE PREVENTION STRATEGY

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ABSTRACT

In January 2002, the Board of Directors of the Helsinki Metropolitan Area Council (YTV) accepted the Waste Prevention Strategy. The target of the strategy is to utilise regional and national advice and guidance, so as to motivate the residents, enterprises and the public sector to avoid waste production, so that less waste will be produced per resident and per workplace in 2007 than in 2000.

The strategy was organised as a project with the main parts to include:

1. Waste prevention in companies, concentrating on co-operation networks to be formed for different sectors and on information acquired and distributed with them, on the use of the waste benchmarking system maintained by YTV and on the development of waste management consulting for enterprises by a trainer network.
2. The waste prevention in public administration covers offices, acquisitions and social and health care. The process starts by ecologising YTV's own operations, and proceeds towards waste reduction models to be prepared and introduced in co-operation with the municipalities of the region.
3. The information service and awareness education is directed towards households and schools. An awareness campaign will be arranged for households in order to spread information on the reduction of waste and to develop more positive attitudes towards this idea. Education material and methods will be produced for preschool, primary school, senior high schools and vocational institutions together with the authorities in order to promote waste prevention.
4. Through social influence and international co-operation, YTV takes an active part in the political discussion on waste at municipal, national and EU level by bringing up the theme of waste prevention. The development and measures related to waste avoidance both in Finland and abroad are also monitored closely.

INTRODUCTION

Helsinki Metropolitan Area Council (YTV) Waste Management

YTV Waste Management is responsible for waste management in the Finnish metropolitan area, i.e. in Helsinki, Espoo, Kauniainen and Vantaa. There are a little less than one million inhabitants in the metropolitan area. The area produces annually approximately 1.1 million tons of waste. The waste management strategy aims at reducing the amount of waste, at recycling and reusing waste and at a safe final handling of mixed waste on landfill. YTV's tasks have been defined in a separate YTV Act.

Approximately 600,000 tons of the waste and dirty soil produced in the area are received in YTV's waste-handling centre at Ämmässuo in Espoo, which also hosts the only landfill area in the region. The separately collected biowaste, approximately 30,000 tons a year, is handled

in a composting plant. Approximately 55 % of the waste produced in the metropolitan area is recycled and reused.

Waste Prevention

Waste prevention is on the highest level of the target hierarchy of EU waste legislation. It should be a primary measure, before the reuse of waste as material or energy or final disposal.

In this strategy, the reduction of waste and, more precisely, the prevention of waste production, includes all measures preventing the production of waste in the first place. Waste reduction may be quantitative or qualitative, such as a reduction in the amount of hazardous substances in waste. [1]

Waste prevention measures should mainly be taken before the products have been manufactured or have become waste or before the product is acquired (the consumer's choices). Influences on waste prevention are already to be found in the planning and development, in the manufacture, in the distribution and in the choice and use of products. Waste prevention can be observed through the reduction of material flow during the entire life cycle of a product. In that case, waste prevention covers the measures aiming to reduce the use of substances and materials as a whole, not just by recycling certain materials. We can, for example, discuss sensible or sustainable consumption and material efficiency. Waste prevention alone is not enough to solve all waste problems. The primary waste prevention does not eliminate the need for material reuse, environmentally friendly waste handling and safe final disposal. Therefore, waste prevention should be seen as a fixed and primary part of waste management as a whole. [1]

WASTE PREVENTION STRATEGY

Framework of the Strategy

The waste management section of YTV Strategy 2009 consists of four separate strategies: 1. the Waste Reduction Strategy, aiming to reduce the amount of waste produced and to increase recycling. 2. the Waste Handling and Final Disposal Strategy, 3. the Strategy of Customer-Friendly and Safe Waste Management Services, 4. The long period development of the waste management.[2]

The YTV Waste Prevention Strategy is part of the Waste Reduction Strategy. It describes the target situation to be achieved by 2007, and presents the central targets preventing waste and measures related to them, which will be the focus of YTV's activities in the next few years. In a separate background research of waste prevention, the operating environment and its changes have been described, as well as current waste amounts and estimates on changes in them. It also includes orders affecting waste reduction and methods to promote waste prevention. During the preparation, brainstorming sessions have been arranged among different interest groups, such as environmental inspectors of various municipalities, the environmental chiefs of municipalities, the representatives of environmental administration, civil organisations, consumer groups and representatives of commerce.

The Target Situation of Waste Prevention

In YTV Strategy 2009, the target situation of waste prevention has been described as follows: “In order to prevent waste production, the waste management plant has a large co-operation network with institutions, organisations and enterprises acting in the region. In addition, regional and national advice and guidance have motivated the residents, companies and the public sector to avoid waste production so well that less waste is produced in 2007 per resident and per workplace than in 2000”. [2]

WASTE PREVENTION IN ENTERPRISES

According to the target situation of the Waste Prevention Strategy, in 2007 many sectors of enterprises will pay more attention to the efficiency of their use of material and to waste prevention and compare their achievements with waste benchmarking, at the same time competing for the nomination of the Year’s Natural Resource Saver. Products will increasingly be replaced with services, and attention will be paid to their long life cycle. Shops will also offer the consumers alternatives producing less waste and pay attention to the maintenance and repair services for the products they sell.

In order to reach the target situation, waste prevention in enterprises will be promoted with three different sub projects: Enterprise networks and sector-specific waste prevention, Waste benchmarking and YTV’s waste-sector trainer network.

Enterprise Networks and Sector-specific Waste Prevention

The target of the project is to create co-operation networks for different sectors and invite experts of the sectors to join, such as representatives from the sector organisations, from the “model enterprises” in the sector, from the environmental inspectors of the municipalities in the metropolitan area, waste advice and the Finnish Environment Institute.

The project will map the situation of waste management in enterprises, and produce and spread information on the opportunities for waste prevention in enterprises, among other things, with Best Practice models and BAT (“Best Available Technology”) statements.

The target of the project:

- to spread the Best Practice models created for different sectors
- to complete and update the models with the latest information in the sector.
- to encourage enterprises to improve their actions to prevent waste and to join YTV’s waste benchmarking system.

The benefit of the project is that contacts with enterprises will give us access to large potentials for reducing waste amounts. The interests of the enterprises are also closely connected to material efficiency and cost savings, which provides a good ground for co-operation.

The project proceeds sector by sector The reports Waste Reduction in Wholesale Businesses [3] and Waste Reduction in Food Industry [4] were completed in 2002. The Best Practice model for the commercial sector was completed in spring 2003.

The studies regarding construction activity and enterprise offices will start in autumn in 2004. In 2004-05 it will be examined which other sectors of SMEs have large waste reduction potentials, and these sectors will be considered in 2005-07 (look behind).

Waste benchmarking

The target of the project is to develop and market a Waste Benchmarking system so as to ensure the usability of the system and the growth in the number of enterprises joining the system. The system as such will help enterprises to monitor the amounts of waste. The Benchmarking system will be available on the YTV website (<http://www.ytv.fi/jateh/benchmark/index.html>). It is available and free of charge for all enterprises. In spring 2004, the system covers approximately 250 enterprises. An enterprise that has joined the system can monitor its waste amounts with eight different reports. In the next page there is an example of waste amounts in an enterprise compared to the average in the sector.

We also have the intention to give an annual award every autumn to the best enterprise in the area of YTV: The Year's Natural Resource Saver. The award has been granted annually since 1999. The granting of the annual Natural Resource Saver Award creates a positive public image and increases interest in waste prevention. The system can also be utilised to collect information for Best Practice models and to find BAT solutions for each sector.

Sector: G 513 Wholesale of food, drinks and tobacco

Property type: Warehouse

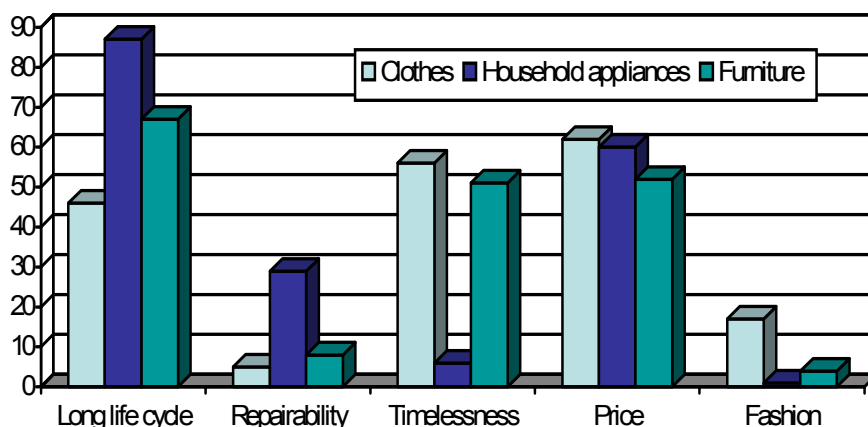


Figure 1 Reference result of waste amounts in an enterprise compared to the average in the sector.

Achieving Higher Material Efficiency through Services

The aim of the two-year project is to calculate the quantity of waste produced by the companies located in the area of the YTV, to use these findings to establish the potential for avoiding waste and to look into the possibility of replacing functions that produce large quantities of waste with services.

1. Survey of waste quantities produced by different business sectors

The first goal of the project is to gather detailed information about the quantity and quality of waste produced by the different business sectors in the Helsinki metropolitan area, so that the correct measures to avoid waste may be taken. The proportion of services offered in the business of the metropolitan area is significant, and it is expanding every day. For this reason, it is important to look into the waste produced by the different services. For the first time, information on the amount of waste produced by the different services in 2004 is also needed for the waste statistics of the EU. The study conducted in the area of the Helsinki Metropolitan Area Council may be used as a guide for compiling statistical information on the total amount of waste produced by the service sector in Finland.

Information about the quantity of waste is gathered from a number of sources, including a survey conducted by a business consultant, the database of the supervisory information system maintained by the environmental authorities, and mail surveys sent to the most important companies of the industrial and service sectors in the Helsinki metropolitan area.

The information contained in the waste surveys is entered into the waste benchmarking system, which provides information on the average amount of waste produced by the different sectors. The aim is to encourage the companies that participate in the waste benchmarking system to continue to monitor the quantity of waste produced and to report it to the system voluntarily on an annual basis. This will help to estimate the waste produced by the different business sectors annually and to gauge the effect of preventive measures to avoid waste.

2. Improvement of services for avoiding waste

The aim is to find new ways of avoiding waste in the sectors that produce the largest amount of waste. One of the ways in which this is accomplished is by interviewing the different target groups, e.g. union representatives of the business sectors, to find out what can be done in order to reduce the amount of waste. Based on the results of the interviews, several business sectors and/or some new service concepts shall be taken into further consideration. To hone and further develop the new ideas, work groups shall be formed. Companies that have an interest in developing new services or that may be able to take advantage of them shall be invited to participate in the group activities.

The new services can facilitate the recycling of packaging materials, make the use of computers more efficient, reduce the use of paper in data management and in marketing, and reduce the use of disposable goods, among other benefits. The new services that reduce the amount of waste make the use of natural resources more efficient, consequently improving the overall efficiency of the materials used in the functions where these new services can be applied. Companies taking advantage of the services can obtain savings on purchases and a reduction in their waste management costs.

Based on the results of the work groups, one or more new service concepts shall be subjected to preliminary investigation. The feasibility of the new services shall be investigated by studying the technical and financial prerequisites of realisation, by examining the willingness of potential clients to use the new services and by calculating the reduction of waste that can be achieved by utilising these services.

WASTE PREVENTION IN PUBLIC ADMINISTRATION

According to the target situation of the Waste Prevention Strategy, in 2007 public administration, including YTV, will have included the Waste Reduction Strategy in its own activity. In order to reach the target situation, three sub projects have been started to promote the issue: Offices, Acquisitions, and Social and Health Care. By concentrating on these, the largest material flows in public administration are covered.

Offices and Acquisitions of Public Administration

The purpose of the project is to create a co-operation network with the municipalities of the YTV region. The network will be used to prepare the Best practice model for public administration offices and to ensure the consideration of waste prevention in acquisitions.

The target of the project:

- YTV and its member towns monitor their waste amounts and they should have considered waste prevention in their acquisitions and office activities.
- YTV takes the initiative to introduce existing acquisition instructions and to improve their applicability
- less waste will be produced in the public administration in 2007 than in 2000

YTV's target is also to act as an example of waste avoidance in its own operations and to pay attention to waste prevention in acquisitions, operations and in the events it organises. The formation of the Best practice model base for offices and acquisitions of public administration started by ecologising YTV's own operations.

The waste management employees in charge of the environmental issues map the waste production of their own operations and the reduction of the amount of waste, and the same actions will be spread to all departments of YTV in 2005. One aim is to reduce the amount of copy and printing paper used by YTV by 20 % by the end of 2007 (compared to the 2001 level) and to train all personnel in waste avoidance. A Best practice model base for offices is now ready and it will be tested and processed further with the municipalities of the YTV region.

Municipal acquisitions represent a large material flow in the area, and they benefit from an economically well-implemented project both through reduced acquisition costs and decreased waste management costs.

Social and health care

The purpose of the project is that YTV will establish a co-operation network consisting of the social and health care sectors in its member municipalities and of the Hospital District of Helsinki and Uusimaa (HUS). The co-operation network will discuss the opportunities to reduce waste in different operations and agree on how new solutions developed in different places can be spread to everyone for application.

The target of the project:

- to produce common models for reducing waste for the different operations of special care, municipal health services, day care and geriatric care and social welfare of the disabled
- models developed and tested are efficiently spread to be used in
- the total amount of waste produced in the sector in relation to the amount of operations can be reduced from the current level

In co-operation with HUS it is already done MIPS counting model for hip operation. In the operation it has been used durable clothes and other textiles instead of disposable ones[5].

ADVICE AND AWARENESS EDUCATION

According to the target situation of the Waste Prevention Strategy, waste prevention and the intensifying of material economy will be commonly known concepts in 2007. The citizens' awareness of waste reduction opportunities will have increased, and the idea of sustainable consumption will be well known. In educational institutes, at schools and nurseries, waste prevention is emphasised both in teaching and in their own activities. In order to reach the target situation, three sub projects have been started to promote the issue: an Awareness Campaign for Households, General and Preschool Education, and Vocational Institutes.

Awareness Campaign for Households

The purpose of the campaign is to raise the interest of households and possible future co-operation partners in the subject and to provide tools for operations producing less waste.

The target of the project:

- to influence the households so that a positive attitude for the idea is developed
- the awareness of action opportunities and the willingness to operate with less waste increases.

The main target group consists of city residents living in apartment blocks. The awareness education pays special attention to the parts of waste that households can particularly influence in order to reduce the amount of waste. These include packaging waste, the reduction of direct advertising and free papers, the reduction in the use of disposable products and the extension of the life cycle of old furniture and household appliances.

The general umbrella campaign aims to wake up many groups that can, with their own actions and in co-operation with YTV, promote the efficient spreading of the message even for other sub campaigns of the strategy. Such groups include municipal decision-makers and civil servants, such as consumer advisors and persons in charge of environmental issues, the employees of civil organisations, parishes and enterprise and employee organisations and those active in these.

The first part of the awareness campaign was in autumn 2003. The President of Finland, Mrs Tarja Halonen was the patroness of the campaign. The campaign could be seen, among other things, as a national TV campaign. The advertising took place in mobile media, such as on the sides of buses and trams, in the subway advertisement places and on the radio. The main slogan of the campaign was "The smart produce less waste", and the message advertised a website with more information on the issue (www.fiksu.net). Other Finnish waste companies participated in the outdoor advertising in their own areas. The campaign repeated in spring

ticipated in the outdoor advertising in their own areas. The campaign repeated in spring 2004, and annually until 2007 with a different theme.

General and Preschool Education

The purpose of the campaign is to spread information on waste prevention to comprehensive schools, senior high schools and preschools through different co-operation forms and networking.

The target of the project:

- every schoolchild gets information on waste prevention once in preschool, in primary school and in senior high school.
- the co-operation network created will still be active and mediate and update information
- the project will examine the waste flow information of the school and nursery properties and collect them in a waste benchmarking system.

Children and young people are an important group as future and even current consumers and as future decision-makers. Information learned as a child and repeating itself as part of normal school work is a good basic support for applying the issue later, both in one's own household and as part of working life. Besides, teachers acting as reminders constitute an excellent network of co-operation partners.

The project started at the end of 2002 with the first phase where junior and senior high school teachers in the region, and other officials, were invited to a co-operation meeting to commit themselves to the project. At the next stage, learning methods and material on waste prevention suitable for senior high schools will be ready in autumn 2004. The materials will be displayed in the www.fiksu.net sites.

Vocational Institutes

The purpose of the project is to build a network of contact persons to forward regular updated information on waste prevention and material efficiency in different vocational sectors. Also, different kinds of teaching material and methods are developed for the teachers' use in co-operation. The monitoring of the waste amounts of educational institute properties is developed by utilising YTV's waste benchmarking system. At the same time, support is offered to the educational institutes to improve their waste management and to develop, implement and report on possible environmental programmes.

The target of the project:

- to familiarize educational institutes with sustainable consumption
- the region has functioning co-operation networks,
- the personnel and students of different institutes are aware of the opportunities of their own occupational sector to promote material efficiency and to prevent waste.
- the educational institutes also monitor their waste amounts and reduce waste according to the created models and instructions.

Youngsters studying for an occupation are an important group at future workplaces and as decision-makers and current consumers. Information included in studies preparing someone for an occupation spreads easily to working life together with the newly graduated youngsters.

The project has proceeded so that in 2002 YTV's new advice and learning material, such as The Life Cycle Game, the Trouble Path and the Mobile Phone Quiz were marketed and delivered to educational institutes. YTV's exhibition Tietoterassi (Information Terrace) circulated in vocational institutes. "Material Efficiency – A Trainer's File" was also drawn up and handed over to the teachers in charge of environmental education in a few vocational institutes.

At the beginning of 2003, a co-operation meeting was arranged with principals of vocational institutes of technology and other civil servants in the sector, aiming to promote the addition of waste prevention to the study programmes of vocational institutes. The teaching material for the vocational institutes of technology will be ready in autumn 2004. Vocational institutes of other sectors will be included in the project as planned during the period between 2004 and 2007. The materials will be displayed in the www.fiksu.net sites.

The Influence of the Strategy

The assessment models for the influence of the strategy include pre and post models based on measurements before and after the measures, assessment of experts and participants on the effects of the measures. The influence is also examined with time sequence analyses. The assessments are included in the plans of the various sub projects.

The effect of the Waste Prevention Strategy for households is mainly an increase in awareness and editing of attitudes. The effects and influence of the strategy are measured, in addition to the above, with an annual poll. The poll maps, among other things, the changes in residents' attitudes, the use of rental and repair services and the awareness of the reduction of waste amounts and of consumer rights. The last sample study was completed in January 2004. The questionnaire had a total of 24 questions, some of them with alternative answers and some that could be answered freely. The questionnaire was sent by mail to 3000 people, and a total of 1498 over 18-year-old people in the YTV region answered it. As questions related to waste prevention, for example the following questions were used:

Table 1 Question 8 of the YTV's Waste 2004 study. [6]

To which of the following characteristics do you pay attention when buying consumer durables? Please mark two (2) most important characteristics for each product.

	Long life cycle	Repairability	Timelessness	Price	Fashion
Clothes	• 1	• 2	• 3	• 4	• 5
Household appliances	• 1	• 2	• 3	• 4	• 5
Furniture	• 1	• 2	• 3	• 4	• 5

According to the results of the year 2004, a long life cycle is the most important criterion for choosing household appliances and furniture. The most important criterion for the purchase of clothes was the price. In the selection of furniture and household appliances, fashion was the least important criterion for the buying decision..

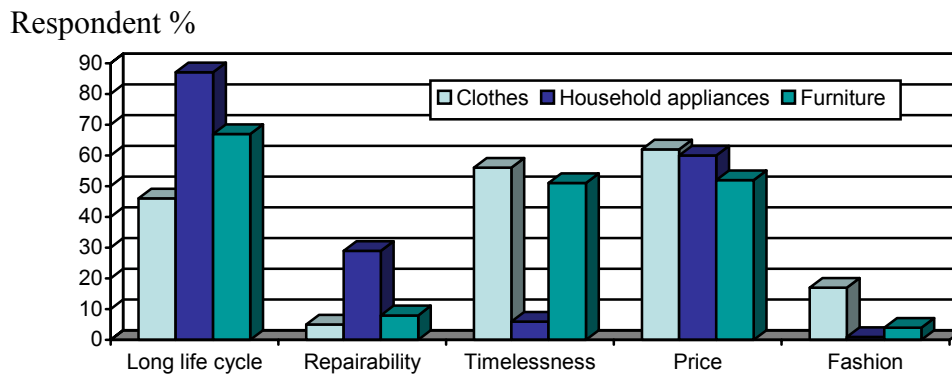


Figure 2 YTV's Waste 2004 study on the factors affecting the buying decision for consumer durables [6]

In order to monitor the waste amounts produced in the region, an annually repeating large waste flow study is needed that examines the waste flows in the region of YTV; the amount, quality and place of production, and a continuous monitoring system is created in order to realise any changes in waste amounts. The study is now underway.

The inhabitants' attitudes towards waste prevention are very positive. Nearly 95% of them consider it important to use various methods to reduce the total amount of waste. When comparing the two studies, one of which analysed what the inhabitants themselves have done to reduce the amount of waste and the other what the inhabitants would be ready to do, there was still a clear difference between preparedness and activity [7].

Table 2 Comparing Waste reduction measures, what people are ready to do and what they have already done

<i>Waste reduction measure</i>	<i>2003: is ready to do</i>	<i>2003: has already done</i>	<i>2004: has already done</i>
Borrowing things	52 %	15 %	18 %
Changing consumption habits	85 %	40 %	44 %
No advertisements sign to mailbox	39 %	14 %	15 %
Repairing things	79 %	47 %	57 %
Favouring products with less packaging	86 %	44 %	46 %
Buying products with a long guarantee period	57 %	29 %	39 %

Project Management And Resources

The Board of Directors approved the Waste Prevention Strategy in January 2002, and after this the project for implementing the Strategy was set up. The project is led by Project Manager R-L. Hahtala from the Communication Unit of Waste Management, who was nominated for the task. The project will be completed by the end of 2007.

The implementation of the Strategy has been assessed to require approximately 28 man years at YTV in the period between 2002 and 2007. YTV's costs due to the implementation of the

projects, personnel costs excluded, amount to approximately 2 million euros. For the finance of the project, funds will be sought from different study funds, such as the Life finance of the EU and from national finance programs and from other project-specific co-operation partners.

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