

INVENTORY OF THE POLICIES AND STAKEHOLDERS OF WASTE PREVENTION IN EUROPE

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**INVENTORY TAKEN FOR THE EUROPEAN PROJECT BY RREUSE
SEMAINE EUROPÉENNE DE LA RÉDUCTION DES DÉCHETS -
European Week for Waste Reduction (SERD – EWWR)
MANAGED BY ADEME**

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PREAMBLE

The main objective of the European Week for Waste Reduction (EWWR - SERD) is to raise awareness of the importance of waste prevention in Europe amongst the general public, businesses, local committees, public authorities and associations.

In the context of the European Week for Waste Reduction concept and the Life+ project communication strategy (actions 3.1 and 3.2), it is important that we answer the following questions: What are countries doing in terms of waste prevention? What regulations do they have in place? What methods and tools do they use? What is the European context of waste prevention?

It is within this framework that an inventory of stakeholders and waste prevention policies has been produced along with a file containing contact information.

It was produced by the service provider "RREUSE", coordinated for the European project by Julien Fortin and Antigone Dalamagas and managed by Valérie Jouvin, Marie Hervier and Hubert Santer (ADEME).

PROJECT CONTEXT AND PARTNERS

EUROPEAN WEEK FOR WASTE REDUCTION (EWWR)

The European Week for Waste Reduction is a project supported by the European Commission's LIFE+ Programme - "Information and communication" section.

ADEME and its European partners – ACR+, ARC, IBGE and LIPOR – have submitted a proposal to jointly organise a European Week for Waste Reduction, which serves as a response to the call for European projects featured in the "Information and Communication" section of the LIFE+ programme.

Moreover, the European Week for Waste Reduction benefits from the experience of ADEME, which is a pioneer in this field having already coordinated three major French waste reduction campaigns (2005, 2006, 2008), launched as part of a French National Plan for waste prevention initiated in 2004.

Objectives of the Week

The idea of the European Week for Waste Reduction is to draw attention to the concept of waste prevention for one whole week through awareness-raising actions organised by a variety of stakeholders (associations/NGOs/European networks, businesses/industry, educational establishments, public authorities, etc.) and targeted at a variety of audiences (the general public, employees, schoolchildren, etc.).

The Week is coordinated by the public authorities who are experienced in the field of waste prevention and who act as "Organisers" for their administrative area, ensuring the registration and approval of projects proposed by a variety of stakeholders involved.

The organisation of the event is aimed to: promote sustainable waste prevention actions across Europe, raise awareness of the proposed strategy, promote the waste prevention and waste reduction policies of the European Union and its member states, consolidate the concept of waste reduction, motivate and encourage as many individuals as possible to take action, provide detailed information about improved habits and behaviour which will facilitate effective change, demonstrate the direct impact of our consumption on climate change and the environment, and finally, it aims to draw attention to the

links between waste reduction and sustainable development.

What is “waste reduction”?

The European Week for Waste Reduction aims to address as wide an audience as possible. The generic term “waste reduction” is used synonymously with the term “waste prevention”.

The waste reduction programme involves the first two legal concepts of the new European Framework Directive on Waste: “waste prevention” and “preparing for reuse” (as defined below).

In keeping with this directive, the European Week for Waste Reduction aims to raise particular awareness of the prevention of waste production, i.e. to raise awareness of all that can and should be done to prevent throwing an item away, so as to reduce the amount of waste for collection and to reduce the harmfulness of the waste generated.

So, the best type of waste is waste that is not produced!

Waste reduction can therefore be defined as all of the measures and actions taken to prevent a substance, material or product from becoming waste.

These measures aim to reduce: the quantity of waste products (through reusing or extending the life of products), the harmful effects of waste products for the environment and for public health and the content of harmful substances in materials and products.

Preparing products for reuse involves testing, cleaning or repairing processes, by which the products or parts of products that would otherwise have become waste are recovered so that they can be re-used without any other form of pre-processing. Preparing for reuse therefore involves changes in practices; both in terms of consumer purchasing habits and in terms of the manufacturing process.

Reducing quantities of waste production involves taking action at different stages in the life cycle of the product: design stage, manufacturing, distribution, consumption and end of life cycle. This could mean changing the input materials, using a different type of technology, changing the design, or using alternative operating practices.

Why is waste reduction important?

Waste reduction is an urgent matter for the whole of the European Union.

The quantity of household waste being produced has doubled in 40 years and has increased by 1 to 2 % each year.

In 2008, an average of 524 kg of municipal waste was generated per person in the member states of the European Union (source: Eurostat).

It results from production methods and consumer habits which are not sustainable: for example, product consumption (including production, transportation and distribution processes) represents almost 50% of emissions contributing to climate change.

This increase in the amount of waste to be managed calls for a development in selective collection and product processing procedures, the cost of which puts a strain on the budgets of local and regional public authorities.

In this context, prevention has become a simple and essential concept for waste management initiatives. Prevention is important, firstly as a technical factor in the resolution of the growing problem of waste production, on both a local and global scale, but also in reminding us of the increasing scarcity of natural resources.

Who can get involved in waste reduction?

Everyone can take action! Each day, whether it is at home, in the office or at school, while doing the shopping or DIY, every one of us can take up simple actions to reduce our waste production.

Many of the main stakeholders can help to raise public awareness of the importance of waste prevention: public authorities, associations, local NGOs, regional, national and European networks, businesses and industries, educational institutions, etc. These stakeholders can get involved in the project on a daily basis, promoting their actions during European Week for Waste Reduction in their role as "Project Developers", by proposing actions to raise awareness at a local level.

THE EUROPEAN COMMISSION'S LIFE+ PROGRAMME

<http://ec.europa.eu/environment/life/>



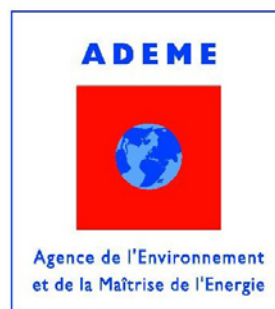
In order to encourage the awareness of environmental concerns amongst the widest audience possible, as much within the general public as within major economic stakeholders, the European Commission proposes a financial mechanism which is dedicated exclusively to protection of the environment, namely, its LIFE+ programme.

Today, the LIFE+ programme is part of the continuation of the LIFE Environment programme while it also integrates some of the important modifications which have been made in terms of the reorganisation of European financial instruments during the period 2007-2013.

The programme includes three sections: Nature and Biodiversity, Environmental Policies and Governance, Information and Communication. The programme also aims to address important environmental questions relating to European policies and as such contribute to the promotion of sustainable development.

EWWR PROJECT PARTNERS

ADEME www.ademe.fr



ADEME is involved in the implementation of public policies relating to energy, the environment and sustainable development. In order to advance its environmental approach, the agency offers its expertise and advice to businesses, local communities, public authorities and the wider public. ADEME also funds projects from research to implementation: waste management, soil conservation, energy efficiency and renewable energy, air quality and noise control. **ADEME provides project coordination.**

ACR+ www.acrplus.org

ACR+, the Association of Cities and Regions for Recycling and sustainable Resource management (Belgium) is a network of local and regional authorities which promotes the sustainable consumption of resources and the management of municipal waste through prevention at source, reuse and recycling. **ACR+ is responsible for project coordination.**



ARC www.arc-cat.net

ARC, the Catalan Waste Agency (Spain), is the public body responsible for the integrated management of municipal, industrial, health-care and agricultural waste in Catalonia.



IBGE www.ibgebim.be

IBGE, Bruxelles Environnement (Belgium) is the administrative body for waste management in the Brussels-Capital Region. IBGE is responsible for developing and implementing the Brussels-Capital waste prevention and waste management programme.



LIPOR www.lipor.pt

LIPOR, the Inter-municipal Waste Management Service of Greater Porto (Portugal) is the organisation in charge of the integrated management of municipal solid waste generated by 8 municipalities from the Porto Region (Espinho, Gondomar, Maia, Matosinhos, Porto, Povia de Varzim, Valongo and Vadodara).



OBJECTIVES OF THE STUDY

INVENTORY OF WASTE PREVENTION POLICIES

The study has led to the production of an inventory of the national and regional policies for waste prevention in 27 European countries.

The study promotes good waste prevention practices - communicative actions already carried out.

This inventory is presented in the form of a summary sheet for each country.

INVENTORY OF THE MAIN STAKEHOLDERS IN WASTE PREVENTION

This inventory comprises a non-exhaustive list of European organisations which are potential project organisers for EWWR (the administrative bodies) or potential project developers (associations, businesses, European networks, schools etc.).

PROMOTION OF EUROPEAN WEEK FOR WASTE REDUCTION

The organisations contacted as part of the study were also invited to take part in the 2010 and 2011 European Week for Waste Reduction campaigns.

New contacts will be integrated into the Scientific and Technical Committee which will take over the organisation of the EWWR campaigns following funding for the Life + programme from the European Commission.

METHODOLOGY OF THE STUDY



rreuse
A Network Symbol of
Sustainable Development
In Practice

www.rreuse.org

RREUSE is a network of social enterprises which has an environmental focus and whose activities are centred on waste prevention. The members of RREUSE are involved in the implementation of activities such as reusing, repairing and recycling and the sensitising of the public to the importance of waste reduction in over 10 European countries.

Through implementation of these activities, RREUSE promotes a model for sustainable development:

- protection of the environment: waste prevention and sustainable management
- social equity: actions for social integration and for goods at affordable and economically viable prices, the possibility of job creation and training.

SCOPE OF THE STUDY

2010: 27 member countries of the European Union



Waste prevention

Definition given by ADEME in 2004: "...all of the fundamental measures and actions taken (particularly in terms of modifying the design, production, distribution and consumption of a good) to reduce the overall impact on the environment and to later facilitate the management of waste (particularly in terms of reducing quantities of waste produced and/or their toxicity or in terms of improving the recoverability of a product)".

SURVEY

The structure of the summary sheets is based on the following information:

- the environmental and waste regulations of the countries concerned;
- the plans and programmes for sustainable development, and waste prevention and/or management of the countries concerned;
- the existing bibliography for waste prevention;
- the accounts of participants who represent the National, Regional or local governments of the countries concerned;
- the accounts of non-governmental organisations or professional organisations operating in the field of environmental & waste management.

RESULTS

The inventory is presented in the form of a summary sheet for each country. Each summary sheet is divided into 5 sub-sections:

The National strategy for waste prevention: regulatory framework and main prevention measures;

The Regional strategy for waste prevention: regulatory framework and main prevention measures;

The country's main contacts in the area of waste prevention

Good practices: innovative waste prevention projects implemented according to the particular stage in the life cycle of the product;

Notes: notes on the interviewees or more detailed information on the sources used for the study.

BIBLIOGRAPHY

Legislation, Plans for sustainable consumption and Plans for waste prevention/management

The legislation on waste prevention and the plans for waste prevention and/or management upon which the study is based are included in the country summary sheets found in the inventory.

Studies

"The management of household waste prevention in eight countries/regions of Europe: innovative action for the Walloon region", Research Development and Consulting, May 2010

"Raising awareness of community legislation on the transportation of waste, on landfills, on waste management plans and on waste prevention programmes", BIPRO, 13 December 2009

"Instrument for Waste Prevention and Promotion of Material Efficiency", Nordic Council of Ministers, Copenhagen 2009

"Country fact sheets on waste policies - 2009 edition", http://scp.eionet.europa.eu/facts/factsheets_waste/2009_edition, European Topic Centre on Sustainable Consumption and Production

INVENTORY

Non-exhaustive list of waste prevention policies, practices and the main stakeholders:

Germany,
Austria,
Belgium,
Bulgaria,
Cyprus,
Denmark,
Spain,
Estonia,
Finland,
France,
Greece,
Hungary,
Ireland,
Italy,
Latvia,
Lithuania,
Luxembourg,
Malta,
The Netherlands,
Poland,
Romania,
Slovakia,
Slovenia,
Spain,
Sweden,
Czech Republic,
United Kingdom.



GERMANY

Federal state: 20 Länder (districts)

Population: 82,002,356 in 2009 (Eurostat)

Municipal waste produced: 601 kg per capita per year and 581 kg per household (Source: Eurostat).

National waste prevention strategy

Regulatory framework

The Kreislaufwirtschaftsgesetz Law, KrWG

This Law promotes a circular economy and responsible waste management but there is currently no waste prevention programme at a federal level. Talks are in progress to determine if it will be necessary to develop a programme for each region or if the application of the 2008/98/CE directive will be achieved through a general plan implemented at federal level.

Regional strategy for waste prevention

Regulatory framework

Each plan developed for the management of household waste within the different Länder dedicates a chapter to waste prevention but there is no specific prevention strategy suggested in any of these plans. It is however specified that waste prevention should be prioritised over recycling.

Main contacts

Non-exhaustive list of the main waste prevention contacts for the country.

Federal Ministry for Environment, Nature Conservation and Nuclear Safety
Robert Schuman Platz 3
53 175 Bonn
www.bmu.bund.de

Good practices

Eco-design, the BOSCH example

This manufacturer of electrical and electronic appliances makes use of an environmentally-friendly design principle which is otherwise known as eco-design. During product development, Bosch takes into consideration the idea of disassembly at the end of the product's life cycle, the sorting process and reuse of the product. The company aims to improve the recovery process at the end of the appliance's life cycle in order to render the appliance more environmentally-friendly whilst retaining its commercial viability.

Customers can send their electrical appliances directly to Bosch or they can take them to their local dealer. This returns policy involves providing customers with a new battery or a new appliance at a reduced price whilst accepting the no-longer functioning appliance at no extra cost.

A company commissioned by Bosch is responsible for the logistics and transportation of returned appliances to a Bosch factory where they are dismantled so that the recyclable materials can be recovered and sorted.

Local Information Campaigns

The Berlin example is similar to that of other large cities. In a number of cases, local authorities have created websites dedicated¹ to the issue of environmental responsibility. Many of these websites report the daily implementation of waste prevention measures (by households and/or businesses).

On the website *Berliner Stadtreinigung* the Berlin city council recommends the brochure *Abfallvermeidung ins Büro* which provides information and advice on waste prevention strategies.

At the office, people are advised to limit their number of printouts, to choose their type of paper accordingly and to economise on paper use. Providing environmentally-friendly tips such as using both sides of the page for draft printouts, checking for corrections on screen before printing, saving copies using a USB, and explaining the significance of eco-labels (eg. Blaue Engel), the brochure is abundant with information and advice which is both practical and easily implemented.

The brochure also offers advice on the eco-friendly management of other types of office waste: toilet paper, cleaning products, disposable plates and cups or even promotional flyers, newspapers and magazines.

Environmental Schools²

The environmental schools' on-line information service is an official project which forms part of the United Nations Decade of Education for Sustainable Development. The project was designed to meet four objectives:

- To develop and consolidate environmentally-friendly activities so as to ensure the widespread implementation of good practices.
- To provide a networking facility for the key figures in education for sustainable development
- To improve public attitudes towards Education for Sustainable Development (ESD)
- To strengthen international cooperation

¹ www.bsr.de

² www.umweltschulen.de

Part of the website is dedicated to waste management and provides advice to schools, educating pupils on the importance of waste prevention.

The Top Ten Eco-friendly Products "Eco Top Ten"³

"Eco Top Ten" is a website which features a list of products which meet the following criteria: good quality, good value for money and environmentally-friendly. This website also provides advice on the above.

³ www.ecotopten.de



AUSTRIA

9 Provinces

Population: 8,355,260

Municipal waste produced:
609 kg per capita per year in 2003 and 601 kg per capita per year in 2008

National waste prevention strategy

Regulatory framework

Austria's administration structure has a federal organisation with national, provincial and local levels of authority. It has one federal law and 19 federal ordinances on waste management and 9 provincial laws as well as several additional provincial ordinances on waste management.

The federal law on waste management⁴ (Abfallwirtschaftsgesetz - 2002)

This law stipulates the main regulations for waste management at a national level. One of these regulations refers to the principle of a **hierarchy** as defined by the European Framework Directive on Waste. Waste prevention is therefore defined in legislation as a high priority (section 1 defines the concept of waste prevention and section 9 lists the objectives of waste prevention).

Waste prevention is a high priority in all waste management-related legislation at all levels of authority. Waste prevention is defined as a measure taken to reduce waste as opposed to measures taken to recycle or reuse waste.

The Law authorises **the Ministry for the Environment to pass ordinances on waste prevention measures**, thus leading to the implementation of the 19 federal ordinances on waste prevention.

The Law was last modified in 2008. A revised version will come into force in December 2003. Waste prevention is a legal obligation for everyone at all levels of the administration structure (national, provincial and local).

The Federal Waste Management Programme: Waste Prevention and Recycling Strategy

The Ministry for the Environment has also adopted a waste prevention and recycling strategy. This strategy is defined in the 2006 federal waste management programme, a programme which manages all of the waste management actions in implementation.

Regulations for controlling waste which is not dangerous are specified at a provincial level and these provide a framework for legislation at a local level. In turn, the local authorities have the responsibility of **controlling, taxing and coordinating the collection and treatment/recycling of waste**. Non-dangerous waste such as **packaging waste, biological waste, waste electrical and electronic equipment (WEEE), vehicle and construction waste** are controlled by ordinances at a federal level. **Dangerous waste products are controlled exclusively at a federal level.**

Quantitative and qualitative waste prevention are addressed in the programme. Particular cases of waste prevention are referred to in numerous parts of the legislation, **making reference to waste products such as WEEE, waste packaging and used batteries.**

⁴ <http://www.ris.bka.gv.at/>

The issue of waste prevention appears in numerous laws. **Qualitative prevention is more strictly controlled than quantitative prevention** as it is possible to specify legal standards for products or production procedures.

Quantitative prevention, which addresses issues relating to consumption, is an area which is less stringently controlled. The relative regulations stipulate that those concerned **should take measures which they deem appropriate, and very little legal information is provided**.

The Austrian legislation on waste management at federal and provincial levels (above local level) contains 1558 pages, a large number of which refer to waste prevention, and it is revised once a year.

Main prevention measures

While the federal laws and ordinances are obligatory for everyone, the waste management programmes only affect some.

The 3/1000 clause

Austrian Law on waste management stipulates that **partner organisations for the collection of waste packaging, used batteries and waste electrical and electronic equipment allocate 0.3% of their annual turnover to waste prevention projects**.

The projects are evaluated and published⁵ by the Ministry for the Environment. Funding requests for projects which aim to promote recycling or selective collection are rejected. Waste prevention projects are favoured. The projects must be innovative and functional and cannot be limited to communication strategies alone.

Encouraging the nationwide implementation of repair and reuse strategies⁶

The Ministry for the Environment joined forces with the RepaNet network to develop the concept of **the nationwide implementation measures for the reuse of waste**. In Austria, this project has led to the implementation of reuse measures as described in the European Union's waste framework directive.

Regional strategy for waste prevention

Regulatory framework

Operational strategies, measures to be taken and action plans are specified in the federal waste management plan, the 9 provincial plans and the numerous regional plans. All of these waste management plans provide a detailed list of certain waste prevention strategies and measures. The plans are revised every 4 to 6 years. Most of these plans are, to some extent, of a legally binding nature and therefore similar to the ordinances.

The 9 laws on waste management and the management plans for the provinces

Waste management is visibly being implemented at a local level. In some regions, the local authorities assign the responsibility of waste management activities to regional organisations. In some regions, this allocation of responsibility is made official through the establishment of a provincial law. However, in most towns and cities, it is common for the local authorities themselves

⁵ <http://www.oewav.at/Page.aspx?target=106828>

⁶ <http://www.umweltnet.at/article/articleview/83607/1/6922/>

to take charge of waste management activities. Both a city and a province, Vienna represents a special case. Each town or city has its own waste management regulations.

Main prevention measures

A network of environmental and waste management advisors

The waste prevention association (ARGE Müllvermeidung) was founded in 1982 was responsible for creating, in collaboration with the Ministry for the Environment, a network of environmental and waste management advisors (Verband Abfallberatung Österreich, VABÖ) which was established in 1986. These advisors work within the regional and local communities where waste management plans are in place. **The association has assigned 340 advisors** who have been responsible for **developing and implementing waste prevention programmes at both a local and regional level.**

Putting a stop to junk mail

Since the 1980s, there have been campaigns to reduce the distribution of unsolicited mail. The running of these campaigns, which have been led mainly by Non-Governmental Organisations and by the authorities responsible for waste management, has been reliant on the public embracing various available tools: using a **"stop junk mail" sticker** (available to download from the internet or from the Chamber of Commerce) to be stuck to your door or letterbox (available from every post office) or **choosing to join the "Robinson list" (Mail Preference Service, MPS)** (a database held by the Chamber of Commerce). Approximately 20 to 30 % of households have adopted these measures and have thus contributed to reducing the volume of waste paper generated (an estimated reduction of 10%).

Waste prevention projects in schools

These projects in schools have been widespread since the beginning of the 1990s. There are various sets of guidelines available for teachers at both national and provincial level. Many of these projects involved the promotion of **permanent behaviour changes** and many were either supported or organised by the regional or local environmental and waste management advisors.

Community waste prevention programmes

The first programme was launched by the city of Graz in 1984 then several others have followed since. Since 1990, high priority has been given to waste management in legislation at a federal, provincial and local level as well as in the waste management plans at a national, provincial and regional level.

In order to implement the revised version of the EU's waste framework directive, **the national waste management plan will be revised and expanded to include a national waste prevention programme**, which will come into effect in 2011.

Promotion of direct sales of local agricultural produce

Direct sales of local produce is a concept supported by many regional authorities involved in waste management give that **it contributes to sustainable consumption, it reduces the volume of waste packaging and it reduces greenhouse gas emissions linked to the transportation of goods..** Some regional projects involve the development of **purchasing guides for agricultural produce and the arrangement of special events relating to direct sales.** **Schools and other public institutions are supplied** with dairy and other products which come directly from the farmers of the region.

Subsidies for reusable nappies

The purchase of reusable nappies is subsidised by the regional authorities involved in waste management. These authorities make a financial contribution to parents who choose to use reusable nappies. Started in Styria, this subsidy programme has been introduced in almost all of the regions in Austria with a few variations in terms of subsidy amount and quantity of nappies.

From cooking oil to Eco-Diesel

This programme involves collecting used cooking oil in order to produce biodiesel or crude oil which, after filtering, can be used in the production of electricity and thermal energy in small power plants.

Today, 1 to 2 litres of oil is collected per capita. Devised in the province of Styria, the programme has been developed by the regional authority for waste management in Tyrol and, today, it is in implementation in all of the regions in Austria.

"Green" events

Developed by some of Austria's provinces and regions during the 1990s, the promotion of green events takes place in most of Austria's regions today. For example, in 1990, the province of Styria developed the concept of **feiern G'scheit** which involves using portable dishwashers and crockery which can be transported for small and medium-sized events. Today, the system has been extended to almost all regions in Austria.

Promoting the concept of home composting

Numerous regions offer shredding services for garden waste in order to encourage households to turn their organic waste into compost.

This type of promotional campaign will help to improve the quality of household compost, to stop households from burning organic waste in their gardens and to help the community to economise on waste collection costs.

Main contacts

Non-exhaustive list of the main contacts involved in the area of waste prevention

Federal Ministry of Agriculture, Forestry, Environment and Water Management, Waste Management Unit Stubenbastei 5, A-1010 Wien www.lebensministerium.at	Environment Agency Austria, Waste Management Unit Siriusstraße 3, A-9020 Klagenfurt www.umweltbundesamt.at	University of Natural Resources and Applied Life Sciences, Vienna, Institute for Waste Management Muthgasse 107, A-1190 Wien +43 1 318 99 00 http://www.wau.boku.ac.at/abf.html	Austrian Association for Municipal Environmental and Waste Management Advisors (Verband Abfallberatung Österreich, VABÖ) c/o ARGE Abfallvermeidung Dreihackengasse 1, A-8020 Graz www.vaboe.at
Vienna University of Economics, Institut für Technologie und nachhaltiges Produktmanagement Augasse 2-6, A-1090 Wien +43 1 31 336 4806 http://www.wu.ac.at/itnp	Österreichisches Ökologie-Institut (Institute for Ecology) Seidengasse 13, A-1070 Wien www.ecology.at	ÖGUT - Österr. Gesellschaft für Umwelt u. Technik Hollandstraße 10/46, A-1020 Wien http://www.oegut.at	Berthold Schleich ARGE Abfallvermeidung Dreihackengasse 1, A-8020 Graz www.arage.at
Die Umweltberatung Buchengasse 77, 4 Stock 1100 Wien	Province of Styria Hans-Sachs-Gasse 5/3 8010 Graz www.stmk.gv.at		

Good practices

Waste prevention initiatives in the city of Vienna⁷

Since 1998, the city of Vienna has been responsible for almost **80 projects and studies on waste prevention**. Some of these define current standards for waste prevention and the majority of them have been the first of their kind in Austria or even in Europe.

Awards for innovative waste prevention projects

There are annual awards presented at both a national and provincial level, the most attractive of which is the "**Phönix Prize⁸**" (awarded since 1999) and the **ARA prize⁹** awarded to the "**waste management advisor of the year**".

The ARA prize involves publishing an on-line database of information for the waste management advisors of that area which will be available continuously for consultation. **This database provides a wealth of information on 300 projects**, including local school or community projects as well as projects at a regional or provincial level. Many of these projects have been responsible for establishing accepted standards for waste prevention activities.

National ecological labels¹⁰

The concept of **waste prevention is an important factor when products are considered for the ecological label in Austria**.

A **special eco-label** has been created for **household appliances which are durable and which can be repaired**; however, the concept of the eco-label has not yet been applied to washing machines.

National week for sustainable consumption¹¹

Each year, the national week for sustainable consumption is held some time between 15th September and 15th October. The federal Ministry for the Environment organises the event **in collaboration with 46 food distribution channels and the largest cooperation for packaging collection**. Unfortunately, the retailers have refused to cooperate with the local authorities. This is due to the fact that they do not wish to be obligated to participate in campaigns promoting the benefits of either reusable bottles or direct sales of local agricultural produce.

"Green" events

There have been pilot projects in implementation since 1995. **Reusable cups and glasses** are used for large public events. **Portable dishwashers** are used for small and medium-sized events. Systems for exchanging dishes with **dedicated dish-washing centres** are reserved for large-scale events. These services are provided by the caterers, manufacturers and the regional authorities.

⁷ <http://wenigermist.natuerlichwien.at/de/start/studien/from91>

⁸ <http://www.oewav.at/Page.aspx?target=106828>

⁹ www.ara.at

¹⁰ www.umweltzeichen.at

¹¹ www.nachhaltigewochen.at

Regional networks for the repair and reuse of waste¹²

Regional networks made up of small companies (both public and private) have been implemented for the repair of waste products. The first of these was founded in **Vienna in 1998**. Three more were created in 2003 in the regions of **Liezen, Ried im Innkreis and Graz** and, more recently, in **Spital** (2010).

These networks are **financed and coordinated by the public authorities or by non-governmental organisations** and they aim to promote waste-repair services in order to prolong the life cycle of products, to economise on the use of natural resources and to reduce the amount of waste generated.

Waste -repair guides

Both in printed form and available online, these customer guides have been developed since the 1990s. Some of the guides are produced by private companies, others are organised by the public authorities. The majority of the repair guides can be found online¹³. All of these guides are designed to **promote repair services for different consumer goods**.

They often provide advice on purchasing good quality and durable products which can be repaired easily. However, one of the main difficulties relating to these projects is ensuring that the information is always up-to-date.

Reusable nappies

The cost of purchasing of reusable nappies is subsidised by the regional authorities. They provide a financial contribution to those parents who choose to purchase reusable nappies. Started in Styria, this subsidy programme has been introduced in most of Austria's regions, having undergone only a few variations in terms of subsidy amount and quantity of nappies purchased.

The suppliers of reusable nappies have since organised a network (WIWA¹⁴).

¹² www.repanet.at

¹³ www.reparaturfuehrer.at www.reparieren.at

¹⁴ www.verrein-wiwa.at



BELGIUM

Federal state: 3 regions

Population: 60,045,068 (Eurostat 2009)

Municipal waste produced: 468 kg per capita per year in 2003 and 493 kg per capita per year in 2008

National prevention strategy

Regulatory framework

In accordance with the law established on 16/07/1993, waste management and environmental conservation policies are the sole responsibility of the respective regions. There is, therefore, no national strategy for waste prevention stipulated anywhere.

The federal state, meanwhile, is responsible for establishing **product standards** for the market, stipulating the **"green" tax** and the level of "producer **responsibility**". Certain fiscal measures such as the **"picnic" tax** on disposable carrier bags have greatly contributed to the prevention of waste packaging. An eco-tax or a form of VAT adapted to promote ecological products will be implemented in the near future. Product policies (on materials used, ecodesign) and the development of the **Outline Product Plan for Priority Products policy** are also devised at a federal level.

Regional prevention strategy

Belgium's three regions have implemented waste management plans, each of which features a section on waste reduction. The respective waste reduction strategies for each region are described below.

Brussels Capital Region

The waste management plan established by the Brussels Institute for the Environment (IBGE) in association with the Regional Agency for Cleanliness (ABP or ARP) aims to provide the basis for the development of a waste management and prevention policy for the Brussels Capital Region. It affects all solid waste generated by households, businesses, industries and any other economic activities in the Brussels Region. The first plan (1992) introduced the first selective waste collections, the second plan (1998) prioritised waste prevention, and the third plan (2003) introduced the concepts of dematerialisation and reuse, all of which made the Brussels Region a pioneer for waste prevention in Belgium. The fourth plan, executed in 2010, aims to implement the new European waste framework directive (Directive n°2008/98/CE of 19/11/2008). This plan was rolled out on 11 March 2010 for an unspecified period of time and it will be evaluated by the Brussels Institute for the Environment at least once every five years, with the first evaluation taking place in 2013.

The main specifications of the waste management plan

Raising public awareness: All of the main stakeholders involved have contributed (forming partnerships and making calls for projects with local stakeholders, associations and municipalities) in order to reach ambitious objectives. These public awareness initiatives are designed to target not

only households and schools but also offices and businesses. Communicative measures for waste management (using the media, local communication) focus on the promotion of waste reduction, sustainable consumption and involvement in selective waste collection. The communication of these initiatives falls on local stakeholders who are responsible for relaying the messages to the wider public.

Waste prevention initiatives: target figures for 2020: reduce food waste by 2 kg per capita per year by 2013 and by 5 kg per capita per year by 2020, reduce garden waste by 5 kg per capita per year by 2013 and by 12 kg per capita per year by 2020, reduce household paper waste by 3 kg per capita per year by 2013 et by 7 kg per capita per year by 2020, promote the use of "no junk mail" stickers, reduce waste packaging by 4 kg per capita per year by 2013 et by 10 kg per capita per year by 2020, implement an initiative to prevent over-packaging in the marketing of products and to limit the use of non-recyclable packaging, reduce disposable nappy waste by 1 kg per capita per year by 2020 and to reduce the consumption of gadgets by 2 kg per capita per year. Specific targets for the reuse of waste products: selective waste collection and the re-selling of reusable product (parts) should be at 3 kg per capita per year by 2013 and at 6kg by 2020.

Other initiatives aim to promote the reuse of waste products, particularly through the establishment of a waste management and resource recovery centre (Ecopôle), the implementation of selective waste collection, and through the promotion of activities such as renting, sharing, and repair and maintenance services which, beyond the environmental benefits, provide employment and services for the community. Household or community composting is encouraged by information campaigns and by training provided by compost experts (245). In addition, a sustainable public purchasing policy was introduced in 2009 and a watchdog for sustainable consumption was launched in partnership with CROIC (Consumer organisation research and information centre) in the same year. Pilot projects are implemented to allow for the testing of certain initiatives (introducing reusable nappies to public-funded nurseries, creating an urban composting centre, repairing bicycles, and displaying example shopping baskets in major retailers, etc.).

A study on the eco-labelling of products and on the feasibility of a points card where points are awarded for the purchase of ecological household products should be published in the near future.

Other regional documents address the issue of waste prevention:

Ordinance relating to waste management and prevention on 07/03/1991; Belgian Official Gazette (M.B.), 23/04/1991, p.8407

Legal order on 11 March 2004 relating to the agreement and subsidisation of non-profit organisations and social purpose businesses in the reuse of waste products sector; M.B., 11/03/2004; p.39902

Walloon Region

Implemented by the Walloon government on 9 March 1995, the Environmental Plan for Sustainable Development in the Walloon Region (PEDD) considers waste prevention as a high priority for any waste management policy. In the plan, the concept of waste prevention is understood as "systematic waste minimisation process". In this context, the PEDD states that the regional policy must "give priority to the concept of 'clean' technologies and products", primarily aiming to target industries and then "the public, in relation to the promotion of a responsible consumer approach".

The Walloon government is responsible for establishing a waste management plan. The Walloon Waste Plan Horizon 2010 (PWD), which was introduced by the Walloon government on 15 June 1998, presents a hierarchy of all of waste management categories, in which waste prevention is prioritised. The successful implementation of the Plan rests on the responsibility and the coordination of all of the main stakeholders involved whether they are manufacturers, importers,

distributors, consumers or the public authorities. Giving manufacturers the responsibility of recovering any waste produced is a mechanism designed to motivate companies to adopt preventative measures.

Waste prevention involves any action taken before a product becomes waste to avoid this outcome, or to reduce the quantity or the harmfulness of the waste product, and to favour product reuse or to prolong a product's life cycle as well as the action of home composting. The concept of waste prevention is considered from both a qualitative and quantitative perspective, targeting manufacturers (using eco-design) as much as consumers (choosing environmentally-friendly products), and households as much as industries (engaging in activities designed to reduce waste production).

The Plan establishes the main concepts which will determine the waste management policy and the waste reduction objectives (objectives for decreasing waste production: -10% by 2007 and -14% by 2010) but it is not binding for businesses and the public: the regulatory provisions adopted for the implementation of the Plan must be recorded in terms of the specific legislations which are applicable within the Walloon region.

The main regulatory provisions

Decree on waste management on 27 June 1996; M.B. On 02/08/1996, p.20685, modified by the decree issued on 22 March 2007: Waste prevention guidelines and company obligations in terms of waste recovery are imposed upon businesses by the Government. From 2010, the Government will prohibit the distribution and use of disposable carrier bags, and will limit waste paper resulting from junk mail by distributing "no junk mail" stickers and imposing fines upon those who choose not to adopt these measures. The decree recognises the role played by the social economy in waste management and indicates the possibility of establishing an approval and funding procedure for organisations and not-for-profit businesses involved in promoting reuse of waste. The definition of waste reuse is provided, alongside the definition of waste prevention, in the waste recovery obligation objectives (Ordered by the Walloon Government for the approval and allocation of funding to non-profit organisations and social purpose businesses involved in waste reuse activities, M.B., 2/09/2009)

There is a fiscal decree which promotes the prevention and reuse of waste products in the Walloon region and which modifies the decree ordered on 6 May 1999 relating to the establishment, recovery and legalities of direct regional taxes, M.B., 24 April 2007: introduction of a new taxation system which aims to take into account the high priority which must be given to the concept of waste reduction whilst placing more responsibility on those who control the different types of treatment available for waste products. There is a tax on a certain level of household waste that has been collected in a non-selective manner for or by the municipality and that exceeds a total annual collection level. This level of waste is variable depending on the size of the municipality. There are exemptions for those manufacturers who are meeting waste prevention objectives as set by Governments who are being monitored through industrial process audits.

Ordered on 17 July 2008, decree relating to the allocation of funding to subordinate authorities involved in waste management and prevention, M.B., 21/08/2008. In particular, this decree makes reference to the allocation of funding to municipalities and inter-communal groups responsible for the organisation of local waste prevention and selective waste collection campaigns. Under the previous conditions relating to funding, the beneficiaries must take the necessary steps to promote the reuse of waste materials and to notify the Walloon Waste Office (OWD) of the actions taken. These municipalities must also develop actions to promote the prevention and reuse of waste which results from their own everyday activities. In particular, they should consider the environment in their approaches to work, materials and services.

A waste prevention group at the OWD is responsible for managing and monitoring a waste prevention programme. Details of the Waste Prevention Programme (Managed by regional directors for the prevention of waste approved on 3/4/2009 by the Walloon Government) are available online: http://environnement.wallonie.be/rapports/owd/dechets_menagers/2009/Axes_Directeurs_030409.pdf

The objectives of the regional policy on the prevention of industrial waste are as follows:

- prevent the generation of waste in every way possible
- reduce the level of pollution caused by waste products and waste treatment processes
- based on predictions for future progress, reach a minimum prevention rate of 50% for industrial waste by 2010
- promote R&D programmes for clean technologies and materials
- improve knowledge in terms of waste prevention techniques and in terms of the economic and environmental benefits of taking preventative action
- reduce (as far as possible) the quantity of natural resources used in the manufacturing process

High priority should be given to 6 types of waste flow in particular: garden waste, organic food waste, bulky waste, waste packaging and disposable items, special household waste, paper and cardboard waste.

Flemish Region

The waste management policy is developed by the Flemish Ministry for the Environment. The public organisation for waste management (OVAM) is responsible for implementing this policy and, in particular, for developing five-yearly plans for the management of household waste (the first was in 1981).

The Flemish Waste Prevention Plan which was launched in 1981 (decree ordered on 02/07/1981 relating to waste management and prevention) and written into legislation in 1994 incorporates all of the practical waste prevention measures, thus acting as a waste prevention plan implementation guide for businesses, schools, manufacturers and local authorities. The plan resulted in the volume of unsorted waste being halved, while the volume of waste produced did not increase on previous years.

Regional strategy: an integrated approach involves raising awareness of the importance of waste reduction among customers and businesses through the use of incentives designed to encourage them to engage in waste prevention activities: incentives for businesses, recommendations to local authorities, voluntary agreements with target stakeholders and legal obligations (Implementation Plan for Household Waste Management 2003-2007 followed by Implementation Plan for the Ecological Management of Household Waste 2008-2015 on 07/01/2008)

Principal clauses:

The 6 initiatives of the 2008-2015 plan are currently being put into action: promoting the use of innovative materials, products and procedures, focussing on distribution as a target area, focussing on consumers and the general public as a target population, implementing an ambitious policy for eco-friendly consumerism, optimising the life-cycle of organic waste, and supporting the development of the Kringloopcentra network (reuse and repair centres managed by the KOMOSIE network)

Since 2008, regional authorities have sent proposals of cooperative agreements to the municipalities, with minimal obligations and a voluntary level of commitment. These proposals, which are planned to continue until 2013, can provide extra jobs and dedicated funding (273 out of 308 municipalities have signed an agreement).

The objective between now and 2015 is to encourage the distribution and consumption of more environmentally friendly products, which use less materials and energy. Prevention is therefore targeted as a preliminary issue, as are production and design. Since 2008, retailers have implemented pilot projects to promote the sales of eco-friendly products (tumble dryers, detergents, energy saving lamps, electronic and electrical equipment). Customer information campaign (Nelli)

Quantitative objectives: between 2008 and 2015, limit the production of municipal waste to the 2000 level (560kg per capita per year) and specify 150kg as the target maximum level of residual waste per capita per year (this was almost reached in 2009 with a level of 153kg). In correspondence with the waste treatment hierarchy, where a zero level of waste dumping is a target objective, the dumping of waste products is always considered as a last resort.

Accountability of the manufacturer is encouraged through the establishment of legal obligations relating to the recovery and treatment of waste for a large variety of materials and equipment. Accountability for the collection and conversion of waste can be traced to whoever has put the product on the market. The manufacturer can comply with these legal obligations through the implementation of an individual waste management and prevention plan or through participating in an environmental convention with other manufacturers in the same industrial sector.

Action Plan for the implementation of a sustainable purchases policy in Flanders (2009-2011): stated objective involves 100% conversion to a green policy between now and 2020.

Principal tools and initiatives implemented by OVAM for the promotion of sustainable production and consumption:

The "Eco-Efficiency Scan"¹⁵ (2006-2010) is an initiative providing a free consultation service for Small and Medium Enterprise, encouraging businesses to evaluate their ecological efficiency (in terms of reducing waste, increasing the recycling of materials, reducing water and energy consumption) and to identify possible improvements so as to increase the ecological efficiency of their business. 100 Small and Medium Businesses have benefited from this initiative to date.

MAMBO: an educational software program which enables businesses to calculate their costs linked to waste production and which uses the slogan "less waste, more profit"¹⁶. Students are the main target audience for this computer program.

Ecolizer (2005, updated in 2009): a tool used by product designers to compare the environmental impact of different production materials and processes, and to promote environmentally-friendly product design (eco-design). The tool allows for the analysis of product life cycles. For the designers, the tool provides a database (called Inspiration) which features 300 examples of eco-efficient and eco-design methods of production.

The ProductTest initiative¹⁷ is a database of online products designed for use by local authorities to facilitate the implementation of the regional policy on green purchasing.

An incentive award for green events (€2000 awarded for every event)

¹⁵ www.ovam.be/eco-efficientiescan

¹⁶ www.ovam.be/jahia/Jahia/pid/101

¹⁷ www.producttest.be

Results: Since 1995, the quantity of residual waste has been halved, the level of waste production has been kept at the 2000 level and the level of waste dumping has been reduced to zero or almost zero, with 25% of waste being incinerated and other quantities being reused or recycled. However, efficient waste management does not *necessarily* entail sustainable production and consumption which is why OVAM has launched its recent initiative for the "sustainable management of materials" (2010 Decree for the Sustainable Management of materials and waste).

Main contacts

Non-exhaustive list of the main contacts involved in the area of waste prevention

Walloon Ministry for Agriculture and the Environment Avenue Prince de Liège 15, 5100 Jambes www.environnement.wallonie.be	Brussels Environment IBGE-BIM Gulledelle 100, 1200 BRUSSELS www.ibgebim.be	Walloon Waste Office (OWD) Avenue Prince de Liège 15 5000 Namur www.environnement.wallonie.be	Public Organisation for Waste Management for the Flemish Region (OVAM) Stationstraat 110, 2800 Mechelen www.ovam.be
Walloon Ministry for the Environment, Settlement and Mobility Rue des Brigades d'Irlande 4 - 5100 Jambes www.environnement.wallonie.be	Flemish Ministry for the Environment, Minister's Office www.lne.be	Eco-Consumption Network Avenue Cardinal Mercier, 59 5000 Namur www.ecoconso.be	Inter Environment Wallonia Boulevard du Nord n°6 5000 Namur www.iewonline.be
European Network for Sustainable Towns and Regions (ACR+) Avenue d'Auderghem 63, 1040 BRUSSELS www.acrplus.org	European Network of Social Enterprises for the Reuse of Waste (RREUSE) Rue d'Edimbourg 26, 1050 BRUSSELS www.rreuse.org	KOMOSIE, Flemish network of waste reuse centres (100 second hand repair stores) Uitbreidingstraat 470, 2600 Berchem www.komosie.be	RESSOURCES, Network of social enterprises for waste recovery and recycling Av. Cardinal Mercier, 53 5000 Namur www.res-sources.be
Environment Space non-profit organisation rue de Montigny 29, 6000 CHARLEROI www.espace-environnement.be	Inter Environment Brussels Rue d'Edimbourg, 26, 1050 Brussels. www.ieb.be	GREEN non-profit organisation Rue d'Edimbourg 26, 1050 Bruxelles www.greenbelgium.org	CRIOC Paepsem Business Park - Boulevard Paepsem 20, 1070 Brussels www.crioc.be
CRIE Network Chaussée de Louvain 14, 5000 Namur www.crie.be	COPIDEC Avenue Sergent Vriethoff 2, 5000 Namur www.copidec.be		

Good practices

Good professional practices

Good codes of practices, organised by sector, have been published in Flanders (for wood waste, medical waste, crop waste etc.).

A social forum for sustainable consumption

The social forum for environmentally-responsible consumption in Flanders discusses **all of the measures** implemented in **Flanders for consumers, distributors and product designers**.

Waste initiatives and ambassadors

In the Brussels region, **regional awareness campaigns are developed by Brussels Environment¹⁸ and implemented in the community by numerous local ambassadors** who use their contacts to adapt communication methods to suit specific target audiences.

This strategy is advocated by Brussels Environment¹⁹, where it is viewed as the only possible means of reaching all audiences. Good practices for consumers are listed in the **Brussels Observatory for Sustainable Consumption²⁰**.

The **4th Brussels Capital Region waste management plan** makes provisions for the organisation of a **network of voluntary eco-ambassadors** who will be responsible for local public awareness campaigns.

Exhibition of recovered and redesigned products²¹

2009, an Exhibition of recovered and redesigned products at the Brussels Central Station, organised by Ressources, the Walloon social enterprises network was held. This initiative has raised awareness of the environmental benefits of reusing and reducing waste products for 25000 people. In-the-field action takes place throughout the year in order to **promote the reuse of waste products**.

"Recup" Label²²

The "Recup" Label initiative was implemented in 2009 by the Ressources network **to promote second hand goods and to encourage the wider public to purchase second hand goods** whilst also helping the customer to recognise participating stores (identified by the "Recup" label).

Rec'Up label businesses (11 in the first year of the initiative) are committed to professionalising every aspect of their eco-friendly approach to business including waste collection and sorting, repairing of waste products, recycling and reselling, and the establishment of a series of rules for quality assurance for customers on all of the items to be reused and resold.

Rec'Up stores provide **a one-year guarantee for all electronic equipment and a six-month guarantee for electrical appliances**. This innovative project also features an awareness campaign aimed at the general public (promoted on its own website and through surrounding promotional activities) and it was responsible for generating considerable public interest during European Green Week 2010.

¹⁸ <http://fr.observ.be/accueil.php>

¹⁹ <http://www.bruxellesenvironnement.be>

²⁰ <http://fr.observ.be/accueil.php>

²¹ www.res-sources.be

²² www.rec-up.be

Less waste²³

A **federal website** developed by the Ministry for the Environment serves to **raise public awareness of waste prevention and minimisation**.

Less waste at school²⁴

A public awareness campaign for **waste reduction directed at primary schools** and organised during 2008-2010 by the GREEN non-profit organisation²⁵ in Wallonia.

Composting experts network

Organisation of a network of composting experts and the continuation of initiatives for the prevention of food and garden waste (training courses, open days, facilities for the wider public, communication campaigns etc.) all taking place in Brussels²⁶. Local plans and community campaigns such as those initiated in the town of Namur, www.environnement-namur.be

Pilot projects led by the Environment Space organisation

Several pilot projects have been implemented in Belgium. These include the implementation of pilot projects to evaluate potential food waste prevention schemes, discussions on the practicality and economic feasibility of reusable nappies, discussions on the reuse of second hand goods and the provision of services likely to minimise waste production, the organisation and implementation of a community plan for waste prevention (Sprimont, Gembloux), the organisation and implementation of a nationwide network for household waste prevention, and tools to facilitate changes in public attitudes and behaviour²⁷.

Initiatives by inter-communal groups and COPIDEC²⁸ (Permanent Conference of Walloon Waste Management Inter-communal Groups): no junk mail campaign, campaign against food waste, distribution of reusable carrier bags.

Annual presentation of an Eco-design Award trophy (Flanders)

International projects

Active participation of Brussels Environment and the Association of Cities and Regions for Recycling and Sustainable Resource Management (ACR+) in the European Week for Waste Reduction LIFE+ project (2009-2011) managed by ADEME (the French Environment and Energy Management Agency): collaborative initiatives coordinated on an inter-regional or European scale help to increase the impact of messages and campaigns communicated at both a local and regional level.

Other European waste prevention projects include the Interreg Mini-Waste, the Reduce and the Pre-Waste projects. This last project draws up a list of good practices and indicators for waste prevention during the 2010-2012 period and, soon, there will also be the "Green Cook" project which will focus on food waste.

ACR+ European campaign to reduce waste by 100 kg²⁹

²³ <http://moinsdedechets.wallonie.be/>

²⁴ http://environnement.wallonie.be/publi/dechets_ecole.htm

²⁵ <http://www.greenbelgium.org/fr/default.asp>

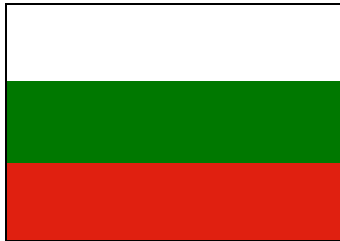
²⁶ <http://www.ieb.be/article2254>

²⁷ www.espace-environnement.be/content.php?idpage=172&niv3=34

²⁸ www.copidec.be

²⁹ www.acrplus.org

In the Flemish region, OVAM is involved in a European programme which supports the new EU Member States such as Romania in their implementation of the European waste prevention legislation (the Twinning project in Bacau).



BULGARIA

28 Provinces

Population: 7,606,551

Municipal waste produced:
499 kg per capita per year in 2003 and 467 kg per capita per year in 2008 (Source-Eurostat)

National waste prevention strategy

Regulatory framework

The Ministry for the Environment and Water is the central body responsible for the development and implementation of political and strategic decisions relating to waste management in Bulgaria.

The authority responsible for controlling and monitoring compliance with legal obligations is the Executive Environment Agency and the regional authorities.

The legal requirements of the community policy on waste management have been translated into national legislation by **regulation n°8 established on 24 August 2004**, which also features some additional requirements.

Bulgaria's waste management strategy has recently been developed in compliance with section 28 of the national law on waste management. These developments take the form of a **national waste management plan (n° 1/09.01.2009)** for the period 2009-2013. This plan sets out the framework conditions for regional structures and local plans.

Law on waste management³⁰

This law presents waste management as a combination of rights, obligations, decisions, actions and activities all linked to the production and treatment of waste.

This law specifies different ways of regulating these activities. In the section "Obligations of those involved in activities which entail the production or treatment of waste", the law stipulates that:

Section 4. (1) Those persons involved in activities which entail the production or treatment of waste must take the following measures in the given order so as to prevent or reduce the quantity and harmful nature of dangerous waste:

- develop and implement modern environmental technology solutions in order to **minimise the use of natural resources**
- engage in technical development and launch **products which are specifically designed so that their method of production, their use and their disposal do not increase the quantity or harmful nature of waste produced nor increase the risk of pollution**. The impact of waste production and treatment must be minimised.
- develop methods which ensure the total elimination of dangerous substances from the waste produced,

³⁰ www.moew.government.bg/recent_doc/legislation/waste/en/waste_management_act.doc updated English version with amendments up to 2008. <http://www.lex.bg/bg/laws/ldoc/2135472222> last updated on 13 August 2010

- recycle, **reuse** and/or recover secondary raw materials and energy from waste which is inevitably produced.

Section 11 (1) - (amended in 2010) - Those persons who, by marketing products whose use entails the production of waste (as specified in the ordinances of section 24, § 2), are responsible for the selective collection (and the fulfilment of the respective objectives relating to selective collection), the reuse, the recycling and the recovery of the waste produced.

Ordinance on packaging and waste packaging³¹

This ordinance specifies the legal requirements of the aforementioned products. This ordinance regulates the priorities and methods of their **selective collection, reuse, recycling, recovery and/or disposal**. This ordinance also establishes the objectives of product recycling and recovery.

Main prevention measures

National waste management programme³²

The national waste management programme³³ sets 10 objectives. Three of these relate to waste prevention and reduction:

- **Prevention and reduction** of waste
- Increase in **investments** in waste management sector, implementation of "**producer responsibility**" and "**polluter-payer principle**" within the integrated waste management framework
- Development of sustainable systems for the management of specific waste flows

Waste prevention and waste reduction measures³⁴

There are various different categories of measures to be included in regional and local waste management programmes:

Measures affecting waste production

- Encourage resource efficiency
- Encourage research and development (R&D) in the clean technologies sector
- In terms of waste prevention, communicate good practices and R&D findings
- Develop indicators to measure the impact of waste on the environment and thus gauge the effectiveness of waste prevention measures.

Measures affecting the design, production and distribution stages

- Encouraging the eco-design of products (taking into account all of the environmental considerations during product development in order to improve the product's environmental performance during its life cycle)

³¹ www.moew.government.bg/recent_doc/legislation/waste/en/Ordinance_packaging.pdf

³² http://www2.moew.government.bg/recent_doc/waste/NWMP_2009-2013_FINAL.doc

³³ National waste management programme 2009-2013, IV. General principles and objectives of the programme. V.3., Page 72

³⁴ National waste management programme 2009-2013, V.3.1.

- Communicate technical information relating to waste prevention in order to facilitate the implementation of *BAT* in industry
- Organisation of training for the competent authorities so that the legal requirements for waste prevention specified in the directives 2008/98/CE and 96/61/CE is incorporated into their respective legislations.
- Inclusion of waste prevention measures for those facilities which are not covered by the 96/61/CE directive
- An awareness campaign in support of the activity and industry.
- Voluntary agreements with industries which set out waste prevention plans and objectives for certain businesses or industrial sectors and which also introduce changes to the design and packaging of products that currently generate large quantities of waste.
- Develop an incentive system that favours businesses involved in waste prevention actions.
- Create a group of experts who will analyse waste prevention actions in other countries, draw on the good practices implemented elsewhere and share these findings during seminars, information campaigns, etc. - (experts from the Ministry of the Environment and Water, consumers, manufacturers, NGOs)
- Encourage the use of controlled environmental management systems, including EMAS and ISO 14001.

Measures affecting consumption and use stages

- Using economic instruments to encourage "clean purchasing" or introducing a consumer tax on certain products or on packaging that would otherwise be free.
- Using awareness and information campaigns targeting the general public or consumer groups to explain the advantages associated with the implementation of waste prevention measures.
- Implementing educational programmes in both central and local administrations which aim to reduce the use of paper by promoting the electronic processing of information, the use of recycled paper, etc.
- Encouraging the purchase of certified eco-label products.
- Signing agreements with manufacturers to create groups of experts for each product, similar to the policy rules for integrated products.
- Signing agreements with small retailers relating to the communication of information on waste prevention and on products which have negligible environmental impact.
- In the context of public and private contracts: inclusion of environmental protection and waste prevention criteria in calls for tender and contracts, in accordance with public contract legislation
- Encouraging the reuse and/or repair of products or their component parts through the implementation of educational, economic, technical or other measures. For example, implementing and supporting registered centres and networks dedicated to the repair and reuse of waste products, especially in densely populated areas.

Regulation and promotion of waste prevention³⁵

- Implementation of control measures
 - Directive IPPC 2008/1/CE
 - promote the use of clean technologies
 - encourage the introduction of environmental management systems and the identification of pollutant systems, measures that were modelled on the national environmental management system and the national identification system and use of the Eco-label.
- Application of the "producer responsibility" principle
 - encourage life cycle assessments (LCA) during the product design stages as per the ISO standard 14 040
 - encourage the implementation of the Eco-label regulations

The aforementioned actions are directly linked to the application of the nature protection law and its corresponding stipulations.

Making optimum use of economic instruments in the promotion of waste prevention³⁶

- introducing (additional) taxes on landfill activities in order to encourage waste prevention
- considering quantity of waste produced as a factor when calculating charges for the collection of household and industrial waste (*PAYT*)
- considering the possibility of introducing tax incentives for businesses
- introducing taxes on products whose life cycle is limited
- raising citizen awareness of waste reduction

Heightening environmental awareness and consulting with the main stakeholders in waste prevention as per the principle of "producer responsibility"³⁷

Measures involved in raising awareness:

- Traders, retailers, consumers and other waste producers to the advantages and opportunities associated with waste prevention and reduction.
- producers to the possibilities and methods of waste prevention

Reducing the harmful nature of waste³⁸

There is a special emphasis on preventing the dumping of heavy metals by wastewater treatment plants (household and industrial), the metalworking industry, the metal transformation industry and by other large industries.

³⁵ V.3.1.2.

³⁶ V.3.1.3.

³⁷ V.3.1.4.

³⁸ V.3.1.5.

Reducing the quantity of hazardous waste found in municipal waste³⁹

Selective collection schemes:

- scheduled door to door service a few times a year
- door to door service on request
- scheduled collection from a designated waste disposal area
- organisation of dedicated areas for integrated waste management in each town or city or use of regional landfill sites. The public can leave not only hazardous waste but also bulky waste, WEEE, used batteries, used household oils, etc.
- collection points in shops and public buildings

National strategic plan for the gradual reduction of the quantity of biodegradable waste⁴⁰

Another document relating to waste prevention and reuse is the national strategic plan for the gradual reduction of the quantity of biodegradable waste (2010-2020). This document aims to implement the directive 1999/31/CE relating to landfill sites and which was introduced on 26 April 1999.

Bulgaria's objectives for biodegradable waste are as follows:

- At the end of 2010, the amount of biodegradable waste going to landfill should be reduced to 75% of the 1995 level.
- By 2013, this should be 50% of the 1995 level.
- By 2020, this should be 35% of the 1995 level.

The measures to be implemented in order to reach the Horizon 2020 objectives for the reduction of biodegradable household waste going to landfill are as follows:

- the collection and composing of garden waste: reducing organic waste (biodegradable household waste) by 130,000 tonnes per year
- Collection and recycling of food waste: reducing organic waste by 130,000 tonnes per year
- home composting: maintaining the current levels of organic waste production in rural areas
- Collection and treatment of biodegradable waste produced by household, restaurants and markets and the reinforcement or composting and anaerobic digestion: Objective of reducing organic waste by 132,000 tonnes per year
- Construction of facilities for MBT (Mechanical Biological Treatment of waste) or waste incineration: reducing organic waste by 470,000 tonnes per year
- the creation of financial and economic incentives to reduce the amount of biological waste going to landfills and to encourage the evaluation of bio-waste.
- raising public awareness and reinforcing the administrative powers of local authorities in terms of organic waste

According to the plan, levels of biodegradable waste "will be reduced to 830,000 tonnes/year by the year 2020". This means that 830,000 tonnes/year of biodegradable waste will not end up in landfill sites. However, it does not mean that the total production of organic waste will be reduced.

³⁹ V.3.1.6.

⁴⁰ http://www2.moew.government.bg/recent_doc/waste/biowaste_strategy_2010.pdf

In general, regarding the majority of measures, if they are not mentioned in the initiatives and plans mentioned above, then they can be found in the regional or local waste management plans and more specifically in the regional and local action plans.

Regional strategy for waste prevention

Regulatory framework

At present, we cannot determine to what extent the measures proposed in the national plan are reflected in the waste management programmes at regional or local level.

2006-2010 waste management programme for the municipality of Sofia

Sofia is the largest city in Bulgaria (population of more than 1.3 million people) The waste management programme for the municipality of Sofia (covering the period from June 2006-June 2010) has been approved by the N 455 decision of the Sofia City Consul and updated by decision n°668 on 29.10.2009 (the type of activities updated relate to waste prevention).

One of the programme objectives is to: "**prevent and reduce the generation of waste and its hazardous nature**", which meant that a waste management law was required as well as the national programme

In addition to the above objective, the current programme has four other specific objectives. None of these relates to waste prevention.

The action plan specifies several activities for waste prevention:

- Creation of a **database of waste producers** in order to set up a system for waste collection charges based on the polluter-payer principle
- Support the creation and management **of a database for sources of waste**
- Develop a **system to calculate tax on waste** based on the polluter-payer principle

Given the implementation of the strategy in 2009, the following measures and initiatives have been included:

- Information **campaigns directed at the general public on the advantages of waste prevention** and on the importance of reducing the volume of recyclable materials found in household waste flows.
- Forming agreements with economic stakeholders in order to reduce the use of plastic carrier bags.
- Development of software and introduction of integrated information systems which contain financial and technical data on waste management

The total budget allocated by a region to a municipality for the implementation of waste prevention and reduction plans is 350,000 BGN (176,000 EUR).

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Executive Environment Agency	Ministry of Environment and Water Boulevard Maria Luisa 22, Sofia, 1000, Bulgaria www.moew.government.bg	Environmental Association ZA Zemiat (NGO) www.zazemiata.org	Ministry of Environment and Water Boulevard Maria Luisa 22, Sofia, 1000, Bulgaria www.moew.government.bg
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Good practices

Second-hand stores

There are many second-hand stores, particularly for the sale of second-hand cars, second-hand clothes (cf. "Shick-Shick", a chain of second-hand stores), second-hand washing machines, ovens and refrigerators. The goods are often imported from northern and Western Europe, particularly in cases where the stores do not sell Bulgarian goods or goods collected from Bulgarian households (repaired and reused). Some stores sell items that have been damaged in transit, even while other items are indeed second-hand. There are many stores of this kind in Bulgaria's towns and villages. However, few of them have websites.

A list of second-hand store contacts (furniture, textiles, electronics and vehicles) is available in the form of a **professional directory**⁴¹.

There are many second-hand goods available:

Refrigerators, ovens, washing machines, televisions, etc. that are **second-hand⁴² or with transportation defects and are guaranteed for 24 months⁴³**. These same goods come with a 12-month guarantee if imported from Germany and the Netherlands⁴⁴. Sometimes these goods come with a repair **agreement and a 24-month guarantee⁴⁵**.

Repair workshops

There are also bicycle repair workshops⁴⁶ and second-hand bicycle stores⁴⁷ (mostly imported bikes). Some stores incorporate both services⁴⁸.

There are also shoe makers and many other stakeholders in the second-hand goods market.

⁴¹ http://www.goldenpages.bg/en/second_hand_electrical_appliance_shops

http://www.goldenpages.bg/en/second_hand_clothes_shops

http://www.goldenpages.bg/en/second_hand_furniture_shops

http://www.goldenpages.bg/en/used_car_dealers

⁴² <http://technohit.bg/>

⁴³ <http://technohit.bg/>

⁴⁴ <http://www.marttechnics.com>

⁴⁵ <http://mieleservis.net/>

⁴⁶ <http://hiksport.hit.bg>

⁴⁷ <http://www.zhelev-bikes.com>

⁴⁸ <http://www.velos.varna.net>



CYPRUS

Population: 796.740

Municipal waste produced:
724 kg per capita per year in
2003 (Source-Eurostat, most
recent data)

National waste prevention strategy

Regulatory framework

At present, the waste prevention strategy in Cyprus is in the process of being developed and will be developed in compliance with the European waste framework directive.

National waste management strategy

At present, the waste management strategy adopted by Cyprus sets out its initiatives according to the following hierarchy:

- Reduce waste quantity, volume and harmfulness to the environment;
- Reuse materials;
- Recycle and recover materials;
- Evaluate waste materials in terms of energy production;
- Bury waste that has been treated appropriately.

Emphasis should be placed on:

- Integrated prevention and reduction of pollution
- The polluter-payer principle
- Producer responsibility

The Cyprus waste management plan comprises the following objectives:

- Waste prevention or reduction
- Implementation of measures to promote the recovery, reuse and recycling of household waste.
- Quantitative objectives for the reuse/recycling/evaluation of materials.
- Defining responsibilities of the main stakeholders involved in the management of household waste
- Implementation of measures to establish quality standards and to promote environmentally-friendly products. (Creation of financial incentives, for example, in order to promote the reduction of waste packaging)

Adopting a producer responsibility principle that is supported by the following actions:

- Carrying out an analysis of the life cycle of products in order to assess their overall environmental impact and their impact at each stage of the life cycle.
- Adopting the use of clean production technologies in order to reduce the use of energy and natural resources, to reduce environmental impact, and to limit the hazardous nature and quantity of waste produced.

Regional strategy for waste prevention

Regulatory framework

There is no information on waste prevention at a regional level. Waste management is carried out by the municipalities.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Ministry of Agriculture, Natural Resources and Environment, Cyprus 1411, Nicosia, Cyprus environment.moa.gov.cy	Zygi 25C, Arx. Makariou, Larnaca, 7739 www.zygi.com	Psevda 6 Apostolou Varnava Str., Psevda, Larnaca, 7649 www.ypeka.gr	Agios Athanasios 42 Stavraetou Maxaira Str., Agios Athanasios, Limassol www.agiosathanasios.org.cy
Uptodate Training Ltd 47 Riga Feraiou Str., 1 st floor-1, Chalkoutysa, Limassol, 3091 www.uptodatecy.com	Green Dot Cyprus 41-49 Agiou Nikolaou Str., Nicosia 1310 www.greendot.com.cy		

Good practices

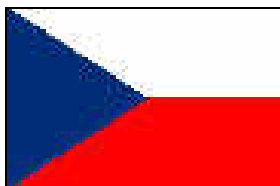
Reused clothing boutique

The NGO, Anakyklos Periballontiki, launched a project in Cyprus in 2010 for the collection and sale of used clothing. The store resells **clothing donated** by citizens and organisations. Some of the clothing is donated to the poor through a local authority coupon system. The organisations and the donors work with the programme: www.anakyklos.org

Bag/T-shirt⁴⁹

The students of the Design Department at Frederick University in Cyprus transform old shirts into reusable bags.

⁴⁹ fit.ac.cy



CZECH REPUBLIC

Population: 10,467,542 (2009)

Municipal waste produced: 280 kg per capita per year in 2003 and 306 kg per capita per year in 2008 (Source: Eurostat)

National waste prevention strategy

Regulatory framework

National actions, programmes or plans specifying objectives and measures for the promotion of waste reduction.

Czech Republic waste management plan for 2003-2013.⁵⁰

The **Ministry of the Environment** is the competent authority for waste prevention in the country. In the Czech Republic waste management plan, the Ministry has defined **both qualitative and quantitative general objectives**, for waste management up to the year 2013. At a regional level, this plan is set out in the regional waste management plans (Government Decree no. 197/2003 Coll.).

Implementation of the plan is evaluated each year in the form of an **assessment report** published by the Ministry of the Environment. The **regional waste management plans and the waste management plans for waste producers across the country must conform to this report**.

The legal foundations for the regulatory framework are written under **Law no. 185/2001 Coll.** relating to waste management and to the amendments of certain laws implemented by decree no. 376/2001 Coll. on the hazardous nature of waste, as modified by decree no. 502/2004 Coll., decree no. 381/2001 Coll., the waste catalogue, as modified by decree no. 503/2004 Coll., decree no. 384/2001 Coll. on the processing PCBs).

Law on waste no. 185/2001 Coll.⁵¹

Current law no. 185/2001 Coll. (law on waste) **defines the hierarchy for waste processing, emphasising waste prevention, and promotes the basic principles for the protection of health and the environment**

The law **also regulates waste prevention and management** in compliance with the frameworks associated with sustainable development, the rights and obligations of those working in the waste sector and the distribution of powers amongst the public administrative authorities.

Law on waste no. 154/2010 Coll.

The need for waste prevention programmes is referred to in the amendment of the Law on waste no. 154/2010 Coll., which represents the **transposition of the framework directive 2008/98/CE on waste**.

The Ministry of the Environment is in the process of drawing up this national waste prevention programme using the contents of appendix 4 of the framework directive as a guide.

⁵⁰ [http://www.mzp.cz/C125750E003B698B/en/waste/\\$FILE/waste_management_plan.pdf](http://www.mzp.cz/C125750E003B698B/en/waste/$FILE/waste_management_plan.pdf)

⁵¹ [http://www.mzp.cz/C125750E003B698B/en/waste/\\$FILE/Waste%20Act_1852001.pdf](http://www.mzp.cz/C125750E003B698B/en/waste/$FILE/Waste%20Act_1852001.pdf)

Law no. 477/2001 Coll.

The following regulations are applicable to waste packaging: **the volume and weight of packaging must be reduced as far as possible** and the packaging must be designed, manufactured and distributed in such a way that its **reuse and recovery are possible**.

Law. No. 7/2005 Coll.

For electrical and electronic equipment waste, the following regulations apply: **electrical and electronic equipment must be designed in a way that facilitates disassembly and recovery** to allow for the **reuse and recycling** of the products, their component parts and their materials at the end of the product life cycle. The way in which products are manufactured must not affect their reusability.

Law no. 188/2004 Coll.

This law defines the eco-design criteria for vehicles at the end of their life cycle.

Main prevention measures

National waste management plan 2003-2013: measures to be implemented

The government regulation 197/2003 emphasises waste prevention and the reduction of waste quantities and the hazardous nature of waste.

The plan aims to meet several strategic objectives: **reduction of waste production** independently from economic growth, **maximise waste recovery** in order to substitute natural resources and **reduction of the harmful impact of waste on human health and the environment**.

The main measures of the plan:

- Supporting the use of **technologies that produce little or no waste** during the **manufacturing process**; in cases where waste is generated, product recovery should be maximised (promotion of BAT, selective waste collection, the launch of the company ECOCOM for the management of waste packaging, the recovery of electronic material, etc.);
- carry out **an analysis of the substitutability of products and materials** whose reuse or disposal at the end of their life cycle could have **harmful effects on human health and the environment**;
- **reduce the volume and weight of products** whilst preserving their functional properties (promotion of BAT, minimising objectives according to the law 477/2001);
- create favourable conditions for **recoverable or reusable packaging** (producer obligations according to the law 477/2001);
- within the context of different professional sectors: use the **national programme for clean production** and the programmes of the **National Environmental Fund** to support preventative measures aiming to reduce waste production as well as the hazardous nature of waste (programme implemented by the environmental agency CENIA⁵², awareness programmes implemented by the environmental fund SFŽP⁵³);
- attempt to **change the behaviours and attitudes** of businesses and of the general public in favour of products which do not have an impact on human health or on the environment (reduction of Value Added Tax on ecological products);

⁵² http://www.cenia.cz/_C12571B20041F1F4.nsf/index.html

⁵³ <http://www.sfzp.cz/>

- implement the **campaign to raise public awareness of the importance of the environment** within the waste management sector. This will entail better public access to information on the progress of waste management initiatives.

The Ministry of the Environment has also launched several research projects in order to provide producers with clear and reliable information on the environmental impacts of component parts and materials:

- Identifying the **waste prevention potential of small retailers** and implementing waste prevention initiatives;
- Check **the effectiveness of voluntary environmental protection mechanisms** for qualitative waste management and prevention within small and medium businesses, implemented between 2004 and 2005 in order to fulfil the Czech Republic waste management plan objectives.
- Comparing the **production and sales models for selected waste flows** with the proposed specifications for the promotional instruments for waste prevention and recycling implemented between 2004 and 2005.

Regional strategy for waste prevention

Regulatory framework

The Czech Republic is divided into 14 regions. The national waste management plan serves as the reference document for the development of the regional waste management plans.

The mandatory part of the Czech Republic waste management plan provides a framework for the activities and decision-making processes of the regional and local competent authorities in terms of waste management (section 42 (5) of the Law on waste).

Specific measures and actions developed over and above the national waste management plan must be incorporated into the regional plans.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Ministry of the Environment, Waste Management Departement Vršovická 65, 100 00 Praha 10 www.mzp.cz	CENIA Litevská 1174/8, 100 05 Praha 10 www.cenia.cz	Cleaner Production Centre Masna 5, 602 00 Brno www.volny.cz	Hnutí DUHA (Friends of the Earth Czech Republic) Údolní 33, 602 00 Brno http://hnutiduha.cz/english
Regional Environmental Centre office for Czech Republic Senovážná 2, Praha 1, 110 00 www.reccz.eu	Centre for Innovation and Development Dietrichova 16, 120 00 Praha 2 www.cir.cz	Society for Sustainable Living Thamova 21, 30100 Plzeň www.stuz.cz	Arnika Chlumova 17, 130 00 Praha 3 www.arnika.org
Institute for Environmental Policy (IEP) Kateřinská 26, 120 00 Prague 2 http://ekopolitika.cz	City Of Brno Magistrat mesta Brna Malinovského nam. 3 601 67 Brno	Integra Consulting Services Pobřežní 18/16, 186 00, Praha 8 www.integranet.cz	Josef NOVAK TIMUR www.timur.cz

INOTEX spol sro Stefanikova 1208, Dvur Kralove nad Labem www.inotex.cz	Czech Environment Management Centre Jevanska 12, 100 31 Praha 10 www.cemc.cz	Centre for Waste Management, Water Research Institute, T. G. Masaryk Podbabská 30, 1600 00 Praha 6 http://ceho.vuv.cz/CWM.html	Institute for Environmental Studies, Faculty of Science, Charles University in Prague Benátská 2, 128 01 Praha 2 http://web.natur.cuni.cz/~uzp/en
EKO KOM a.s. Na Pankraci 1685/17, 140 21 Praha 4 www.ekokom.cz	Czech University of Agriculture in Prague Katedra agrochemie a výživy rostlin Kamycká 129 165 21 Praha www.czu.cz	PEBRA SRO (SARL) www.pebra.cz	Youth and Environment Europe Ekologické centrum Toulcův dvůr Kubátova 1/32 102 00 Praha 10 – Hostivař www.yeenet.eu

Good practices

Miniwaste⁵⁴

The 2008 LIFE + Miniwaste project aims to demonstrate that it is possible to significantly reduce the quantity of organic waste generated by households through the use of sustainable methods in compliance with the new waste framework directive 2008/98/CE.

The project aims to raise the awareness **of households in order to minimise their food waste production** and to promote the practice of **collective or individual composting of food waste and garden waste** in the urban environment. The programme has been implemented by three bodies, Rennes Métropole (France), Lipor (Portugal), and in the form of a pilot project in the city of Brno (Czech Republic).

Composting⁵⁵

A home composting project was implemented in Mortiz in the region of Olomouc. The city led the project with Friends of the Earth Czech Republic.

⁵⁴ <http://www.miniwaste.eu/>

⁵⁵ <http://www.hnutiduha.cz/obce/>



DENMARK

28 Provinces

Population: 7.606.551 inhabitants

Municipal waste produced: 672 kg per capita per year in 2003 and 802 kg per capita per year in 2008 (Source Eurostat)

National waste prevention strategy

Regulatory framework

Waste Strategy 2009-2012 and Waste Strategy 2010

Denmark's waste management strategy for the period 2009-2012 is detailed in two documents. The first part of the 2009-2012 waste management strategy⁵⁶ was published in March 2009, followed by a second document, waste management strategy 2010⁵⁷, published in 2010.

Denmark's policy on waste comprises three sections: the **resource policy**, the **climate policy** and the **health and environmental protection policy**.

The waste management policy is structured around 7 basic elements:

- **Reducing waste**, reduction in terms of both quantity and hazardous nature;
- **Reducing wasted resources**
- **Reducing emissions of CO₂ resulting from the treatment of waste;**
- **Reducing the overall impact of waste on the environment;**
- Ensuring that there is funding for a high level of protection for the environment;
- **Improving the quality of waste treatment;**
- **Ensuring the effectiveness of the waste management sector**

The EU waste hierarchy specifies, in order of priority, the legal rulings to be implemented in terms of waste prevention and management. There is a need for a **new regulation** on the implementation of waste prevention programmes to be implemented during the course of 2010. This regulation will define **waste prevention objectives and measures** in order to **dissociate environmental impacts from economic growth**.

The prevention programmes developed in Denmark take the form of the **national waste prevention plan** which meets all of the requirements specified in the waste management directive. This means that the plan sets out the **minimum objectives for waste prevention**, describes the **existing waste prevention initiatives** and **evaluates the new actions** according to fixed parameters and criteria. These indicators can be quantitative or qualitative.

⁵⁶ <http://www.mst.dk/NR/ronlyres/747FBCE2-A3D4-444F-BF60-D1747C36516D/0/Endelig1delafAffaldsstrategi200912.pdf>

⁵⁷ <http://www.mst.dk/NR/ronlyres/5944D6BF-C455-4A94-A7D1-9062ED0173A0/0/Affaldsstrategi10.pdf>

Main prevention measures

The national strategy for waste prevention makes provision for the implementation of the new regulations prescribed by the EU in the waste prevention programmes. This will serve as a preview of the **possible approaches to waste prevention** and the implementation of a **public information campaign** led by the government. The national strategy for waste prevention encourages local authorities and environmental organisations to increase their **efforts on reducing packaging**, promotes the development of **action campaign against food-waste**, promotes the "cradle to cradle" concept (waste becomes raw material again) through **producer responsibility**, **promotes eco-design** and other initiatives.

The strategy also defines the objectives to be met through the joint effort of all of those involved in waste management. **"It is the joint responsibility of the authorities, the citizens and business to accept this challenge"**.

Several national initiatives for waste prevention are already in place:

- **A tax on landfilled waste** and a tax on the energy used in the incineration of waste can work as waste prevention measures.
- The **tax on units of packaging** has been used as a way of reinforcing the bottle deposit system which is designed to ensure that bottles are returned and recycled.
- The **tax on packaging weight** has been used as a way of reducing the consumption of packaging and therefore serves as a form of waste reduction at source.
- **Taxes on disposable table utensils and carrier bags** have served to minimise the use of these products.
- **The initiative for digitalisation in the public sector** ensures a reduction in paper consumption (use of electronic methods of payment and e-mail for communication with other governmental organisations, the business sector and the public).
- The promotion of **eco-labels** which are important tools for attracting consumers to environmentally-friendly products.
- The development of **ecological criteria** for certain groups of products, for example: criteria for the packaging and life cycle of products.
- The promotion of **knowledge and method sharing for the prevention** of waste.
- **A national information campaign directed at citizens**. In 2010, the Ministry for the Environment launched a national information campaign designed to encourage citizen involvement in waste prevention efforts.

Regional strategy for waste prevention

Regulatory framework

Denmark's waste prevention strategy is controlled at a national level.

Main measures

The 98 municipalities must develop and process their own waste management plans and implement the strategy that has been determined at a national level.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Danish Environmental Protection Agency Strandgade 29 1401 Copenhagen www.mst.dk	European Environment Agency European Administration www.eea.europa.eu	Municipality of Aalborg www.aalborgkommune.dk	Foundation for Environmental Education FEE www.fee-international.org
Ministry for the Environment Strandgade 29 1401 Copenhagen www.mim.dk	Danish Environmental Protection Agency Strandgade 29 1401 Copenhagen www.mst.dk	Municipality of Aalborg www.aalborgkommune.dk	Municipality of Odense www.odense.dk
NOAH Norrebrogade 39, 1 TV 2200 www.noah.dk	Danish Environmental Protection Agency www.mst.dk	Danish Standards Kollegievej 6 2920 Charlottenlund www.ds.dk	Municipality of Aalborg www.aalborgkommune.dk
RenoSam Danish Waste Association Vesterbrogade 24 2 sal tv. 1620 Copenhagen www.renosam.dk	Ministry for the Environment Strandgade 29 1401 Copenhagen www.mim.dk	Danish Competence Centre on Waste (DAKOFA) Vodroffsvej 59, 1. Sal 1900 Frederiksberg www.wasteandclimate.org	Waste Denmark Association Vodroffsvej 59, 1, Frederiksberg 1900 Copenhagen www.affalddanmark.dk
Danish Society for Nature Conservation Masnedøgade 20 2100 Copenhagen www.dn.dk	Green Network Havneparken 2 7100 Vejle www.greennetwork.dk		

Good practices

Catalogue of prevention ideas

A **catalogue of innovative ideas** for waste prevention was published in 2010 by the Copenhagen Research Centre for the Danish Environmental Protection Agency.

Waste cartography⁵⁸

Waste cartography is an **electronic tool** developed by the Danish Environmental Protection Agency and KPMG. It **allows businesses** to follow the **statistics** and **indicators** relating to their **waste production** and it **proposes prevention solutions**.

Green Key⁵⁹

As part of the "Green Key" programme, a certain number of hotels and restaurants are involved in the promotion of waste prevention. In fact, Green Key is **an eco-label for businesses within the tourism industry**.

The businesses must meet a certain number of environmentally-friendly standards, including standards for waste prevention, in order to be awarded a label: the use of soap and shampoo

⁵⁸ <http://www2.mst.dk/common/Udgivramme/Frame.asp?http://www2.mst.dk/udgiv/publikationer/2005/87-7614-886-6/html/sum.htm>

⁵⁹ [http://www.green-key.dk/da-DK/English/GK% 20in% 20countries.aspx](http://www.green-key.dk/da-DK/English/GK%20in%20countries.aspx) 2017%

dispensers instead of disposable miniatures, glass and porcelain instead of disposable plates and bowls, jars of butter and jam instead of small disposable portions.

Goods swap⁶⁰

The Storskrald.dk initiative is a **website** which enables citizens to **exchange goods without paying for them**.

Stop food-waste⁶¹

This is a consumer movement which aims **to increase public awareness of the issue of food-waste**. The campaign encourages Danish citizens to take action and donate their unconsumed fresh food products to the homeless

⁶⁰ www.storskrald.dk

⁶¹ <http://www.stopspildafmad.dk/inenglish.html>



SPAIN

Federal state: 17 autonomous regions

Population: 46,256,319

Municipal waste produced: 655 kg per capita per year in 2003 and 575 kg per capita per year in 2008 (Eurostat).

National waste prevention strategy

Regulatory framework

Legislation on current national waste management programmes:

The Waste and Contaminated Soil Act 22/2011 on established on 28 July 2011 - BOE N ° 181, 28 July 2011⁶²

The Waste Act 22/2011 is the transposition of WFD 2008/98/EC on waste, and establishes that prevention is the first priority in the waste hierarchy.

This Act establishes that the Autonomous Communities are in charge of drawing up their own waste prevention programmes (Art12.4.a). Local government may draw up waste prevention programmes as part of their responsibilities for waste (Art 12.5.c). Public administrations will approve waste prevention programmes by December 2013. Measures contained in these programmes will focus on reducing waste by least 10% by weight per capita in 2020 compared to 2010 waste generation (Art. 15.1).

Single-Use Carrier Bags: the law establishes measures to promote the prevention and reduction of waste from single-use non-biodegradable plastic carrier bags, as well alternatives to them. The law also establishes a timetable to replace non-biodegradable single-use carrier bags. An ad hoc expert working group will analyze proposals on the prevention and management of non-biodegradable plastic carrier bag waste.

Integrated national waste management plan (PNIR): 2008-2015. BOE n°49, 6 February 2009⁶³

The plan focuses on the management of household waste, farm waste and industrial waste which is not hazardous and on a strategy for reducing the volume of biodegradable waste going to landfill. It makes reference to the European policy framework on waste in order to set strategic objectives (presented as average values). This plan makes provisions for the autonomous regions reaching different objectives.

The basic principles are: implementing environmental waste management in order to **reduce waste production**; promote priority waste management measures in accordance with the EU **directive hierarchical framework** (prevention, reuse, recycle, energy recovery, and disposal); ensure that the notion of shared responsibility exists between the economic agents' public and social authorities,

⁶² Full version: <http://www.boe.es/boe/dias/2011/07/29/pdfs/BOE-A-2011-13046.pdf>

⁶³ Full version: <http://www.boe.es/boe/dias/2009/02/26/pdfs/BOE-A-2009-3243.pdf>

consumers and those who make use of economic instruments, and to ensure that adequate information measures are in place.

- **Royal decree 208/2005, 25 February 2005 on electrical and electronic equipment and waste management** incorporates the EU Parliament and Council directive 2002/96/CE established on 27 January 2003.
- **National plan for hazardous waste.** Approved by the council of ministers on 17 February 1995.
- **National plan for municipal waste.** Declaration, 13 January, 2000.

Main prevention measures at a national level

The chosen measures to be implemented in order to reach the objectives defined by the law should aim towards a reduction in the production of waste, a better use of resources, and a reduction in the impact of waste management and production (more specifically, in relation to GHG emissions⁶⁴) on the environment.

Qualitative measures

Within businesses, the development of **packaging prevention plans and eco design** in order to prevent waste, the expansion of **home composting programmes** and, within communities, the development of **voluntary agreements for promoting the reuse** of packaging, for **increasing the awareness of consumers** and businesses, and for promoting the reuse and recovery of bulky waste (equipment and textiles) generated by social enterprises.

Quantitative objectives

Reduction of waste packaging (4% less in 2012 in relation to 2006), **50% reduction in use of single-use carrier bags** from 2010 in order to plan for the gradual replacement of non-biodegradable plastic carrier bags, reuse objectives for glass containers. Objectives for commercial and industrial packaging will be specified over the next 4 years (1st review of the plan).

Preventative measures are also defined in the specific legislation, such as the measure referring to used tyres (retreading), that referring to batteries (Luso batteries which contain a lesser volume of hazardous substances), that referring to the electronic publication (a manual which aims to promote the reuse of WEEE), and that referring to plastics used in farming.

Regional strategy for waste prevention

Regulatory framework

The autonomous regions and cities have developed and adopted strategic plans for waste management. The contents and scope of the plans vary according to their policies and according to regional priorities. Listed below are the regions and their respective plans.

Andalusia

Integrated national waste plan for the **2008-2015 period** (20 January 2009).

⁶⁴ Greenhouse gas emissions

Hazardous waste prevention and management Plan 2011-2020⁶⁵

Non-hazardous Plan 2010-2019⁶⁶

Aragon

Plan for integrated waste management in Aragon (GIRA) 2005-2008 (11 January 2005).

Asturias

Basic plan for waste management in Asturias 2001-2010 (Approved by the government council on 14 June 2001). Planning in progress (2013-2020)⁶⁷

Balearic Islands

Outline sectorial plan for urban waste management and assessment of the outline sectorial plan for waste management in urban areas on **the island of Majorca** (BOIB n ° 35, 9 March 2006).

Outline sectorial plan for the management of non-hazardous waste in Menorca 2004-2012 (BOIB n ° 109, 3 August 2006).

Outline sectorial plan for urban waste management in Ibiza and Formentera (BOCAIB 14 April 2001)

Canary Islands

Plan for all of the waste produced in the Canaries 2000-2006 October BOCA (CRIR) 15, 2001
Law 5/2000, dated 9 November, repealing articles 34 and 35 of law 1/1999, 29 January 1999 on waste in the Canaries.

Regional Waste Plan submitted for public information (BOC 137, 13 July 2011)⁶⁸

Cantabria

Waste plan for Cantabria (2006-2010) defined by decree 22/2007 (BOC 14 March 2007)

Castile-La Mancha

Plan for urban waste management in Castile-La-Mancha, approved by the decree 79/1999 on 25 May 1999.

The **new urban waste management plan for 2007-2017** comprises a **prevention plan** which aims to promote dematerialisation, to increase waste reuse, to highlight the concept of extended producer responsibility, to demonstrate exemplary management, to support the social economy and to involve all of the main stakeholders and processes (design, manufacture, distribution and consumption).

The proposed measures include the reduction of junk-mail, the reuse of waste packaging, the promotion of eco-design, the repair and reuse of furniture, fittings, textiles, appliances and other products, the establishment of voluntary agreements with producers, the promotion of eco-labels,

⁶⁵ Full version:

http://www.juntadeandalucia.es/medioambiente/portal_web/web/temas_ambientales/residuos/residuos_peligrosos/plan_residuos_peligrosos_2011/ppgrpa_2011_2020_v5.pdf

⁶⁶ Full version:

http://www.juntadeandalucia.es/medioambiente/site/web/menuitem.a5664a214f73c3df81d8899661525ea0/?vgnextoid=79f2209a6d169210VgnVCM1000001325e50aRCRD&vgnnextchannel=3259b19c7acf2010VgnVCM1000001625e50aRCRD&lr=lang_es

⁶⁷ Full version:

<http://www.asturias.es/portal/site/webasturias/menuitem.6282925f26d862bcb2b3510f2300030/?vgnextoid=1e02c5958c8a4310VgnVCM10000098030a0aRCRD&vgnnextchannel=dad56fc85c97d210VgnVCM1000002f030003RCRD&i18n.http.lang=es>

⁶⁸ Full version: http://descargas.idegrancanaria.es/PlanesCabGC/PTE-R/PUB/BOC_n137_2011-07-13.pdf

ecological products and awareness raising activities, the implementation of economic instrument models (rates vary for household and non-household waste), the setting-up of an office dedicated to waste prevention and recycling.

Castile and León

Regional waste strategy for Castile and León 2000-2010 (N^o 107 of BOCyL 06/05/2002).

Regional plan for waste containers and waste packaging in Castile and León 2004-2010, (BOCyL February 23, 2005).

N.B., this region has a low population which is more widely dispersed than the other Spanish regions.

Catalonia

Law 9/2008 10 July 2008 amends the law 6 / 1993 regulating waste and various waste management plans:

- **Municipal waste management programme in Catalonia** (PROGREMIC 2007-2012) which sets objectives for reducing waste flows by 10% per capita in 2012 (in relation to the year 2006), the specific objectives for reducing the use of single-use plastic carrier bags by 30% in 2009 and 50% in 2012 in comparison to 2007, and objectives for the valorisation of organic, glass, paper and cardboard, light packaging waste.
- **Industrial waste management programme in Catalonia** (PROGRIC 2007-2012) with an objective of reducing levels by 5% in 2012 in relation to 2007.
- **Construction waste management programme in Catalonia** (PROGROC 2007-2012) with an objective of reducing levels by 10% in 2012 in relation to 2007.
- **Infrastructure plan for the sector of territorial management of municipal waste in Catalonia** (PTSIRMC 2005-2012).

Main prevention measures:

- Implementation of measures aiming to **regulate the use of single-use plastic carrier bags**: Initiating voluntary agreements in order to reach objectives, and if these fail, considering the implementation of economic instruments. Simultaneously, reinforcing other instruments such as the introduction of reusable products or the use of compostable bags.
- **Regulating the distribution of junk-mail, free newspapers and paper** other than that used in general paper packaging through the possible implementation of economic measures targeted to reduce the production of paper other than that used in packaging. Campaigns for the responsible use of paper are already in implementation. Promoting the digitalisation of information.
- Promoting **responsible and immaterial consumption** by implementing measures designed to have an impact on both distribution and consumption.
- Promoting the consideration of **environmental** aspects during **events**.
- Expanding and continuing the on-line **technical support** and **financial assistance** for specific waste prevention projects.
- Promoting **organic waste prevention**, home composting, measures for food-waste reduction, and promoting the donation of surplus food to the hungry as a means of preventing organic waste (Barcelona Food Bank).
- Organising **training** programmes for the **repair and reuse** of products, particularly furniture and WEEE.

- **Developing the supply and demand of reusable products** such as reusable clothes or packaging, establishing agreements with companies involved in the catering sector, promoting and testing reusable nappies, and evaluating environmentally the results.
- Regulating **environmentally-friendly public markets**: formalising an agreement between their local administrations. In the long term, we propose the adoption of specific regulations which specify minimum standards for the annual purchasing of recycled materials, for the mandatory use of compost as a fertiliser for public parks and gardens, etc. and for the promotion of the environmentally-friendly provision of goods and services by private corporations.
- **Plans for waste prevention**
- **Promotion of eco-design**
- Development of a proposal for a **"deposit and return system"** for packaging;
- Promotion of drinking **tap-water**, improvement of water quality in households.

Valencia

Integrated waste management plan for Valencia, approved by decree 317/1997, on 24 December 1997 and amended by decree 32/1999 on 2 March 1999.

A new waste plan for the period 2007-2012 is being drawn up.

Extremadura

Plan for integrated waste management 2001: it makes provisions for 7 recycling, composting and waste recovery factories called **ecoparks**.

Galicia

Strategy for and management of waste in Galicia 2000

Galicia urban waste management plan 2007-2017

Urban Waste Plan 2010-2020⁶⁹

Madrid

Waste strategy (Convention on 18 October 2007, the City Council) makes provisions for measures to encourage reuse.

Regional plan for urban waste 2006-2016 comprises measures aiming to raise awareness of waste prevention and of reducing levels of organic waste being disposed of.

Regional plan for construction and demolition waste (2006-2016)

Regional plan for sludge from wastewater treatment plants (2006-2016)

Regional plan for regional industrial waste (2006-2016)

Regional plan for end-of-life vehicles (2006-2016)

Regional plan for used tyres (2006-2016)

Regional plan for waste electrical and electronic equipment (2006-2016)

⁶⁹ Full version: <http://cmati.xunta.es/portal/cidadan/pid/2854>

Regional plan for PCBs (2006-2011)

Regional plan for contaminated soils (2006-2016)

Murcia

Plan for non-hazardous urban waste in the region of Murcia (2001-2006) (Borman 02.06.03)

The new **strategic plan for 2007-2012** will cover waste prevention and reusable waste.

Navarre

Waste Plan 2010-2020⁷⁰

Measures include the collection of data on the total quantity of reusable packaging being used in order to set reduction objectives, the use of awareness campaigns targeted at consumers, businesses and industries for the reduction and separation of packaging found in municipal waste, the promotion of home and community composting, the elimination of plastic carrier bags (already achieved in small supermarkets) in retail establishments and the implementation of economic instruments as a way of penalising citizens who do not cooperate with waste-sorting initiatives.

Agenda 21 implemented at a local level to promote waste prevention activities and changes in patterns of consumption.

Basque country

Basque country plan for sustainable consumption 2006-2010

Guidelines for the planning and management of urban waste in the BAC 2010.

Gascony urban waste prevention plan 2010-2016.

Gipuzkoa comprehensive urban waste management plan 2002-2016 (PIGRUG)

Donostia-San Sebastián Agenda 21 local **Action Plan** 2008-13.

Under preparation: Urban waste management plan

LA RIOJA

The Rioja **waste management plan 2007-2015** approved on 7 November 2008 defines objectives for the reduction and reuse of waste.

CEUTA

Integrated waste management plan future project.

MELILLA

Waste management plan for the period 1998-2005, approved in 1999 in Melilla, and the local Agenda 21, including waste prevention as part of the waste management hierarchy and the principle of producer responsibility (2006).

⁷⁰ Full version:

http://www.navarra.es/home_es/Actualidad/Sala+de+prensa/Noticias/2010/12/27/Aprobado+Plan+Integrado+Gestion+de+Residuos.htm

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Catalan Waste Agency Doctor Roux 80 08017 Barcelona www.arc.cat prevencioifomentreciclatge.arc@gencat.cat	Ministry of Agriculture, Food and the Environment Pza San Juan de la Cruz, s/n 28071 Madrid www.magrama.es	Ihobe, Sociedad Pública de Gestión Ambiental Alameda Urquijo 36, 6º 48011 Bilbao Bizkaia www.ihobe.net	Navarre Environmental Resources Centre, Waste Programme Padre Adoain 217 Bj 31015 Pamplona/Iruña www.crana.org
Andalucía Government dgpc.cma@juntadeandalucia.es	Aragon Government dgcalidad@aragon.es	Basque Government Donostia-San Sebastian 1 01010 Vitoria-Gasteiz	Ceuta Government medioambiente@ceuta.es
Extremadura Government dgeca.iema@juntaextremadura.net	Galicia Government sxma@xunta.es	La Rioja Government dgcalidadambiental.agua@larioja.org	Madrid Government dgmedioambiente@madrid.org
Melilla Government direcciongeneralmedioambiente@melilla.es	Navarre Government Gonzalez Tablas 7, 31005 Pamplona www.navarra.es	Barcelona Provincial Council Comte d'Urgell, 187 Edifici del Relotge, 2ª 08036 Barcelona www.diba.cat	Barcelona Metropolitan Area Calle 62, num. 16-18, 08040 Barcelona www.amb.cat/web/emma
Barcelona City Council Waste Management Dept. Torrent de l'Olla 218-220 6ª 08012 Barcelona www.bcn.cat	Institute for the Sustainability of Resources-ISR-CER Del Sotillo 1 28043 - Madrid www.isrcer.org	AERESS Association Bustos 2 28038 Madrid www.aeress.org	Catalan Foundation for Waste Prevention Mossen Jacint Verdaguer 48 08150 Molins de Rei www.residusconsum.org
National Solidarity Economy Network (REAS) Las Provincias 6 bajo 31014 Pamplona www.economiasolidaria.org	Emaus Social Foundation Gurutegi, 16 (Pol. Belartza) 20018 Donostia. Gipuzkoa www.emaus.com	Roba Amiga Cooperativa Cristobal de Moura, 126 08019 Barcelona http://ca.ropaamiga.cat/	Agència d'Ecologia Urbana de Barcelona C/ Escar, 1 3ª planta 08039 Barcelona www.bcnecologia.net
O2 Spain Association www.o2spain.org	Resources Bank Foundation Gran de Gràcia 167 pral. 2ª 08012 Barcelona www.bancderecursos.org	Barcelona Food Bank Foundation Motors 122 08040 Barcelona www.bancdelsaliments.org	ENT Consulting Empresa consultoria Pàdua 31, baixos dreta 08000 Vilanova i la Geltrú www.ent.cat
ESCI-UPF University Pg. Pujades, 1 08003 Barcelona http://www.esci.es/	CTA (Institute of Environmental Science and Technology) UAB Universidad Centro I+D Edifici Q - Campus de la UAB 08193 Bellaterra http://icta.uab.es/	Rovira and Virgili University Higher Technical School of Chemical Engineering 43007 Tarragona www.etseq.urv.es	Universitat Autònoma de Barcelona Oficina de Medi Ambient (OMA). Edif. A E-08193 Bellaterra www.uab.cat/sepma

Good practices

Awareness campaigns

Catalonia⁷¹ has organised widespread media campaigns (TV, radio, written press, internet, etc.) on waste prevention: "**Aquí reduïm**" (Here we reduce) in 2008, "**La revolució dels petits gestos**" (Small gestures make a difference) in 2010 and "**Els nostres residus, la nostra responsabilitat**" (Our waste, our responsibility) in 2011.

The Catalan waste agency (ARC) is also actively involved in the LIFE + project's "European Week for Waste Reduction" (2009-2011) which promotes various local awareness-raising initiatives.

⁷¹ www.arc.cat

Other campaigns taking place in the region:

- The "**Reparat Millor que nou**"⁷² (Repaired better than new) project in the Barcelona metropolitan area (EMSHTR). This campaign "Millor que nou, 100% vell" **promotes the reuse** of objects through the use of repair and second hand stores and markets or through swap websites, or through one of the "Reparat Millor que nou" repair workshops which provide training on how to prolong the life cycle of products, and through specific actions directed at schools.

Other awareness raising projects:

- Local programme for **the promotion of responsible purchasing** Mancomunitat d'Escombraries de l'Urgellet. A sales agreement which involves the sale of local products on promotion, the list of products sold and discounts in waste disposal charges.

The Spanish Association of Social and Solidarity Economy (AERESS⁷³) organises de numerous awareness raising campaigns directed at the general public at a national level.

- "Knowing the formula for sustainability and solidarity +3Rs = -CO2"⁷⁴ **campaign on the environmental benefits of repair and reuse** within the following sectors: textiles, Waste Electrical and Electronic Equipment and furniture
- "**Lengthening the thread: Extending the life cycle of your clothes**"⁷⁵ Campaign for the reuse of fabrics and the reduction of their environmental impact as a means of acting against climate change

Reduction at the source

- The "**Bag agreement**" is a partnership between Catalonia and all of the distributing and manufacturing organisations in Catalonia in Spain which aims to reduce the consumption of single-use carrier bags by 50% by 2012, in relation to 2007 consumption levels
- There is **annual funding**⁷⁶ from the Catalan Waste Agency for public and non-profit organisations for the promotion of waste prevention projects (prevention plans and programmes, specific projects, etc.)
- The **Barcelona Food Bank Foundation**⁷⁷ prevents food-waste and encourages social action.

Reuse/Recycling

The Spanish Association of Social and Solidarity Economy (AERESS⁷⁸) coordinates

- The "**Study on the social organisations involved in AERESS recovery initiatives**"⁷⁹, Study on the reuse activities of social economy enterprises.
- "**training on the repair** of Waste Electrical and Electronic Equipment"

Other projects taking place in Catalonia:

- "**Roba Amiga**" project for the promotion of the recovery and recycling of used clothes

⁷² www.millorquenou.cat

⁷³ www.aeress.org

⁷⁴ "Conoce la formula más sostenible y Solidaria": +3R's = - Co2

⁷⁵ "Tira del Hilo: Alarga la vida de tu ropa"

⁷⁶ www.arc.cat/webarc/jsp/ccrproj/ca/cercarprojectes.jsf

⁷⁷ www.bancdelsaliments.org

⁷⁸ www.aeress.org

⁷⁹ "Estudio sobre las entidades sociales recuperadoras de AERESS"

- The Andromina Association organises the sale of second hand computers and offers I.T. services in cooperation with the local authorities. This association launched the "**Public Council computer reuse project for use in the management of social projects in prisons**".
- **Reusable nappies** projects in the municipality of Sant Cugat del Valles and in the Barcelona metropolitan area (AMB)⁸⁰
- **Travelling exhibition and prizes for recyclable product designs** as a means of promoting eco-design (6 prizes)⁸¹
- A virtual forum for the supply and demand of recycled, recyclable or biodegradable products. **Buy Recycled Network (XCR)**⁸². This organisation also coordinates collective promotional activities.
- Implementation of a system for charging fees on the production of household waste (non-recyclable and packaging) "**Taxa Fair**"⁸³ (in the municipality of Argentona).
- Implementation of a **system for charging fees on the production of commercial waste** (in the municipality of Canet de Mar)
- A local programme for **promoting home and community composting** as part of the Mancomunitat la Plana organisation's educational capacity.
- Catalan Waste Agency's **Guide for the preparation of local plans** for the prevention of municipal waste.
- Guidelines and ideas for promoting the organisation of swap markets. Barcelona metropolitan area.
- **Teaching and educational resources centre**⁸⁴

Other projects taking place in the Basque Country:

- **BILBAO market social cooperative**. 800 square metres of interdependent ecological and second hand stores (clothes, household appliances, games, books, crockery, home decorations, etc.), and organic and fair trade food stores. This also represents an area of increased awareness (thanks to the 2009 awareness campaign which impacted 1,800 people).
- **Study on the reuse of Electrical and Electronic Appliances (EKORREPARA)**
- **Eco-Centres (EMAUS social foundation)**⁸⁵ dedicated to **waste prevention**. Main activities: awareness campaigns, collection of bulky waste, waste processing and resale as second hand items. Artistic projects and the offer of training for the repair of second hand products and their component parts to the general public.

Other projects taking place in Navarre:

- **EMAUS Navarra**⁸⁶ dedicated to **waste prevention**. Main activities: collection of bulky waste, electronic equipment, paper and glass in 13 municipalities while working for social reintegration.

Other projects taking place in the Balearic Islands:

⁸⁰ http://www.amb.cat/web/emma/residus/prevencio/reutilitzacio/material_sanitari

⁸¹ ARC: www.arc.cat

⁸² <http://xcr/web/guest/home>

⁸³ <http://www.argentona.cat>

⁸⁴ <http://recullactivitats.arc.cat/agenciaresidus/index.php>

⁸⁵ www.youtube.com/watch?v=etyV3vLQ6oY and www.youtube.com/watch?v=OK3YkDnSAoA

⁸⁶ www.emaus.net

- MESTRAL Menorca is a programme for the prevention and management of waste: for raising awareness, for collecting bulky waste, for paper and hazardous waste, for the reuse and repair of equipment, for the principle of reselling, for collection, for the transportation and storage of hazardous products, for the collection of paper, for the management of "**green points**."
- Deixalles Social Foundation reuse workshops since 2006.



ESTONIA

Federal state: 4 Regions, 15 counties

Population: 1.340.415

Municipal waste produced: 418 kg per capita per year in 2003 and 515 kg per capita per year in 2008 (Source Eurostat)

National prevention strategy

Regulatory framework

Estonia's national waste management plan 2008-2013⁸⁷

Estonia's national waste management plan for 2008-2013 was adopted by the Estonian government in 2008. The plan organises its waste management framework according to the principles of sustainable production and consumption.

The implementation of the stated principles also involves the incorporation of the **waste hierarchy** defined in the waste framework directive: "the production of waste must be avoided by taking preventative action. If prevention is impossible, the waste must be recovered through the actions of reuse and recycling. Lastly, if there is no solution to treating the waste, it must be buried. "

The scope of the national waste management plan 2008-2013 covers both hazardous and non-hazardous waste, inert waste and waste packaging.

The main type of waste generated in Estonia - between 70 and 74% of the total volume of waste - comes from the oil shale industry. Construction waste represents 10%, industrial waste represents 8%- which includes waste from the treatment of used water -, municipal waste represents 3%, agricultural waste represents 3% and the remaining 4% represents other types of waste. In order to address the questions referred to in the waste management plan and to meet the requirements specified in the waste legislation, the actions discussed in the waste management plan have been grouped under the following objectives:

- **Preventing and reducing the generation of waste and increasing the quantity of waste recovered.** Reducing the use of natural resources during the manufacture of goods.
- Reducing the environmental impact of and any risks posed by waste disposal or the technologies used to for waste disposal.
- Increasing ecological awareness through **raising the awareness of environmental problems.**

⁸⁷ [www.envir.ee/orb.aw/class=file/action=preview/id=900330/Waste+Act+\(January+2008\).pdf](http://www.envir.ee/orb.aw/class=file/action=preview/id=900330/Waste+Act+(January+2008).pdf)

Waste law (RT I 2004, 9, 52)⁸⁸

Before this plan, the Estonian waste law (RT I 2004, 9, 52) was passed on 28 January 2004 and was enforced on 1 May 2004. This law provides a general framework for waste prevention in Estonia, for the health and environmental risks resulting from the generation of waste, for the organisation of waste management with the objective of **reducing the hazardous nature and quantity of waste**, as well as for dealing with those responsible for breaching the rules in place.

The 2nd part of the law covers **waste prevention and the reduction of the quantity and hazardous nature of waste**. The law also defines producer responsibility in relation to waste prevention.

Main prevention measures

The general principles for waste prevention specified in the waste law are as follows:

1. Regarding any activity, all of the **appropriate measures** must be taken in order to **avoid the generation of waste** and precautions must be taken to avoid generating waste that may be harmful to health, to other products or to the environment.
2. In order to meet the objectives specified in paragraph (1) of this present article, measures must be taken in any activity, and as far as possible, in order to:
 - a. implement, as far as possible, the best available techniques for the sustainable use of natural resources and primary materials, including the use of **technologies which allow for the valorisation of waste**;
 - b. design, plan, manufacture and import **products** which are, above all, **sustainable and reusable**, and which, at the end of their life cycle, produce waste which can be recovered as far as possible. **Producer obligations** relating to waste prevention and the collection of generated waste.

Producer responsibility relating to waste prevention:

1. During product manufacturing, the producers must, as far as possible, limit their use of hazardous substances in order to avoid disposal into the environment, facilitate the recycling of any waste generated and to avoid the necessary disposal of hazardous waste.
2. Promoting the integration of secondary raw materials into products.

Regional prevention strategy

Regulatory framework

Waste law

In order to implement the defined principles, local and national waste management plans have been developed. A waste management plan controls the waste management for central or local authorities. The objectives of this organisation framework are achieved through an improvement in waste management and through the implementation of measures directed at meeting these objectives.

⁸⁸

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

Local waste management plan

This plan forms part of the local development plan which addresses the development of waste management within rural or urban municipalities. Several local governments can draw up a joint waste management plan. The specifications of the national waste management plan must be taken into account when waste management plans are being drawn up.

Main measures

A local waste management plan must indicate:

1. the quantities of waste to be either recovered or disposed of;
2. an estimation of the volume of natural resources such as water, peat, clay or soil used during the waste treatment process;
3. the environmental impact of implementing the waste management plan;
4. the objectives to be met in terms of waste prevention, reduction of the quantity and hazardous nature of waste, valorisation of waste, rational and ecological disposal of waste and optimising transportation of waste;
5. the measures and resources for reaching the objectives, such as the selection of waste treatment operations, the development of a network of facilities, the measures to be taken for handling hazardous waste, the main types of waste, the administrative actions required for the implementation of the waste management plan, the measures for protecting health and the environment and the technological resources required for ensuring their implementation, and an estimate of the costs that the implementation of such measures will entail;
6. the development of waste transportation based on a particular administrative area and the distribution of transportation networks in the region or regions concerned;
7. the development of the selective collection and sorting of waste and the organisation of an appropriate collection schedule;
8. how the waste management scheme will be funded.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Estonian Waste Management Association Lõõtsa 8, 11415 TALLINN www.ejkl.ee	Ministry of the Environment (MoE) Narva mnt. 7a, 15172, TALLINN www.envir.ee/jaatmenada	Environmental Board Narva mnt 7a, 15172, TALLINN www.keskkonnaamet.ee	Association of Estonian Towns Ahtri 8, 15078, TALLIN www.ell.ee
Tea NOMMANN Stockholm Environmental Institute Lai Str 34, 10133, Tallinn www.sei-international.org	Maves Ltd. Marja 4D, 10617, Tallinn, www.maves.ee	Estonian, Latvian and Lithuanian Environment Ltd (ELLE) Skolas street 10-8, 1010, Riga, Latvia www.environment.lv	East-Estonia Waste Management Centre Kooli tee 25, 48502, Torma, Jõgeva County www.iejkh.ee

Good practices

Educational programme for waste prevention "Let's do it with Ferda"

"Let's do it with Ferda" is the **environmental education** programme on issues relating to the **reduction of waste for school pupils at a basic level of education**.

An educational guide has been published which provides advice for pupils and teachers on the "Let's do it with Ferda" programme. As part of the programme, at any school in Estonia, teachers can organise workshops in their school free of charge.

The aim of the programme is to raise the awareness of waste reduction amongst young people by emphasising reasons for and actions in favour of reduction. This educational programme, targeting young people aged 5 to 15, makes a **connection between the classroom and every day life**, focusing on environmental education and, in particular, on issues relating to waste reduction.

The programme involves **practical workshops, field visits and the distribution of practical information**. It makes a connection, for example, between the amount of energy required for the production of new mobile phones or plastic bottles and the environmental damage caused as a result of their production. The educational guide is available in digital form and is also distributed to all users of the programme. As the programme **targets different age groups**, the style of the workshops varies. For the youngest participants, there are games available. For older pupils, the course involves an element of teaching, workshops on reuse and visits to waste treatment sites,

"Reuse Republic" fashion designers project

The two stages of the project are the design competition based on reused clothes and the introduction of the best designs to the market. The competition aims to inspire young designers to reuse or adapt products already on the market. The project aims to prove that, with some creative input, it is possible to transform old products and give them a second life.

The competition takes place within the fashion industry - clothes, jewellery, accessories - but also within home interior design and product design.

The best redesigned items are sold on the "design market". The project involves 10-15 Estonian designers and incorporates most of the local Estonian brands as well as some foreign brands that have offered their products for use in the competition.

Producer responsibility

Batteries or accumulators being sold on the market must display a logo indicating that there is a separate waste collection for these products at the end of their life cycle. This logo is displayed in Estonian, Russian and English.

Each year, battery and accumulator producers are required to engage in a public information campaign using different forms of media such as national newspapers, magazines, radio or television. The campaign must communicate the following messages:

- The potential effects on the environment and human health of substances used in batteries and accumulators;
- The importance of separating used batteries and accumulators from other types of waste and ensuring their separate collection so as to facilitate their treatment and recycling.
- The collection and recycling systems available;
- The role of consumers in the recycling of waste batteries and accumulators;

- The significance of logos and the chemical symbols Hg, Cd and Pb.

Producers can organise joint information campaigns in order to keep costs down. The campaign scheme became mandatory on 1 January 2009.

The mechanisms used for distributing information are regulated by local legislation. A legislative document has been published which is the Estonian government's 2009 regulations on batteries: 07.08.2008 No 124 (RTI, 2008, 37, 221) on the systems for the collection and return of waste batteries, the collection rates and targets. The information focuses on annual waste flow rates and makes reference to:

- Product longevity
- The contents of heavy metals
- The potential effects on the environment and human health of the substances used in batteries and accumulators being sold on the market, aspects of waste prevention and management (for example, final consumer, ELV and eco-design)
- These standards are designed to assist companies with the identification of component parts and materials in order to facilitate ELV disassembly and to promote reuse and recovery.



FINLAND

Federal state: 20 regions & 13 regional environmental centres

Population: 5 350 475

Municipal waste produced: 466 kg per capita per year in 2003 and 522 per capita per year in 2008 (Eurostat).

National waste prevention strategy

Regulatory framework

In Finland, waste management is regulated according to the following principles which comply with the European waste strategy (1996):

- Prevention: The quantity and harmful effects of waste must be reduced and, if possible, prevented at the source.
- The polluter-payer principle: Waste producers must be responsible for waste management costs incurred.
- Producer responsibility: The manufacturers and importers of certain types of products must take responsibility for the waste management of their products at the end of life cycle instead of those who produce the waste.
- The precaution principle: Potential problems associated with waste and waste management must be anticipated and avoided.
- The proximity principle: Waste must be disposed of within close proximity of where it is generated.
- The self-sufficiency principle: The EU and its member states should be self-sufficient in terms of waste disposal.

Waste law

The main objective of the waste law is to ensure that precautions are taken in all areas of business and industry in order to minimise waste production and to ensure that any waste produced will not harm or endanger the environment or human health. More specifically:

- manufacturers must minimise the quantity of primary materials used in their products and to favour instead the use of reused or recycled materials;
- the product manufacturer or importer must ensure that the product is sustainable, repairable, reusable or recoverable and that, once it becomes waste, it is not hazardous and that its mode of production does not in any way contradict the previous paragraph;
- the authorities must encourage adherence to the obligations cited above and promote the use of recyclable products or those manufactured from recycled materials within their own administrative activities.

At present, Finland is **reforming waste legislation**. The government bill for the new waste legislation has recently been submitted to Parliament.

With this reform, the importance of the waste hierarchy will be reinforced. Certain provisions have been revised in order to prioritise a reduction in the quantity and hazardous nature of waste and to advocate recycling and recovery. For example, the reformed bill stipulates that it is mandatory for producers of hazardous waste to maintain up-to-date records of their waste input and output. It is mandatory that these producers communicate this information to the authorities. All of the "large" waste producers (producing volumes of waste greater than or equal to 100 tonnes per year) are also responsible for maintaining waste records. These "large" producers should also maintain a record of the weight of waste produced in relation to the company turnover or the number of employees.

Environmental permit

According to the new law, the environmental permit must comply with the regulations on waste prevention and management. In particular, material efficiency must be taken into account when permits are being issued.

In addition to promoting the implementation of the waste hierarchy, the waste management plan provisions also stipulate that waste prevention programmes should be put in place.

A guidance document detailing the conditions associated with environmental permits for waste-related activities was published in 2005 (761, 2005⁸⁹).

According to the new waste law, a revised guide on the promotion of material efficiency in relation to environmental permits will be published in 2011.

Main prevention measures

National waste management plan

The national waste plan, approved by the government in April 2008, sets objectives for the organisation of waste management in Finland. It involves a national waste prevention programme which is based on the following main objectives:

- Target objectives for 2016: 20% of waste will be landfilled, 30% of waste will be incinerated with energy recovery, 30% of waste will be recycled and 20% of waste will be biologically treated.
- Stabilising waste generation at the year 2000 level. Promoting material efficiency as a means of reducing waste.
- Regarding construction and demolition waste: 70% must be recycled (or the materials recovered) by 2016.
- In terms of sustainable consumption: encouraging consumers to prioritise the usage of the product rather than the product itself.

"Towards a recycling society"⁹⁰

The national waste plan (which extends to 2016) is entitled "towards a recycling society". It involves a government-approved strategy based on the principles, aims and objectives of waste management and prevention.

The main objective of this strategy is to avoid the generation of waste and to reduce the harmful effects of waste on the environment and human health. The plan comprises the national waste prevention programme and seven other objectives pertaining to the waste management sector.

⁸⁹ <http://www.ymparisto.fi/default.asp?contentid=140863&lan=en>

⁹⁰ www.ymparisto.fi/download.asp?contentid=102639&lan=en

The objective of the plan is to succeed in reducing the quantity of municipal waste produced by 2016. In addition, the aim is to reach a 50% recycling rate for municipal waste and a 30% energy recovery rate. A maximum of 20% of waste going to landfill is another set objective. The plan also entails the involvement of industrial stakeholders who must set objectives to reduce their volumes of waste and to increase their recycling rates in the form of agreements on material efficiency within their respective industrial sectors.

The waste prevention programme aims to promote waste prevention, particularly through the implementation of new methods for improving material efficiency in the production, construction and consumption processes and through the effective implementation of the current legislation. The eco-efficiency of products will be reinforced through the promotion of material efficiency and through using eco-efficient criteria for the issuing of eco-labels and for the evaluation of calls for tender in the public market.

Material efficiency will also be promoted in other sectors.

In order to promote the efficiency of other materials used in industrial production, there will be a revision of the economic incentives and subsidies currently in place for deterring industries from using natural resources. At the same time, efforts to increase material efficiency in specific sectors will be intensified through the signing of agreements such as the energy efficiency agreement established between industries and the State. In the construction sector, the renovation and maintenance of buildings will be improved.

Advice on waste prevention will be made more accessible. These services will be provided, for example, by the service centre for material efficiency and the Finnish Environment Institute.

In order to encourage households to use repair services, an extension of tax deductions on more services will be considered. A programme monitoring sub-committee has been set up. The effectiveness of the plan will be evaluated in 2010 and 2013.

Related strategies

One of the key objectives of the 2005 **strategy on sustainable production and consumption** is⁹¹ to reduce and manage material and energy flows in a sustainable manner. Revision of the programme started in 2010.

As part of the Finnish national programme for promoting sustainable production and consumption, a **centre for material efficiency**⁹² was created by the Ministry of the Environment and the Ministry of Employment and the Economy. The centre is designed to provide services for businesses and advice for consumers and public sector organisations on the various ways of improving material efficiency.

Following a decision made by the government in April 2009 which relates to **sustainable public markets**, the public sector will concentrate its focus on the promotion of sustainable supply.

Finland's **strategy for natural resources**⁹³ advocates an approach that favours competitiveness, well-being and environmental responsibility. The implementation of the strategy is shared between the different Ministries.

Finland's national strategy for sustainable development⁹⁴ "Towards sustainable choices: A nationally and globally sustainable Finland 2006". This strategy comprises the principles and commitments approved at the World Summit on Sustainable Development in Johannesburg in 2002.

⁹¹ <http://www.ymparisto.fi/download.asp?contentid=40471&lan=en>
<http://www.ymparisto.fi/default.asp?node=6051&lan=en>

⁹² http://www.motiva.fi/en/areas_of_operation/material_efficiency

⁹³ http://www.sitra.fi/en/Innovations/natural_resources_strategy/natural_resources_strategy.htm

The **programme for ecologically sustainable construction** (1998) and the national building policy programme (2003) as well as the **building renovation strategy** for 2007-2017.

Regional strategy for waste prevention

Regulatory framework

The first regional waste management plans were implemented in 1996 by 13 regional environmental centres (REC). The plans were revised between 2001 and 2004. New regional waste plans have been established by the regional environmental centres. These plans are created for the area covered by each REC or in cooperation with other centres. The regional waste plans implement the objectives specified in the national waste plan. The plans are detailed and take into account the conditions and issues of the specific local areas. Each regional waste plan considers certain subjects or issues which are typical of the region. The objective is to have detailed practical plans and to have local stakeholders involved in their implementation.

In total, five new regional waste plans are covering mainland Finland. Four of these new regional waste plans have already been approved: The Eastern Finland regional waste plan, approved in 2009 (South Savo, North Savo and North Karelia), the Oulu regional waste plan approved in 2008 (North Ostrobothnia and Kainuu REC), regional waste plan for South and West Finland approved in 2009 (Uusimaa, Pirkanmaa, South-West Finland, southern Finland, Häme and the REC of western Finland) and the waste plan for central Finland approved in 2009 (REC of central Finland). The regional waste plan for Lapland will be finalised by end of the year 2010. The task group created specifically for the Åland islands in 2010 has established a similar regional waste management plan.

Waste plan for southern and western Finland

This plan was adopted by six local RECs on 8 December 2009. It replaced the former selective collection programmes for each of the six regional communities which had been in implementation since 1996.

The main issues addressed in the plan are: material efficiency in the construction industry, biodegradable waste, sludge from local wastewater treatment plants, contaminated soil, ashes and scoria, and emergency waste management.

Waste plan for central Finland

The plan was adopted by the central Finland REC on 17 April 2009. It replaced the previous plan which dated from 1996 and was revised in 2003.

The main objectives of the new plan are improving material efficiency, reducing the quantity of waste produced, increasing recycling and recovery rates, reducing the negative effects of waste management activities and reducing GHG emissions from waste management activities.

The main areas of development are the following: reducing the quantity of waste going to landfill, improving the management of sludge from local wastewater treatment plants, improving energy recovery from waste products, increasing the efficiency, recycling and recovery of construction and demolition waste, increasing the recovery of ash from industrial air pollution and increasing energy recovery and improving waste management through creation of economies of scale.

⁹⁴ <http://www.environment.fi/download.asp?contentid=57597&lan=en>

Waste plan for eastern Finland

The plan was adopted by three regional economic communities on 17 December 2009 and replaced the previous selective collection programmes implemented in 1996.

The main objectives of the plan are: to reduce waste, increase the rate of waste being reused and to reduce the harmful effects of waste on the environment and human health.

Measures are in place to increase energy recovery from waste, to develop the treatment of biodegradable waste (bio-waste and sludge), to improve waste management in rural areas and to develop the treatment of construction and demolition site waste.

In addition, task group was formed to focus on material efficiency and on the distribution of information on waste.

Waste plan for the province of Oulu

The plan was approved by the two RECs on 30 May 2008 and it replaced the selective collection programmes that had been in place for each of the RECs since 1996.

The main objectives of the waste plan are: reducing waste (including through waste prevention), increasing the waste reuse rate, reducing the harmful effects of waste on the environment and human health, and establishing ecological and economic efficiency in the organisation of waste management.

The plan prioritises development within eight main areas: biodegradable waste, energy consumption in waste treatment, the disposal of sludge from wastewater treatment plants, the treatment of waste resulting from the energy production and mining industry (ash, waste rock, sand from ore dressing), the improvement of operations and profitability as part of waste management, the prevention of illegal dump sites, the use of financial incentives to promote waste reduction and the notion of regional cooperation for waste collection, use and management.

Waste plan for Lapland

The work of the Lapland task group focuses on municipal, industrial, construction, mining and farming waste as well as sludge from wastewater treatment plants.

The new regional waste plan for Lapland is currently being developed and will be finalised before the end of the year 2010.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Uusimaa Regional Environment Centre Asemapäällikönkatu 14, Helsinki, Finland, 00521 www.environment.fi/uus	Ministry for the Environment Asemapäällikönkatu 14 0521, Helsinki, Finland www.environment.fi	Finnish Solid Waste Association Salomonkatu 17 A, 3. krs, 00100, HELSINKI www.jly.fi	NetSer (Reuse National Network) PL 132, FI-20781, Kaarina, Finland www.netser.fi
Raimo LILJA (Waste Expert) www.ekoleima.fi			

Good practices

Bovallius Bio⁹⁵

Bio Bovallius Ltd is located in Pieksämäki. The company runs a facility for composting organic waste. Food that has been collected is processed and special material is added to guarantee the quality of the compost and prepare it for resale. To organise local collection, bins for organic waste have been distributed to various companies, bakers, supermarkets, and more.

Smarter without waste (FIKSU⁹⁶)

The Helsinki metropolitan area Council uses a series of actions to reduce the quantity of waste produced by businesses, local authorities, and households. The measures taken revolve around education and raising awareness of waste prevention, as well as financial incentives. It aims to raise public awareness of the need for prevention and reducing the volume of consumer waste, as well as raising awareness of responsible resource management amongst businesses.

Planned responsibility (Pirkanmaa Poducer⁹⁷)

Producer responsibility encourages manufacturers and importers to think about their products' life cycles. Producers and producer organisations have pledged to give their data to the Pirkanmaa Centre for Economic Development, Transport and the Environment, who then records the data in the national register of producers.

"The future is in your hands"⁹⁸

This environmental programme (2005-2010) aims to promote sustainable development and defines the actions needed to achieve this goal. The programme's objectives in the South Savo region focus on improving the region's environment and appearance through the sustainable use of natural resources and raising awareness of the environment and highly qualified environmental professions.

"Road to the environment's future"⁹⁹

One of the greatest coming challenges is to increase the waste recovery and reuse ration. In Northern Karelia, the "Road to the environment's future" programme will reduce the quantity of waste, increase recovery and reuse, and improve the quality of waste processing.

⁹⁵ www.bovallius.fi

⁹⁶ www.hsy.fi/fr/fiksu

⁹⁷ www.Ely-keskus.fi

⁹⁸ www.ymparisto.fi

⁹⁹ www.vyh.fi

Western Finland environmental programme¹⁰⁰

The objective is to implement sustainable development principles, while using resources in a sustainable way and increasing the environmental awareness of professionals and citizens.

Information kit ('Materiaalitehokas toiminta säästää luontoa ja rahaa. Elinkeinoelämän keskusliitto EK, 2008'¹⁰¹)

An information kit for businesses was designed to guide them in the efficient use of materials. The guide was published by the Finnish business confederation EK in 2008.

The company information kit provides information on "the efficiency of materials", legal issues, available information, etc. It also provides ideas and example son how to take efficiency of materials into account in practice.

Food economy (FOODSPILL¹⁰²)

A programme for the food economy, ran by MTT Agrifood Research Finland. One of the study's objectives is to identify possible improvements in the food industry in order to reduce the sector's environmental impact as well as its impact on the climate. In order to do this, data on food's carbon footprint is required to assist food companies, consumers and other stakeholders to make the right decisions.

The project will research and eventually develop methods, calculations, and tools for food companies that are reliable and easily updated, and that measure the sector's carbon footprint. This will lead to systematic evaluations of the carbon footprint¹⁰³ of companies and their products.

ENVIMAT¹⁰⁴

The project's objective is to analyse the life cycle and environmental impact of materials used in manufacturing and consumption in different business sectors and product groups within the Finnish economy. The project is not limited to the national framework. Environmental impact caused by raw materials and imported goods is also taken into account. The goal of the project is to create a hybrid model where the relationships between environmental impact and economic effects caused by the use of natural resources in Finland can be measured. This evaluation will use databases connected to national accounting for material flows and input-output analysis.

Motiva¹⁰⁵

Motiva Oy is a company that specialises in the promotion and efficient, sustainable use of energy and materials. Its services are used by government departments, businesses, local authorities, and consumers. Motiva acts as a governmental organisation. It provides an advice service for environmental technologies. The service is focussed on purchasing, in the energy, waste, water

¹⁰⁰ www.ymparisto.fi

¹⁰¹ http://www.ek.fi/www/fi/tutkimukset_julkaisut/2008/materiaalitehokkuus_WEB.pdf

¹⁰² https://portal.mtt.fi/portal/page/portal/mtt_en/foodproductionchain/responsiblefoodeconomy

¹⁰³

https://portal.mtt.fi/portal/page/portal/mtt_en/foodproductionchain/responsiblefoodeconomy/climatecountandcommunication

¹⁰⁴ <http://www.ymparisto.fi/default.asp?contentid=195528&lan=EN>

¹⁰⁵

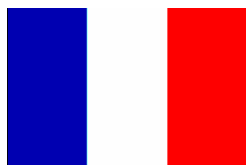
http://www.motiva.fi/en/areas_of_operation/material_efficiency/help_for_environmental_technology_procurement

management, transport, and logistics fields. The service's aim is to supply public sector clients with the best technological and environmental solutions while facilitation planning of public contracts.

Motiva develops and implements verification tools for material efficiency and analysis tools for business. The objective is to create an audit model used extensively by all industrial sectors¹⁰⁶.

¹⁰⁶

http://www.motiva.fi/en/areas_of_operation/material_efficiency/material_efficiency_audit_tools_for_companies



France

Central government

Population: 64,366,392

Municipal waste produced:
508kg per capita per year in
2003 and 543kg per capita
per year in 2008

National prevention strategy

Regulatory framework

National prevention policy is set by the Ministry of the Environment, and implementation is coordinated by the Environmental and Energy Management Agency.

Law 92-646/1992

Article 1: *"prevent or reduce waste production and its danger level"*. Prevention is both qualitative (avoiding and reducing harmful characteristics) and quantitative (avoiding or reducing production).

Environmental code

(Legislative section) Book V Section IV Chapter I - Elimination of waste and recovery of materials articles 541-1 to 541-50 and Book I Section II Chapter IV Other means of information article 124-1

Law of 8 August 2009 "implementation of Grenelle Environment Forum" or "Grenelle 1"

Renew efforts in waste reduction at source (-7% of household and similar waste in 5 years). Develop recycling of organic and inorganic matter (household and similar waste: 35% in 2012 and 45% in 2015, based on 24% in 2006; Household waste: 75% in 2012 based on 60% in 2006; Business waste excluding Public Works, agriculture, the food industry, and specific activities: 75% in 2012 based on 68% in 2006; organic waste: priority given to local management and separate collection for large producers). Reduce quantities sent for incineration or storage by 15% by 2012. The tax on collection and the tax on collection of household waste must, within the next 5 years, include a percentage incentive that takes into account the type and weight/volume of waste. Article 46 refers to article 4 of the Framework Directive for Waste 2008/98/CE and sets a hierarchy for waste management (prevention/reuse/recycling/recovery/elimination).

Law 2010-788 "Grenelle 2" of 13 July 2010

Article 78: Obligation to create prevention programmes for local authorities on 1st January 2012. "Risks, health, waste" themed workshop 3:

- set up special recovery and processing procedures for syringes, hazardous household waste, and furnishings.
- adjustments to the financial contribution made by each product to the pertinent procedure according to its environmental impact and value.
- all food stores larger than 2500m² must have an "unpacking" point after the checkouts where customers can remove packaging.
- limits set to the elimination or landfill volumes of household waste to promote prevention, recycling, and recovery.

Main prevention measures

National waste prevention plan (2004)

The national prevention plan is regularly updated and aims to instil waste prevention as a citizen reflex, as has become the case with recycling. It sets general guidelines and 3 work groups: stakeholder mobilisation, long term actions, and monitoring of actions. In 2006 a National Domestic Composting Plan was adjoined. Objectives: reduce the production of household waste by 7% per capita between 2009 and 2014, with a view to reach 15% by 2012 and involve 100,000 additional households per year across France.

National Waste Council (CND)

This is a **monitoring committee** made up of the waste sector's primary stakeholders (national and regional administrations, environmental and consumer associations, businesses, waste and waste prevention professionals). It evaluates the implementation of actions and a dashboard has been published annually since 2007. The CND includes 33 members who are appointed for three year terms by the Minister for the Environment and who work in sub-groups on different themes. The members include members of parliament, professionals, environmental and consumer protection associations, Government departments, public establishments, and other qualified individuals.

Governmental Action Plan for Waste for the period 2009-2012

ADEME's support mechanism for waste prevention 2009-2012 targets waste reduction actions in businesses, local authorities, and households.

A 3-year public awareness campaign "**Let's reduce our waste quickly, it's overflowing¹⁰⁷**" is run by ADEME and its partners (Resource Centres, France Nature Environnement, CLCV National Consumer Society), and includes an ambitious media plan as well as an annual French Week for Waste Reduction. (The campaign has been a success, as in 2009, 90% of those asked said that they were aware of or practise behaviours to reduce waste).

The inclusion of a variable incentive in **the prices set for waste** will promote good sorting and prevention habits by 2014.

N.B. Two ADEME studies (overview of products' second life cycle, and overview or repairs) provide an overview of stakeholders and initiatives for waste prevention. Two other sources of information can be used to identify waste prevention stakeholders and their initiatives (European Week for Waste Reduction file and French Sustainable Development Week file).

Regional prevention strategy

Regulatory framework

The regulatory framework is set on a national level.

Main prevention measures

The operational implementation of action plans and programmes resulting from the national strategy is left to local and regional authorities (Prevention Plan for Department Councils and

¹⁰⁷ www.reduisonsnosdechets.fr

Regional Council; Local Programme for Public Establishments for Inter-authority Cooperation) working with associations, businesses, schools, and other local stakeholders in prevention.

Regional prevention plans aim to cover 80% of their population within 5 years. Local programmes aim to reduce the quantity of waste by 7% in 5 years.

In order to mobilise local stakeholders, ADEME supports Local Authorities using specific actions: **technical and methodological support, training, financial contribution** for the implementation of local programmes, regional prevention plans, network development, and the analysis of results of local plans and programmes. With regard to plans and programmes, local authorities must provide a diagnostic of their area, then develop an action plan and put it into practice with active monitoring.

A **Prevention Manager Network** was set up to support local authorities involved in local prevention policy (2006-2008)

Local prevention plans and programmes. From 2009, the first year that the provisions were put into practice, 16/100 departments had a departmental prevention plan and some had additional local prevention plans. Furthermore, across French territory, 102 prevention programmes were underway in 41 departments.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Ministry of the Environment MEEDDM http://www.developpement-durable.gouv.fr/	The French Environment and Energy Management Agency (ADEME) www.ademe.fr	Réseau des Ressources (Resource Centre Network) 4 rue Delesalle 59110 La Madeleine www.ressourcerie.fr	France Nature Environnement 81-83 bd Port-Royal, 75013 Paris www.fne.asso.fr
Consommation Logement Cadre de Vie CLCV 59 Boulevard Exelmans, 75016 PARIS www.clcv.org	Réseau Ecole et Nature 474, allée Henri II de Montmorency 34000 Montpellier http://reseauecoleetnature.org/	Réseau National des 80 Centres Permanents d'Initiative pour l'Environnement UNCP 26 rue Beaubourg, 75003 PARIS www.cpie.fr	CNIID CENTRE NATIONAL D'INFORMATION INDEPENDANTE SUR LES DECHETS 21 rue Alexandre Dumas 75011 Paris +33 1 55 78 28 60 www.cniid.org
Fédération ENVIE 32 rue Delizy, 93500 Pantin +33 1 48 13 90 00 www.envie.org	DOSSIERS ET DEBATS POUR LE DEVELOPPMENT DURABLE (4D) 150-154 rue du Faubourg Saint Martin 75010 Paris www.association4d.org	Conseil National de l'Emballage 71, av. Victor Hugo 75016 PARIS www.conseil-emballage.org	Emmaüs France 47 avenue de la Résistance 93100 Montreuil +33 1 41 58 25 18 www.emmaus-france.org
Deux-Sèvres Nature Environnement www.dsne.org	ECO-CHOIX 20 rue Albert Gibet 76430 St Romain de Colbosc www.ecochoix.free.fr	Association Française des Professionnels de l'Evitement des Déchets (AFPED) 14 rue Claude Bernard 79000 Niort	Charente Nature Centre Hélène Bouché, Impasse Lautrette 6000 ANGOULEME http://charente.nature.free.fr
La Passiflore Rue de la Caserne, 35300 Fougères http://la.passiflore.free.fr/dec-hets.htm			

Good practices

Awareness campaigns

Several campaigns link mass media (media plan, advertising, web site) and local actions carried out by waste prevention awareness stakeholders.

The annual

- "Let's reduce or waste quickly, it's overflowing" campaign that was included in the European Week for Waste Reduction (2009-2011, piloted in 2008), coordinated by ADEME with 5 European partners and the support of the European Commission's LIFE+ programme. EWWR has already been recognised by the Commission as a good practice in raising awareness of waste prevention.
- Sustainable Development Week

Examples of actions aiming to promote eco-citizen behaviours:

- **Promoting tap water** (interactive "Water Bars") to motivate households to reduce their plastic waste production
- **Max and Min Waste Trolleys:** A comparison of the cost and environmental impact of two shopping baskets filled with environmentally responsible and irresponsible purchases (ADEME study)
- **Stop Pub:** stickers to stop junk-mail being delivered (14kg per capita per year in avoided waste),
- **Shopping bags:** plastic shopping bags are no longer freely distributed in shops.
- **370 pilot households** that test 10 prevention actions and measure their impact (under ADEME's guidance, data taken from 2009).
- **Development and promotion of eco-labels**
- **Calls for product eco-design projects** (2004-2008) – 36 projects selected
- **A national guide to responsible consumerism¹⁰⁸ from the National Consumer Institute,** focussing on waste prevention

Waste prevention guides and directories

Numerous initiatives list eco-citizen actions and the organisations that support reuse and repair.

- Local guides and directories for repairs and reuse
- Collection point directories for electrical and electronic equipment.

¹⁰⁸

http://www.conso.net/page/bases.18_acces_abonnes.1_se_connecter./?retour=%2Fpage%2Fbases.19_recherche_dans_le_site.%2F%3Frequete%3Dguide%2Bconsommation%2Bresponsable%26rechercher.x%3D0%26rechercher.y%3D0

Observation tools and improved professional practices

The **Winning planet club (Club Planète gagnante)**¹⁰⁹ highlights good environmental practice for businesses and organisations.

Ruse stakeholder directory (reuse and second hand)

Platform for displaying the environmental impact of everyday products (partnership between national administration and 3 major retail brands)

The LIFE+ **Miniwaste**¹¹⁰ project is a European project supported by the LIFE+ programme to develop **organic waste management methods**. The project is managed by the Rennes Métropole¹¹¹ local authority in partnership with Czech (Brno¹¹²) and Portuguese (LIPOR, Porto City) local authorities, as well as the ACR+ (Association of Cities and Regions for Recycling and Sustainable Resources Management) European network and the Cemagref¹¹³ research institute. The three local authorities demonstrate organic waste reduction actions (2010-2012).

Waste Objective -10% in 100 French companies (2004-2007). Green procurement policies and office waste management guides for government departments, distribution on various themed guides and tools (Clic' ADEME) to raise awareness of environmentally responsible behaviour (paper, textile, maintenance products, etc.).

Local and national stakeholders in waste prevention

Organisations active on a national and local level have various degrees of involvement in promoting waste prevention.

AFPED (Association of French Professionals for Waste Avoidance) brings together experts that want to contribute to developing prevention strategies that also offer dedicated training: Francis Chalot (author of the White Paper on prevention in 2001), Bruno Genty, Pénélope Vincent-Sweet, Patrick Hervier (who ran pioneering prevention experiments in Deux-Sèvres). They work in cooperation with national government, ADEME, regional governments, businesses that want to take part in regional waste prevention, and citizens' associations.

CNIID¹¹⁴ (National Centre for Independent Information on Waste): a non-governmental organisation specialised in problems in municipal waste that campaigns in favour of environmentally friendly waste management, especially through reducing waste at source (in quantity and toxicity) and an end to incineration and landfills. It provides the "secretariat for national coordination for the reduction of waste at source" that brings together more than 200 waste prevention associations.

FNE (France Nature Environnement) and its 3000 environmental associations have set the following priorities: promoting ecodesign for products, dematerialisation, environmentally friendly consumerism of eco-labelled products with less packaging, reuse (second hand), repairs and

¹⁰⁹ www.planetegagnante.fr

¹¹⁰ www.miniwaste.eu

¹¹¹ http://en.wikipedia.org/wiki/Rennes_M%C3%A9tropole

¹¹² <http://en.wikipedia.org/wiki/Brno>

¹¹³ <http://en.wikipedia.org/wiki/Cemagref>

¹¹⁴ www.cniid.org

domestic composting. A dedicated web site has been provided for the public¹¹⁵, and a second web site has been developed to raise awareness amongst society's youngest members¹¹⁶.

Network of Permanent Centres for Environmental Initiatives (CPIE): boasting more than 80 centres and 16 regional unions, the CPIE network is present across 21 regions and in 60/100 departments.

The School and Nature network brings stakeholders together during meetings and workgroups, suggests innovative teaching practices and tools to group leaders and teachers, and supports teaching activities based on waste management in schools, businesses, and local authorities. Its 27 networks connect several hundred environment and education stakeholders.

The Resource Centre Network¹¹⁷: 64 Resource Centres across 16 regions work with local authorities to set and achieve waste prevention and reuse objectives. Quantifiable regional and national (Resource Centre Watchdog) objectives are set, accompanied by steps to certify reuse/recovery centres and training courses for Resource Centre staff. The network played a role in the launch of the French Week for Waste Reduction.

Members of the **Emmaüs France** network have set the objective of constant innovation for waste prevention. Through their partnerships with local authorities on waste reduction, they are able to assist selective collections and reuse of reusable products (textile containers in Paris, dedicated containers or areas at dumps), and to develop use of recovery activities (Emmaüs Défi in Paris). Emmaüs has successfully pooled skills and collected products (Emmaüs Avenir), and carried out large-scale sales and communication programmes, such as Emmaüs Ruffec. The activity is expanding into new sectors (construction materials, wooden pallets) and some sectors have begun partnerships with local manufacturers and authorities in key sectors (electrical and electronic appliances, textiles, office furniture, etc.). For example:

- Emmaüs Neuilly Plaisance¹¹⁸: Using wooden pallets previously used for transporting and storing products to build houses.
- Emmaüs Laval: Partnership with local authorities to provide containers for reusable products in 40 dumps.
- Emmaüs France Network: Development of a study for defining collected furniture according to 4 criteria (type of material collected, quality, reuse rate) on ADEME's behalf.
- Emmaüs France and Le Relais: Partnership with Ville de Paris for installation of 200 textile collection containers in Paris.
- Emmaüs Ruffec¹¹⁹: Regional exhibition (raising awareness of social and environmental advantages of reuse and an exhibition on Emmaüs activities in the region).
- Emmaüs Défi¹²⁰: Training for poorest citizens on repair and reuse. First Emmaüs shops selling second hand furniture in Paris.
- Emmaüs Avenir: In the Parisian suburbs, a recovery and repair centre¹²¹ that recycles materials that cannot be reused.
- Emmaüs Roanne¹²²: Increase in rural deposit points managed by volunteers.

¹¹⁵ www.preventiondechets.fr

¹¹⁶ www.preventiondechets.fr/junior

¹¹⁷ www.ressourcerie.fr

¹¹⁸ <http://emmaus.neuilly.plais.free.fr/diaporama.htm>

¹¹⁹ www.emmaus-ruffec.com

¹²⁰ www.emmaus-defi.org

¹²¹ <http://emmaus.neuilly.plais.free.fr/ecocyclerie.htm>

¹²² <http://emmausroannemably.org/>



GREECE

13 regions divided into 57 prefectures

Population: 11,260,402

Municipal waste produced:
428 kg per capita per year in 2003 and 453 kg per capita per year in 2008 (Source Eurostat)

National waste prevention strategy

Regulatory framework

Law No. 2939

The main Greek act on alternative waste management is law No. 2939 for packaging and the alternative management of packaging and other products and for the creation of the National organisation for alternative management of packaging and other products (**EOEDSAP**) and other provisions, published on 6 August 2001, amended by law 3854/2010.

Section 1, paragraph 2 stipulates that among the law's objectives are the following:

"More specifically, the regulations of this law are intended:

- To prevent packaging waste by reducing the total volume of packaging, towards a more sustainable development.
- To reduce final production of packaging and other products, giving priority to re-use systems which have no harmful effect on the environment, and to recover materials and recycle in order to reduce the consumption of energy and raw materials..."

Decrees

There are several presidential and ministerial decrees derived from this law which specify the details for managing various waste flows.

Presidential Decree No. 117 5/3/2004 The measures, conditions and the programme for alternative management of waste from electrical and electronic equipment, in conformance with the mechanisms of directive 2002/95/EC (concerning limiting the use of certain dangerous substances found in electric and electronic equipment). It also specifies how it should be brought into line with council directive "2002/96/EC material on electrical and electronic waste (WEEE) of 27 January 2003". This decree stipulates that prevention must comply with law 2939/2001.

Presidential Decree No. 115 5/3/2004 replaces the common ministerial decision 73537/1438/1995 "for the management of batteries and accumulators (rechargeable batteries) containing certain dangerous substances" (B'781) and 19817/2000 which is an "Amendment of the joint ministerial decision 73537/1995" (B ' 963) ministerial decision. It also specifies "The measures, conditions and programme for alternative management of used batteries and accumulators". This decree stipulates that prevention must comply with law 2939/2001.

Presidential Decree No. 82 2/3/2004 replaces ministerial decision 98012/2001/1996 "Definition of measures and conditions for the management of used oil" (B '40). "The measures, conditions and

programme for alternative management of used oil lubricants". This decree stipulates that prevention must comply with act 2939/2001. This decree stipulates that the production of end waste from used oil should be reduced in conformance with law 2939/2001 and encourages regeneration.

Presidential Decree No. 116 5/3/2004 measures, conditions and programme for alternative management of end-of-life vehicles, used parts and transformers removed from the catalyst as required by the provisions of directive 2000/53/EC (concerning end-of-life vehicles, Council directive 18 September 2000). This decree stipulates that prevention must comply with law 2939/2001.

Presidential decree No. 109 5/3/2004 measures and conditions for the alternative management of used vehicle tyres should be registered in the programme for the alternative management of this waste". This decree stipulates that prevention must comply with law 2939/2001.

Common ministerial decision 50910/2727 22/12/2003 measures and conditions for waste management, national and regional planning. This law stipulates that the waste management strategy should, above all, aim to prevent and minimise waste. It indicates that the market should promote those products which are designed to keep waste quantities to a minimum during the production, consumption and disposal stages.

Common ministerial decision 29407/3508 16/12/2002 "Measures and conditions for waste dumping." This decision stipulates that the biodegradable waste sent to landfill sites should be reduced to a minimum according to the specific objectives set by directive 1999/31/EC.

Joint ministerial decision for the alternative management of construction and demolition waste and the governing board's appointment of the National organisation for alternative waste management of packaging and other products

Regional strategy for waste prevention

Regulatory framework

Common ministerial decision 50910/2727 22/12/2003 Measures and conditions for waste management.

National and regional planning

This law stipulates that the waste management strategy should, above all, aim to prevent and reduce waste.

It is also mentioned that the market should promote those products which are designed in order not to cause an increase in waste quantities during the production, consumption and disposal stages.

The new regional plans are:

- Regional plan for the management of waste from Eastern Macedonia and Thrace
- Regional waste management plan for Attica
- Regional waste management plan for North Aegean
- Regional waste management plan for western Greece
- Regional waste management plan for western Macedonia
- Regional waste management plan for Epirus
- Regional waste management plan for Thessaly

- Regional waste management plan for the Ionian Islands
- Regional waste management plan for Central Macedonia
- Regional waste management plan for Crete
- Regional waste management plan for South Aegean
- Regional waste management plan for Peloponnese
- Regional waste management plan for mainland Greece

The regions currently have very little legislative power with regards to setting waste management objectives. Generally they would formulate their own **management plans**. A restructuring of power between the State and the regions is currently underway; **the new regional waste management plans are currently being studied** The 57 districts which were responsible for these plans shall become **13 regions from 1/1/2011**. The 13 former regions will become 7 regional administrations after the elections. This means that Greece will go from having 57 local plans to having 13 regional plans.

Major regional prevention measures

There are currently no existing regional waste prevention plans, though some methods are being researched. The act simply states that they must respect national law 2039/2001. These objectives were set at and are determined at national level. The only relevant information concerning waste reduction in accordance with this national law is as follows: **"When regions receive money from EU funds for the construction of landfill sites, they must implement waste reduction and recycling measures"**. To date, these measures have solely concerned recycling issues.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

ECOLOGICAL RECYCLING SOCIETY 3 Mamai str. www.ecorec.gr	The Hellenic association for solid waste management 70 El Venizelou str., 17671, Kallithea www.eedsa.gr	Minister for the Environment, Energy and Climate Change Patision 147, 11251, Athens http://www.minenv.gr/anakyklosi/general/general.html
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Good practices

Reusable bags¹²³

The programme is lead by the **AB supermarket chain**. It aims to discourage people from using single-use plastic bags by offering its customers reusable bags.

Customers receive a bonus point for every reusable bag they use. This **bonus point is added to their loyalty card** and makes them eligible for a discount on their purchases.

¹²³ http://www.ab.gr/1_company/index.php?ID=perivallon_eke

In 2009, **463,052 single-use plastic bags were replaced with reusable bags.**

"Low Cost Zero Waste Municipality"¹²⁴

Project (STC MED 2009-2012) involving the cities of Athens, Thessaloniki (Greece), Ptuj (Slovenia), Barcelona (Spain), Ragusa (Italy), Marseille (France).

Encouraging waste prevention via **home composting** pilot projects in partner countries, the development of prevention strategies by distributing **good practice guides to local authorities** available through EFXINI POLI-Network of local authorities for social, cultural, touristic and environmental development as well as agricultural development.

District of Petroupoli home composting project¹²⁵¹²⁶

In place in Petroupoli, Athens and Attica since 2008. ERS launched this collaboration with the district of Petroupoli, which is involved in two types of activities.

The first was implementing a **home composting pilot project** by organising **an information campaign in schools in the area** and by handing out **compost bins** to 200 citizens.

The second activity was preparing a **study** which would enable the area to **extend this pilot project** over as great an area as possible, ideally over the whole of the area's residential population, by giving out compost bins. The study contains all the technical and economic aspects necessary for such expansion over a 15 year period.

The study details all of the district's waste reduction figures and relevant financial advantages according to the number of bins provided to citizens. The study shows the quantity through which the district is starting to save money from the project thanks to a reduction in the amount of waste collected.

At household level, a compost bin allows users to measure the quantity of biodegradable waste they are producing and therefore to think about their own waste production. This generally leads to a reduction in consumption. As a result, the home composting project in the district of Petroupoli reduces the total quantity of waste sent to landfill sites and acts as a preventive measure for the large-scale production of residential biodegradable waste.

Collection of unused medicines

Praksis is an NGO which aims to provide medical support to people without access to a national healthcare system. The project involves pharmacies and local Praksis clinics where people can hand in unneeded medicine so that it can be passed on to people in need. In 2007, the 2 main Praksis pharmacies in Athens and Thessaloniki distributed various medicines free of charge to a value of €164, 000

In Greece it is still common to donate clothes and certain small household items to the local church where they are then distributed among people in need. Children's clothes are often given to children's homes. Unused, in-date medicines are donated to retirement homes. All of these are common activities but they are not organised as part of specific projects.

¹²⁴ www.med-zerowaste.eu

¹²⁵ www.efxini.gr

¹²⁶ <http://www.petroupoli.gr/index.php?lang=en>



Hungary

Population: 10 030 975
(2009)

Municipal waste produced:
463 kg per capita per year in
2003 and 456 kg per capita
per year in 2008 (Source:
Eurostat)

National waste prevention strategy

Regulatory framework

Section 70/D of the Constitution

This states that "anyone living on the territory of the Republic of Hungary has the right to the highest possible level of physical and mental health." This objective is achieved, among others, through the state's protection of the natural environment.

The Constitution is to be amended in 2010 and "**the right to a healthy environment**" shall be included. This means that a closer link will be established between health and the environment. The concept of the environment will no longer be limited solely to nature conservation.

General law for environmental protection

There are provisions within the general law on environmental protection, which deal with principles closely related to waste prevention.

The principles of precaution, prevention and recovery are listed in the same chapter. Prevention of environmental damage is defined in section 38 as one of the State's specific tasks.

The chapter on paradigm shifts concerns education, which says (54 §1) that everyone has the right to further their environmental knowledge.

Law XLIII of 2000 on waste management

The most important element relating to preventive actions is included in the law XLIII of 2000 on waste management. The law defines the general rules for achieving waste management objectives "based on the principle of prevention, including pollution prevention, **the volume and nature of dangerous waste must be reduced as much as possible in order for us to reduce our impact on the environment**"

There are provisions for prevention methods among these general rules (5(2)). In order to avoid producing waste and to reduce the volume and dangerous nature of waste produced:

- develop technologies which consume little energy and resources and produce little waste;
- keep materials or waste within the production and consumption cycle;
- reduce the production of products which generate waste and harmful substances to a minimum;
- replace materials which produce dangerous waste.

Governmental decree 94/2002

The decree refers to the methods for processing the waste produced by packaging. The producer must try to prevent waste at the source-in the production phase-and save materials. To do this, he must fulfil standard "MSZ EN 13428:2004: "Prevention by reduction at the source".

Main prevention measures

The provisions cited above are the only ones which relate to prevention. For this reason no other measures can be implemented.

Revision to the law on waste management should last until December 2010. The new plan should include the definition of measures for implementing a waste prevention plan and lead to its adoption in spring 2011.

The national environmental plan for the 2009-2014 period states that products should be designed in order to be "repaired" and reused.

Contrary to regulations from the end of 2009, there is currently no National waste management plan in force.

Regional strategy for waste prevention

As part of this study, no information was found on the regional waste prevention framework.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Minister of Rural Development PO BOX 351 1394 Budapest www.kvvm.hu	Regional Inspection for Environmental protection	Car-Rec Kht (car waste) Recycling coordination agency Mészáros Lőrinc. u. 13. 9023 Győr http://www.carrec.hu	Fémszövetség (Metal Association)
Cseber Kht (pesticide waste) Recycling coordination agency Margit krt. 43-45. V.em. 8. 1024 Budapest http://www.cseber.hu	Environmental Management and Law Association (EMLA) Garay U. 29-31 I. em. 1. 1076 Budapest www.emla.hu	Electro-Coord Kht (e-waste) Recycling coordination agency Horvát u. 14-24. 1027 Budapest http://www.electro-coord.hu	HuMuSz Waste Reduction Alliance Saru str. 11 1111 Budapest www.HuMuSz.hu
Elektro-Waste Kht (e-waste) Recycling coordination agency Alkotmány u. 4. 1054 Budapest http://www.elektrowaste.hu	University of Environmental and Agricultural Sciences Gödöllő Páter Károly u.1 2103 www.w3.mkk.szie.hu	Hungakku Kht (accumulator) Recycling coordination agency Stefánia út 75. fsz. 1. 1143 Budapest http://www.hungakku.hu	National REC Network Office Eastern Europe Ady E.u. 9-11 2000 Szentendre www.rec.hu
REC Head Office Network Eastern Europe www.rec.org	Hungarohab Kht (accumulator) Recycling coordination agency Rómer F. u. 4. 1024 Budapest http://www.hungarohab.hu	Hurec Kht (tyre waste) Recycling coordination agency István Muzsay u. 5-7. 1089 Budapest http://www.hurec.hu	

Good practices

Drinks packaging deposit systems

Deposit systems for drinks packaging are widely used throughout Hungary but have recently experienced a reduction in favour of recyclable packaging.



IRELAND

Federal state: 4 provinces, 26 counties

Population: 4,450,030
(Source: Eurostat)

Municipal waste produced:
736kg per capita per year and
733kg per capita per year in
2008 (Source-Eurostat)

National waste prevention strategy

Regulatory framework

National Programme for Waste Prevention (April 2004)

Ireland was one of the first European countries to adopt the definition of waste prevention stated in the revision of the framework directive on waste: "Prevention: the steps taken before a substance, material or product becomes waste, allowing for the reduction of a) the quantity of waste, including through the reuse of products or by extending product life span, b) the negative effects on the environment and on human health caused by waste or c) the content of harmful substances in materials or products."

The Minister of the Environment launched a National Waste Prevention Programme in April 2004. It is implemented by the **Environmental Protection Agency (EPA)**. The minister in office has also set up the National Waste Prevention Committee (**NWPC**) which includes a large group of actors who meet regularly to determine the EPA's strategic guidelines for implementing the National Waste Prevention Programme¹²⁷ (**NWPP**).

Some of the initiatives included in the plan have since been implemented and six annual reports have been published. Management and prevention of municipal waste and other waste is set out in **10 Regional Waste Management Plans prepared by the local authorities**.

Main prevention measures

In 2008, a total of 3.22 million tonnes of municipal waste were produced in Ireland. The **objective** of these measures is to **obtain significant waste prevention and reduction results**, as well as to **integrate initiatives for raising awareness of waste reduction** (see Best practices section), **technical and financial assistance for training and mechanisms for encouraging action**.

The programmes set up as part of the NWPP include:

Local Authority Prevention Network¹²⁸ (**LAPN**)

The LAPN is a key element for continuing to strengthen local authorities' ability to encourage resource-saving and waste prevention in the local area through people in the field. The LAPN allows the EPA to provide Irish local authorities with technical assistance and financial support.

¹²⁷ www.nwpp.ie

¹²⁸ <http://www.localprevention.ie>

Science, technology, research and innovation for the environment (*STRIVE*) & *The Cleaner Greener Production Research Programme*¹²⁹

These programmes are led by the EPA and provide financial support for exemplary research and development projects. The programme has brought particular focus to cleaner and more sustainable production in SMEs.

Green Business Initiative

A National Waste Prevention Programme project. The green business initiative is principally aimed at small and medium enterprises (see www.greenbusiness.ie). It provides tools and methods for helping organisations to preserve the environment and reduce their resource consumption. A telephone support service which provides information and advice and even a verification tool for calculating waste type, volume and its source is set up as part of the initiative.

Regional strategy for waste prevention

Regulatory framework

The 10 regional waste management plans primarily concern household waste and recycling, for which the local authorities are largely responsible. Each plan includes prevention, but the areas agreed for this vary.

Major regional prevention measures

The Dublin area

Waste prevention and minimisation achievements have multiplied since Environmental Awareness Officers were appointed (*EAO*) in every local authority.

Other measures concerning waste prevention include appointing a *Green Business Officer* (GBO) and *Green School Officer*, (GSO) creating a *Regional Waste Steering Group* to facilitate the coordination of staff (EAO, GBO and GSO) awareness activities in each of the four local communities in order to draw up a coherent regional strategy.

The Dublin region works in collaboration with the national initiatives (EPA) for waste prevention and reduction and charges users of the waste collection service, using the funds to finance waste prevention and reduction.

The EAOs offer training opportunities for *Community Champions* (environmental awareness ambassadors) to help them carry out their awareness actions in their communities.

The local authorities responsible for awareness support and encourage local composting programmes, for example: on-site management of waste by communities, apartment blocks and shopping centres, but also having landscape gardeners offer composting solutions on the sites which they work on.

Local community staff recommends that people with large gardens use wood and green waste crushers in order to reduce logistical requirements. These objectives are detailed in the various reports drawn up by the four local authorities and can be viewed online¹³⁰.

¹²⁹ www.cleanerproduction.ie

¹³⁰ www.dublinwaste.ie/plan

Cork Region

The local authority has several ways of encouraging waste prevention.

An environmental audit system for schools, the *Green Flag Award scheme*¹³¹, identifies and awards the region's best green spaces.

The NWPP's green institution prize¹³² is also used for town halls (environmental management system set up in town halls and business).

Finally, the County of Cork cooperates in many waste prevention and reduction initiatives and implements a "*Green Housekeeping initiatives*" action. Details of these operations can be found online in the regional waste management plan¹³³.

Connaught region

Each local community has an appointed Environmental Awareness Officer (EAO).

So far, waste reduction initiatives in the region have focused on promoting the collection of sorted waste, recycling centres, collection centres and home composting.

Initiatives such as green schools and the Green Flag Award scheme have also been implemented (see above). Several national initiatives, including the "Race Against Waste" programme, have been implemented in the region.

South-West region

This region carries out a series of actions as part of its waste management plan¹³⁴.

Awareness in schools is supported by the Green-Schools programme.

Information regarding waste management is actively distributed throughout communities, schools and companies through public meetings, information bulletins and websites. A plastic bag tax is now in force and officers have been appointed to ensure that it is implemented by suppliers and retailers.

A battery recycling programme has been set up in primary and secondary schools. Wexford County Council has 102 primary and secondary schools participating in this programme.

Local authorities continue to buy and provide households with compost bins at cost price.

In order to raise public awareness and facilitate the regional information strategy: *WISER Ways* is a South-West initiative centred on waste prevention. This campaign complements the national "Race Against Waste" and "Waste prevention and minimisation" campaigns. The regional information strategy can be broken down into four sections:

- key objectives: objectives set by European and national legislation
- challenges: achieve national objectives at local and regional level
- strategy and implementation: distribute messages and techniques which will enable objectives to be achieved
- execution: formulate key awareness and education messages for stakeholders.

A public awareness campaign will establish the communication foundations for important events.

¹³¹ www.keepbritaintidy.org/GreenFlag

¹³² www.ctc-cork.ie

¹³³ www.corkcity.ie/ourservices/environment/wastemanagement

¹³⁴ www.wastenot.ie/plan

North-East region

The North-East region's waste management plan¹³⁵ involves the charity sector and local authorities in reducing the quantity of waste.

Waste prevention actions will be coordinated by the regional waste committee which will ensure that activities are carried out in a similar fashion across all local communities. The different actions are: support and promote producers' initiatives, coordinate EAO activities, share resources and coordinate with the EPA and the DoEHLG in order to implement National Waste Prevention Programme (NWPP) initiatives.

Waste prevention actions will be coordinated by the local community: encourage and support community and charity associations with EAOs, ensure that producer initiatives are carried out, launch household waste characterisation studies, encourage awareness and education by emphasising prevention and the correct management of dangerous household waste, home composting and worm composting.

The private sector will play a role in developing producer responsibility schemes.

Donegal region

Waste prevention, minimisation and recycling achievements have grown since Donegal County Council appointed an EAO, a Recycling Officer and a Regulation Officer.

Since the waste management plan was implemented in 2000, Donegal County Council has distributed 6000 compost bins to home-owners. To date, the *An Taisce* Green-Schools programme has awarded 32 green flags to schools in Donegal and 96 schools are actively working towards this achievement. The programme is designed to encourage and spread the word about schools' environmental initiatives. Environmental issues studied in the school programmes are then applied to school management in a controlled and uniform way. The County is now in a position to implement the Plan's recommendations.

Kildare region

Kildare County Council's specific policy has positioned the region as a leading example for waste prevention and minimisation practices. It has appointed a green business manager to be responsible for supporting and coordinating waste prevention/minimisation initiatives with local businesses and industry, help improve supply policies in the industry and in other sectors, work alongside the private sector in order to reduce packaging waste, liaise with the Clean Technology Centre so as to educate the industry about good practices for waste prevention and minimisation, and follow-up the Shoppers Awareness campaign.

The awareness campaign highlights the advantages that minimising packaging waste offers consumers. It actively supports local bodies in developing their repair services and/or reuse plants. Finally, it promotes composting within communities-an action which will reduce the production of green waste sent to landfills. The full waste management plan can be viewed online at the following address:

www.kildare.ie/countycouncil/Environment/WasteManagementPlans/WasteManagementPlan2005-2010/

¹³⁵ www.meath.ie/LocalAuthorities/Publications/Environment/NorthEastRegionWasteManagementPlan2005-2010/

Wicklow region

Wicklow County Council provides the public with detailed information on waste management¹³⁶.

Limerick/Clare/Kerry regions

This regions is highly active in waste prevention and the four local authorities of the Limerick Clare Kerry region have participated the Environmental Protection Agency's phase 1¹³⁷ which financed the Local Authority Prevention Demonstration (LAPD) programme.

The LAPD, which started in July 2006, came to an end in December 2008 and saw each local community work alongside external partners on a range of projects researching waste and waste prevention and minimisation methods.

Midlands region

In addition to a waste management plan¹³⁸, the region has 5 full-time environmental awareness officers working with schools, households and businesses to prevent waste production and encourage recycling.

The Region works with communities on programmes such as the "Adopt-a-bank-Scheme" which encourages communities to pick up waste in public areas. Awareness programmes for households and companies continue to increase in number every year and the Region aims to disassociate waste production from economic growth.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Department of Environment (Ministry) Ministère Custom House, Dublin 1, Ireland www.environ.ie	Irish Environmental Protection Agency Johnstown Castle Estate, Co Wexford, 3000 www.epa.ie	Clean Technology Centre (Educational) Unit 1, Melbourne Business park, Model Farm Road, Cork City www.ctc-cork.ie	Green Business Enterprise 2nd Floor, Block E, Iveagh Court, Harcourt Road, Dublin 2 www.greenbusiness.ie
Waste Management Office Regional Lissanalta House, Dooradoyle, Co. Limerick www.managewaste.ie	Repak (Prevention voluntary organisation with Government funding) Red Cow Interchange estate, 1, Ballymount Road, Clondalkin, Dublin 22 www.preventandsave.ie	Galway County Council Áras an Chontae, Prospect Hill, Galway www.galway.ie	

¹³⁶ <http://www.wicklow.ie/Apps/WicklowBeta/Environment/Waste/HowToManageWaste.aspx>

¹³⁷ <http://www.managewaste.ie/whatHappeninginWastePrevention.asp>

¹³⁸ www.laois.ie

Good practices

Local Authorities Prevention Network (LAPN)

The LAPN is key for strengthening local authorities' capacity to encourage the efficient use of resources and prevent waste at local level. Thanks to the LAPN, the EPA provides technical assistance and financial support to local communities in Ireland. The LAPN helps to create and show collaboration between a national programme and regional and local authorities, communities and local businesses. Each of these levels is supported by the area's superior authority.

The Clean Technology Centre¹³⁹ (CTC)

The Clean Technology Centre is an independent body which **advises and provides the industry, government and businesses** with the necessary aid for adopting more sustainable consumption and production methods. It is a national resource centre which enables all stakeholders involved in environmental protection to obtain independent advice. The CTC draws up contracts with the NWPP and the EPA in order to provide technical assistance for the implementation of the LAPN, green health care, green flag prize and the Stopfoodwaste campaign. The CTC aims to initiate and support the implementation of a sustainable approach to consumption and production.

The CTC recently published a food waste prevention guide with the goal of providing a step-by-step process for eliminating, minimising, reusing, recycling and recovering food waste.

Green Business¹⁴⁰

The "**Green Business**" organisation offers free advice to Irish businesses on how to improve resource efficiency by limiting wasting the materials, consumables, water and energy required for producing and operating. An online waste auditing tool enables companies to identify and reduce the type, volume and source of their waste by helping them to monitor the quantities and implement waste minimisation solutions whilst at the same time reducing their costs. A telephone number has also been set up to answer requests and enquiries. This is also a NWPP initiative.

Stop Food Waste¹⁴¹

This website was set up by the NWPP and EPA and provides the public with information on leftover food, statistics on food waste, advice on home composting and local information.

Repak¹⁴²

The packaging waste prevention programme "**Repak**" aims to help Irish businesses minimise packaging and promote their results to the general public. This project is financed and coordinated jointly by the NWPP and the EPA. As Repak has helped increase the level of packaging recycled over the past ten years, Ireland must now focus resources on preventing and minimising packaging. Methods include prevention (removing or avoiding certain packaging) and reduction (reducing packaging). This prevention approach named "*stop waste before it happens*" is being used again by the industry as part of its packaging policies: where possible, avoid excess packaging and disposable or non-recyclable/non-reusable products. The programme's measures include the production of

¹³⁹ www.ctc-cork.ie

¹⁴⁰ www.greenbusiness.ie

¹⁴¹ www.Stopfoodwaste.ie

¹⁴² www.repak.ie/Packaging_Prevention_and_Minimisation.html

publications, seminars and initiatives related to good practices and Repak Awards. These elements highlight the good practices implemented by Repak members in reducing their packaging production.

Waste Exchange

Dublin Waste¹⁴³ organises a nationwide waste exchange¹⁴⁴. Unwanted items which are still in usable condition can be given away free online and collected. Other bodies¹⁴⁵ provide similar services or are even developing a commercial waste exchange forum called SMILE which is funded by the EPA and the NWWP.

In addition, other reuse activities exist in different communities¹⁴⁶.

The NWPP is currently providing funds to set up a network in Ireland based on this type of activity.

Re-evaluate WEEE¹⁴⁷

The EPA currently provides funding for a research project studying the reuse potential of WEEEs.

¹⁴³ www.dublinwaste.ie

¹⁴⁴ www.freetradeireland.ie

¹⁴⁵ www.wastematchers.com, www.macroom-e.com

¹⁴⁶ www.rediscoverycentre.ie, www.rothar.ie

¹⁴⁷ www.reevaluate.ie



ITALY

Federal state: 20 regions & 109 provinces

Population: 60,045,068 (Eurostat 2009)

Municipal waste produced: 524kg per capita per year in 2003 and 561kg in 2008 (Source Eurostat)

National waste prevention strategy

Regulatory framework

National framework law on waste

With the publication of the national framework law on waste (**legislative decree no. 22/97** implementing the European framework directive on waste), environmental issues were encountered, particularly with regards to waste management in Italy.

Major prevention actions

In November 2006, Federambiente and the National Waste Institute (Osservatorio Nazionale Rifiuti¹⁴⁸) a technical body of the Ministry of the Environment, published the first **national guidelines for the prevention and minimisation of municipal waste**¹⁴⁹. These guidelines are aimed at administrators and managers of local public environmental services. They describe **ways of outlining and applying waste prevention policies and actions**. The work is based on an analysis of the good practices contained in the Federambiente database on waste prevention and minimisation.

The guidelines give information on various successful examples so that they can be implemented in other areas. They also come with a user manual for all of the tools (regulatory, economic, volunteer) which are already available at various levels (national, regional, provincial and municipal) for the implementation of prevention policies and measures.

The guidelines contain a manual for **measures regarding specific goods** such as:

- Fruit and vegetable boxes;
- Original packaging for liquid foods;
- Disposable baby nappies;
- Shopping bags;
- Food waste (leftover meals and food which is still in date);
- Containers for liquids and detergents;
- Sustainable goods (household appliances and electrical and electronic equipment for the house or the office);
- Bulky goods
- Medication;

¹⁴⁸ <http://www.osservatorionazionale rifiuti.it/>

¹⁴⁹ www.federambiente.it/open_attachment.aspx?ID=a0f0232b-b6c2-4ade-8AA0-745e2403b99c

- Used clothes;
- Paper.

The guidelines list the waste prevention and minimisation measures which can be put in place. They come with a series of useful and operational information. These measures are presented for every waste flow and are broken down into the following sections:

- quantity of products on the market and the quantity of waste that they produce;
- waste prevention and reduction solutions to be applied to the product flow and to their specific waste;
- application areas for the preventive measures;
- stakeholders and people to motivate to help implement the action;
- possible implementation tools;
- advantages in terms potential prevention and/or reduction results;
- obstacles which may be encountered when implementing the proposed action;
- examples of the best practices (taken from the Federambiente database).

Regional strategy for waste prevention

Regulatory framework

Generally, the regions and **local authorities** have specific and strategic expertise in the issue of waste prevention and reduction. This expertise is detailed by **decree-law 152/06 for scheduling and managing the waste cycle with regard to the community action hierarchy** (prevention, valuation and elimination).

In addition, the regions are requested to formulate **specific plans for the prevention and management of packaging waste**. They are also, **in accordance with decree-law 36/2003**, to manage **waste reduction plans for biodegradable waste which is to be sent to landfill sites**.

On the basis of national regulatory provisions, **regional and provincial plans** formulate and detail the measures which are to be taken in order to prevent and reduce waste as well as the tools which will enable them to be applied. Several local authorities have implemented waste prevention measures: the regions of Piedmont, Tuscany, Le Marche, Puglia and the provinces of Asti, Turin, Bolzano, Cremona, Mantua, Bergamo, Ferrara, Florence and Lucca ATO2.

The tools frequently used are often **voluntary and contractual** (areas sign protocols of understanding with local industry and/or businesses). In some cases, the areas use **communication tools** (information and awareness campaigns aimed at citizens), or **technical and economic tools** (implementing taxes, price setting, incentives and financing). Some examples of economic and financial tools:

- The regions of Venice and Abruzzo manage regional eco-taxes for landfills, to be used for stabilisation and waste collection purposes.
- The province of Cremona where the waste processing factory (burial and incineration) applies different tariffs according to the quantity of residual waste eliminated per capita in each municipality.
- The provinces of Mantua and Varese have implemented an additional provincial tax (ex Law 504/92) according to the development of waste production registered in their municipalities.

At operational level, it often seems that the joint use of various tools produces more efficient company actions, thanks, in particular, to the cooperation created between the different stakeholders.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

National Waste Observatory Via Cristoforo Colombo 44 Napoli, Campania www.osservatorionazionale.rifiuti.it	La Citta Verde Via Mascarino 14/A, Pieve di centro 40066 Bologna Emilia Romagna www.lacittaverde.coop	International Association for Environmental Communication AICA www.assaica.org	FEDERAMBIENTE Lungotevere dei Mellini 27 193, Rome www.federambiente.it
Veneto Trevise Veneto http://www.arpa.veneto.it	Rifiuti21Network Reggio Emilia, Emilia Romagna	Consorzio recupero vetro (CoReVe)	Piemonte Region Torino Piemonte

Good practices

Waste prevention and minimisation database¹⁵⁰

A national waste prevention and minimisation database has been functioning since 2004. It includes the best practices for waste prevention and minimisation and aims to improve general awareness on waste prevention as well as distribute information about innovative waste management practices.

The database contains around **130 practical waste prevention and minimisation experiments** carried out by local authorities, health services, environmental services and private operators in Italy. The database is divided into sections and themes. The section entitled "**tool box**" contains constantly updated tools allowing waste prevention policies and actions to be implemented at European, national, regional, provincial and local level:

- regulatory and legislative measures (directives, regulations, resolutions, etc.);
- economic tools divided up into incentive and deterrent measures (funds and eco-tax system);
- regulatory tools (programme contracts and/or agreements, area offers, agreements on the target objective, etc.).

Minimising mineral water bottle waste

This project aims to reduce waste from mineral water bottles by encouraging people to drink tap water. The municipality of Venice, in cooperation with the local water company, is promoting tap water with the slogan "Imbrocciamola" and two letters of support from the mayor, M. Cacciari, and the actor, Marco Paolini. A similar type of campaign is being led in public companies by the magazine *Altreconomia e Legambiente*.

Similar awareness raising campaigns have been launched by the municipalities of Alba and Florence. Tap water fountains have been installed in offices in Florence and bottled water has been banned. The objective: one million fewer bottles in four years.

Several other actions are being coordinated: The region of Marche has treated tap water fountains in its offices. The province of Trento is promoting a campaign for the use of tap water and the

¹⁵⁰ www.federambiente.it/prevenzione

minimisation of plastic packaging: "Apri rubinetto il e con la chiudi plastica". The province of Ferrara has installed **cooled water fountains linked to the main water supply in schools, cultural centres, retirement homes, school canteens and child care homes**. The HERA group has created the "Hera2O" an initiative targeting its 6,000 employees with the aim of encouraging and promoting the use of tap water on its premises and gradually eliminating plastic bottles in cafés, canteens and offices.

Sustainable purchasing

There are a number of initiatives to encourage sustainable purchasing in Italy. In particular, the regions implement distribution agreements with companies in the production and distribution sector.

The region of Piedmont, in cooperation with retailers and manufacturers, has set up a project to sell detergents in bulk with messages about sustainable consumption. Tuscany, Mantua, Lazio and Umbria are implementing similar steps. With its "Sconsigli per gli Acquisti" initiative, the province of Ferrara has taken steps to prevent the production of packaging waste from disposable crockery and unsold foodstuffs.

The province of Bolzano was the first region in Italy to take an interest sustainable purchasing. It has created an eco-label in agreement with retail food stores which apply various environmental standards-including waste reduction -as part of staff training and for encouraging and informing customers.

The municipality of Reggio Emilia, with its "La Spesa verde" project, is agreeing on an ecological quality label to be implemented in supermarkets in compliance with the set environmental standards. In supermarkets, COOP and SMA "pesariparmio" and CRAI "écopoints" initiatives enable food products to be sold in bulk.

Minimising WEEE

In Brescia, Aprica Spa (a company of the A2A group), with its "Lazzaro" project, takes used computers, which are still in working order, from schools and redistributes them.

In Rome, la Fondazione Mondo Digitale is involved in the collection of company computers. These computers are repaired by students, free software is installed and the computers in working order are then sent to community centres for the elderly. Also in Rome, the Binario Etico cooperative repairs computers using the GNU/Linux system.

With its "con PC Riciclo Linux" project, the municipality of Ferrara refurbishes and reconditions computers. It redistributes them to organisations and associations.

"Telefono Casa" is a project, carried out by a network of social cooperatives in the province of Treviso and Veneto, for collecting mobile phones which are no longer in use. These collections fund social integration activities and projects.

Minimisation of food waste and biodegradable waste

A certain number of prevention initiatives also have a positive effect on social issues, particularly those focusing on **the collection of foodstuffs**.

Food products from farms, shops, canteens and restaurants, which are nearing their use-by-date and are therefore going to be thrown away, are sent to non-profit organisations and canteen management associations, as set out by law 155/03 (so-called "Good Samaritan" law).

"Roma Spreca non" is a similar project which has led to the creation of a "last-minute solidarity market" (solidarietà Supermercato della), and a national network (Siticibo).

Several municipalities are involved in similar measures. Initiatives have been implemented in the municipalities of Bologna-"Il buno che Avanza"-and Brescia-by the social cooperative 'Cauto'.

The "Good Samaritan" project, organised by AMIAT, the Turin company for health in urban areas, transports foodstuffs from supermarkets and school canteens to soup kitchens. With regard to supermarkets, the "Brutti ma buoni" COOP project must be highlighted.

Among the initiatives which aim to minimise biodegradable domestic waste, the operation which is carried out most frequently is **home composting**. As an example, the Gaia Spa experiment carried out with the Asti municipal waste company limited waste production in the area through measures encouraging home composting.

Minimising festival waste

These initiatives focus on encouraging "eco-festivals". In Parma, the aim of the "Ecofeste" project is to reduce waste production and increase selective collection in the many festivals which take place in the province (over 300). Similar projects have been carried out in the provinces of Reggio Emilia and Lucca.

Minimising disposable products

Campaigns about reusable nappies have been carried out by local authorities: as is the case in the municipality of Torre Boldone (BG), at Fiemme Servizi Spa in Val di Fiemme (AMT), in the province of Turin and in the municipality of Reggio Emilia. With its "Ecoideas", the province of Ferrara devotes a share of its resources to this theme, publishing data and estimates as well as a list of companies which produce or distribute reusable nappies and a list of Italian municipalities which are involved in a campaign for donating reusable nappies to families with a newborn child. Through its "Ecobebè" project, the region of Varese encourages the use of reusable nappies with the help of the national health system.

Reusing products

The province of Bolzano includes local repair companies and rental services in its "Ex-Novo" database. The municipality of Follonica has created "Escoscambio", both a real and virtual platform which aims to encourage citizens to exchange second-hand goods. With the same objective, Aprica Spa in Brescia, in cooperation with Legambiente, has organised the "S...cambio di stagione" day. Also in Brescia, the social cooperative, Cauto, collects a wide range of products used by Caritas. With its "Una carrozzina per due" project, the municipality of Ravenna, in cooperation with Hera Ravenna, collects children's items (games, clothes, beds, pushchairs and prams) in order to redistribute them to associations which care for families in need.

Innovative local experiments

Some local organisations have implemented initiatives for several flows of goods and products.

For example: Aprica Spa, with the municipality of Brescia, has started **home composting programmes, eco-festivals, sustainable office** projects, and has supported initiatives for reusing computers, furniture, bicycles and foodstuffs. Other prevention actions are currently being formulated in cooperation with the province of Lombardy. Another example can be taken from the municipality of Reggio Emilia, coordinator of the "Rifiuti21Network", a working group within the local Agenda21Italy network. This initiative promotes sustainable waste minimisation and management. The towns of Brescia and Reggio Emilia are two major examples as they cover a large area.

Fiemme Servizi Spa, a member of Federambiente Val di Fiemme (AMT) has developed a number of initiatives aiming to minimise waste in the area, such as the sale of unpasteurised milk on tap (see

below), distribution of reusable nappies, as well as the exchange of second-hand goods with its "Festa del riuso". Another example is the municipality of Capannori (LU), which has taken the initiative of replacing bottled water with tap water in state schools. encouraging home composting, distributing unpasteurised milk.

Venice is another interesting example: the AERES association, Venice for Altraeconomia, in cooperation with the municipality, has developed a number of projects such as the development of a manual for domestic waste prevention (a local adaptation of the Federambiente-ONR guidelines on prevention) and a guide for adopting an alternative lifestyle and behaviour in terms of consumption.

Automatic milk and water distributors

Milk machines are generally placed in a town or area. There is a supply contract between the municipality and the local farms. The results are positive:

- Remarkably low consumer price
- Higher revenue for farmers
- Considerably less waste
- Healthier-and more tasty (it is neither skimmed nor homogenised, which makes the milk remarkably more tasty) for everyone.

Italian municipalities are involved in the "Zero waste" programme.

A number of municipalities have set up water fountains as part of the same initiative. These "water resource centres" offer free still and sparkling water. This allows citizens to save lots of money for the household, and to avoid producing a certain amount of plastic waste.

Water or milk resource centres exist in every municipality in the Milan area¹⁵¹.

Eco-Point

This project arose from collaboration between the supermarkets Crai and Planet and the "Planet Life Economy" Foundation (encouraging eco-friendly attitudes in the professional sector). Crai gives citizens a new way of consuming. Eco-Points offer everyday products such as pasta, rice, cereals, vegetables, nuts, coffee, spices and sweets in bulk from dispensers¹⁵².

Home composting in rural areas

This regional initiative led by Piedmont offers training and information to encourage residents in the community to manage their green waste through home composting¹⁵³.

Seminars

In 2008, Legambiente, a major Italian environmental NGO, set up a series of travelling technical seminars: "Towards a national waste prevention programme through local experiments".

In the same year, Federambiente (in cooperation with the National Waste Institute, Rifiuti21Network, Rifiuti21Network, Legambiente, CNI (Italian National Commission) Unesco and other national and local partners) launches the very first national waste prevention campaign, as well as the first Italian edition of the European Week for Waste Reduction (approved in 2008, trial edition).

¹⁵¹ www.lattecrudo.info/tecnologia.php?lang=en

¹⁵² www.crai-supermercati.it/etica_e_ambiente/ecopoint.asp

¹⁵³ www.pegaso03.it

The 2009 edition of the European Week was organised with Federambiente, the National Waste Institute, the province of Turin, 21 Waste Network, the Italian National Committee for Unesco, AICA (International Association for Environmental Communication), Legambiente, ERICA Soc. Eco.

On the 25 November 2009, Federambiente, the National Waste Institute and Legambiente organised the national Conference for "Creating a national prevention Programme" with major national stakeholders in attendance.



LATVIA

Federal state: 5 administrative regions

Population: 2.261.294 inhabitants

Municipal waste produced: 298kg per capita per year in 2003 et 331kg per capita per year in 2008 (Eurostat).

National prevention strategy

Regulatory framework

The national waste management office has published a waste management plan¹⁵⁴. But this plan does not touch on waste prevention.

Cabinet decree No.422 (23.07.2010)

In this decree, the cabinet requests that all States and municipal institutions set up selective systems for the collection of used printing paper. It also aims to introduce the individual collection of electrical and electronic waste as well as used batteries.

Main prevention measures

Natural resources tax

In January 2008, a national resources tax was introduced. Plastic bags handed out in shops are taxed therefore helping to limit their use.

Work has begun on waste prevention. Some in-the-field activities are underway, but there is no national strategy with a waste prevention objective.

Regional prevention strategy

Regulatory framework

Regional waste management plans exist¹⁵⁵, but they do not focus on waste prevention.

¹⁵⁴

www.vidm.gov.lv/lat/likumdosana/normativie_akti/files/text/Likumd/atkrit_apsaimn_pl/VidM_271205_Valsts_plans.doc

¹⁵⁵ www.vidm.gov.lv/lat/likumdosana/normativie_akti/?doc=9035

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Ministry for the Environment Peldu tr. 26-28, 1494, Rīga, Latvia www.vidm.gov.lv	Packaging Association of Latvia Vienības gatve 11 1004, Rīga, Latvia www.packaging.lv	Association of Latvia (WMAL) Aizkraukles street 21, 1006, Rīga, Latvia www.lasua.lv	National Bureau REC European Network Peldu iela 26/28, 306.ist, 1050, Rīga, Latvia www.reclatvija.lv
Baltic Environmental Forum Doma Laukums 1, Room 53, 1050, Rīga, Latvia www.bef.lv			

Good practices

Environmental education programme

The Green Night at the "Skolēnu Zaļā nakts" campus¹⁵⁶

20 universities were competing for the "Green dot"¹⁵⁷ Cup in Jūrmala. At this green night, the student teams prepared for a competition on different environmental themes including waste minimisation and waste reuse issues on university campuses.

The green dot programme at the "Zaļā punkta skola" university¹⁵⁸

"Green dot at university" is an environmental education programme organised by the "green dot" organisation which deals, amongst other things, with waste reduction and is involved with more than 300 universities in Latvia. This environmental education programme is based on several different events and materials.

"The green belt" association's educational material¹⁵⁹

Educational films¹⁶⁰ ("The Route of the Book", "The Road of the Battery") have been made which detail the life-cycle of such products.

¹⁵⁶ <http://www.zalais.lv/lv/jaunumi/noskaidrotas-eruditakas-komandas-nometne-skolenu-zala-nakts-jurmala/>

¹⁵⁷ http://www.zalais.lv/lv/vides_izglitiba/vides_izglitiba/

¹⁵⁸ http://www.zalais.lv/lv/vides_izglitiba/skoleniem/vides_izglitiba/

¹⁵⁹ <http://www.lzj.lv/>

¹⁶⁰ http://www.lzj.lv/lat/vides_izglitibas_materiali/



LITHUANIA

Population: 3 349 872
(Eurostat 2009)

Municipal waste produced:
383kg per capita per year in
2003 et 407kg per capita per
year (Source-Eurostat)

National waste prevention strategy

Regulatory framework

Waste prevention is one of the main priorities of the Lithuanian law on waste.

National waste management strategy

A certain number of steps have been taken within the framework of the 2007-2013 national waste management strategy (adopted by resolution 1224 of the government of October 2007 and in force since 2007):

- legal provisions for the **recovery and elimination of waste** have been implemented,
- **increased producer responsibility** has been applied with regard to processing end-of-life products,
- a **modern municipal waste management system** has been developed.

In November 2008, the Lithuanian government finalised **the adaptation of the European directive for used batteries and** incorporated amendments to the Code of Administrative offences. The bill introduces objectives for collecting battery waste and regulations for collecting, processing, recycling and eliminating battery waste.

The plan aims to ensure the quality of municipal waste management and make it accessible to all.

Non-dangerous waste must only be disposed of at regional landfill sites which meet EU requirements.

Main prevention measures

Very few measures have been identified.

Eco-friendly public markets

In 2007 the government approved the national programme for the implementation of green purchasing. The objective is to apply **environmental criteria** to at least 25% of public calls for tender by 2012.

In 2009, contracting authorities supply methods became more eco-friendly, thanks partly to training sessions.

Regional strategy for waste prevention

Regulatory framework

No regional strategy or regulations have been identified.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Ministry of the Environment 4/9 Jakšto, 1105 VILNIUS www.am.lt	Environmental Protection Agency A.Juozapavicius str. 9 9311 VILNIUS www.aaa.am.lt	City of Kaunas Visuomenės švietimas ir visuomeninė veikla atliekų prevencijos klausimais The Greens of Lithuania, different events on the school and university. http://www.zalieji.lt http://www.kaunas.lt/miestas/aplinka/atliekos.shtml	Association of Local Authorities in Lithuania
Association of Regional Waste Management Centres (RATCA)	Environmental Management and Audit Institute Director www.avai.lt	Lithuanian Communal Services & Waste Management Kaštonų g. 4, LT-1107 VILNIUS iakata@takas.lt	REC Country Office for Lithuania Svitrigailos 7/16, LT-03110 Vilnius www.rec.lt
City of Vilnius, environment & waste www.vilnius.lt			



LUXEMBOURG

Unitary State

Population: 493.500 inhabitants

Municipal waste produced: 684kg per capita per year in 2003 and 701kg per capita per year in 2008

National waste prevention strategy

Regulatory framework

The State of Luxembourg, through the Ministry of Sustainable Development, the environmental department or the Environmental Administration, acts at two levels:

1. carrying authoritative tasks such as drafting national waste management policy and applying standards, but also carrying out authorisation and inspection procedures;
2. direct involvement in practical, everyday waste management, particularly through *SuperDrecksKëscht* actions (see below) or in trial projects and studies carried out in the national interest.

The Framework law of 17 June 1994 on waste prevention and management, amended in 2004¹⁶¹

The law determines the legal framework around which waste management in Luxembourg must be structured. The law of 17 June 1994 defines waste prevention as a key priority over waste processing, prioritising recycling and reuse. Management methods for achieving this law's objectives are included in a general waste management plan which is to be revised regularly. This plan must also meet the planning requirements set by certain European directives, particularly the directive on waste, PCB, packaging and dangerous waste.

The first General Waste Management Plan¹⁶²

This was adopted by the Council of Government on 15 November 2000. **The first revision to this plan was approved on 29 January 2010,**

This plan aims to prepare Luxembourg for future community provisions in terms of waste management and to help achieve the Commission's objective which consists of striving towards a European society of recyclers. The plan's main points are:

- Re-emphasise the European framework directive's **waste management objectives hierarchy** and establish objectives in order of priority: prevention, minimisation, ecologically appropriate recovery (reuse-recycling), ecologically appropriate disposal of end waste. There is a difference in priority between waste recycling and energy recovery. Luxembourg legislation focuses strongly on keeping materials in the economic circuit for as long as possible.

¹⁶¹ http://www.environnement.public.lu/dechets/legislation/loi_cadre/loi_cadre_pdf.pdf

¹⁶² http://www.environnement.public.lu/dechets/dossiers/pggd/pggd_plan_general.pdf

- **Waste prevention principles and objectives:** There are two main waste prevention objectives. On the one hand, reduce consumption of products and thus materials in order to ensure sustainable management of natural resources. On the other hand, waste prevention aims to minimise the environmental impacts which result from waste management. This form of prevention can be: multi-use products, long-life products, products designed to reduce the amount of materials required, products designed to be reused or partly reused.
- **Re-emphasise the "polluter pays" principle,** the precautionary approach, and the principle of producer responsibility and the implementation of Best Available Techniques (BAT).

Main prevention measures

Waste prevention in Luxembourg is largely and actively encouraged by initiatives taken with all those involved in the country and targets consumers. The objective is to encourage consumers to buy reusable products or products with a longer life-span. Some examples:

- the voluntary environmental agreement signed between the Ministry for the Environment and Valorlux, which will see single use plastic bags replaced by reusable eco-bags.
- the "*clever akafen*" initiative, launched as part of SuperDrecksKëscht fir Biirger, which aims to promote products that are durable or contain relatively low levels or no dangerous substances to the retail industry.
- a pilot project from Oeko-Fonds, funded by the Environment Agency, under Luxembourg's tenure as European Capital of Culture 2007 that will replace disposable cups used during demonstrations replaced with reusable cups.
- SuperDrecksKëscht fir Betriberto's advice service for companies on waste management and waste prevention, tailored to the company's specific context (see awarding a SuperDrecksKëscht eco-label).

Building on these experiments, the waste prevention actions that have been implemented may be continued.

The projects cited above demonstrated that citizens and businesses will accept preventative measures and alternative products if:

1. they are readily available in business, and alternative products that directly contribute to waste prevention are available in retail;
2. the products have been adequately marketed by media in direct partnership with the main, and best known, stakeholders on the market.

Prevention through refurbishing

Recycling and refurbishing initiatives must guarantee as many materials as possible. This is in order to avoid as much as is possible the combination of different materials and contamination with other products or substances. In this way, the number of processing stages needed to obtain materials fit for sale on the second hand market can be minimised.

Taking these considerations into account, and knowing that most materials are obtained from the end user in a non-mixed state, then preventing these materials from being mixed must be made a priority. This can be achieved by setting up appropriate selective collection infrastructures for different materials, reducing or avoiding costly sorting and separation work. Areas dedicated to refurbishing are appearing in local recycling areas.

Adapted funding: The Ministry has an environmental fund for financing sound initiatives for waste management and reduction. (Law of 31 May 1999 for establishing an environmental protection fund).

NB. The Ministry is currently drafting a new law on waste that incorporates the European Directive 2008/98/EC into national law. Nevertheless, the framework law and the waste management plan already contain a number of these provisions, and the waste management plan 2010 will be used as a guide in this task.

Regional strategy for waste prevention

There is no regional strategy, but rather local prevention projects:

Local (municipal) regulatory framework

The municipality is responsible for municipal and commercial waste that is produced in the region, and must provide citizens and businesses with appropriate waste collection and processing systems. The difficulty lies in implementing national legal provisions.

In the municipalities' best interests, waste prevention must be made a priority so that there is as little waste as possible to be processed. The three main municipal unions (SIDECE, SIGRE, SIDOR) have each developed a waste management plan. An inter-municipality association (SICA) has recently tested and then standardised a tax on municipal waste, graded according to the type of waste, which has also entailed user savings in relation to the former system.

There are many recycling/refurbishing centres (22 active and 2 opening soon) in good locations within Luxembourg (Regulation of 01/12/1993), and it is planned to bring their operations into line with the new European provisions for waste management and prevention. These centres already have a user information centre, second hand shops, and specific collection infrastructures for different types of waste.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Administration de l'Environnement 16, rue Eugène Ruppert 2453 Luxembourg www.emwelt.lu	SuperDreckKëscht (SDK) B.P. 43 L-7701 Colmar-Berg www.sdk.lu www.clever-akafen.lu	Syndicat des Villes et Communes luxembourgeoises – SYVICOL 3 rue Guido Oppenheim L-2263 Luxembourg	Chamber of Commerce Luxembourg 7 rue A de Gasperi 2981 Luxembourg www.cc.lu
Mouvement écologique 6 rue Vauban, 2663 Luxembourg www.oeko.lu	Union Luxembourgeoise des Consommateurs (ULC) 55, rue des Bruyères L-1274 Howald www.ulc.lu	Chambre des Métiers du Luxembourg 2 circuit de la Foire Internationale BP 1604, 1604 Luxembourg www.cdm.lu	ECOTREL ECOBATTERIES 26 rue Leon Laval, 3372 Leudelange www.ecotrel.org
SIDOR Association Intercommunale Postfach 9, 3205 Leudelange www.sidor.lu	SIGRE Association Intercommunale 6925 Muertendall www.sigre.lu	CRTE Centre de Ressources pour les Technologies Environnementales BP 144, 4002 Esch sur Alzette www.tudor.lu	SICA Association Intercommunale du Canton de Capellen Postfach 9, 8205 Kehlen www.sica.lu
CUP SYSTEME Z.I. Op der Hei - B.P. 10 - L-9809 HOSINGEN www.cupsysteme.lu			

Good practices

Consumer information campaign and the "Clever Akafen" eco-label¹⁶³

The campaign was launched in 2007 by the Environmental Agency, using a partnership between several bodies to raise awareness of environmentally friendly products and those that produce little waste on the Luxembourg market. The campaign is organised by SuperDrecksKëscht® (created by the Ministry in 1985) and supported by the *Chambre des Métiers (Chamber of Commerce)* (www.cdm.lu) and the *Union Luxembourgeoise des Consommateurs (Luxemburg Consumer Union)* (www.ulc.lu). There is a good level of awareness among consumers. In more than 160 participating stores (supermarkets, DIY centres, electrical good retailers, paint shops) the "**Clever akafen – Product recommended by SuperDrecksKëscht®**" label has been set up alongside these products. Recommended products must meet certain general criteria: they must comply with ISO14024 and have environmentally friendly and recyclable packaging (evaluation of materials): not contain any, or very few, polluting substances: be sustainable (long lasting and low energy consumption): be recyclable following use (evaluation of materials) and, if that is not possible, able to be evaluated in terms of energy.

Eco-Sac¹⁶⁴

This action was launched in 2004 by VALORLUX (Point Vert), and is based on a voluntary agreement between 20 partners, including 5 hypermarkets, together with the Environment Agency and the Confédération Luxembourgeoise du commerce (Luxembourg Confederation of Commerce - CLC). The project aims to avoid the use of disposable shopping bags and save natural resources. 4 000 000 reusable and environmentally friendly eco-sacs (robust, exchangeable, and made from recyclable materials) were distributed by the 26 brands participating in the project, and results were positive: both in terms of awareness and savings. The action avoided the use of 60 million single-use bags, and has been extended to 2013. Children (primary school pupils across the country) have also been made aware of eco-bags through a drawing contest (in which 800 children took part), slogans, and dedicated teaching tools that were distributed to schools free of charge at the end of 2008.

"Waste prevention in retail" project

This project assists municipalities in reducing waste. The initial pilot project took place between 2005 and 2007 in Rumelange (population 4500) in partnership with the Town Council and the town's business association. Objectives: direct information for citizens when buying environmentally friendly products. The municipalities undertake to: make contact (via the Commercial Union, for example), publish the project in the local bulletin and on the municipality website, inform interested business owners and citizens, consult citizens and business owners on the environment/waste that lies outside the scope of the project.

Prevention of office waste¹⁶⁵

Publication of an information booklet on the reduction of office waste (2008) that is available for download online, and explains how to avoid or recycle office waste (paper, furniture, ink cartridges, CD-ROMs, as well as organic waste, packaging, electronics, chemical products, etc.). Other aspects of

¹⁶³ www.sdk.lu

¹⁶⁴ www.valorlux.lu/prevention/operation_eco_sac

¹⁶⁵

http://www.environnement.public.lu/dechets/publications/protection_domaine_administratif/brochure_ecologie_fr.pdf

optimal office waste management covered include energy and water consumption, the organisation of sorting for collection, and environmentally friendly cleaning methods. The booklet includes a form for making a management report on company waste.

SuperDrecksKëscht Initiatives

Launched in 1985 by the Ministry in partnership with local government and, since 1991, the Chambre des Métiers du Luxembourg, SDK is a complete system that will include all relevant stakeholders (citizens, businesses, government, associations) in information and advisory activities that target consumers (citizens and businesses). It promotes a "re-consumption" strategy based on the reuse of products and materials, second-hand purchases, as well as recycling. The eco-label, highlighting environmentally friendly products, as well as advice for businesses that wish to reduce and properly manage waste (2800 client businesses), a permanent awareness campaign (schools, media), and training courses such as in the following example. Success: SDK is currently the 3rd best known brand in Luxembourg, and can boast the involvement of 50% of national employers, leading other countries such as Switzerland to follow suit.

Example: SuperspillMobil¹⁶⁶ and support personnel provided to schools: children and teenagers can win prizes and learn to protect the environment through taking part in fun activities. One of the games places a special focus on the need to reduce waste.

Reusable cups¹⁶⁷

Following a pilot project in 2007 managed by the Oeko-Fonds Foundation that aimed to encourage the use of reusable cups at large events, concrete actions have been put into place.

Reuse good practices

Second hand areas and even second hand shops in municipal recycling areas in order to encourage and raise the profile of reuse. The system is based on the principle that it is free, and includes a collection and drop-off service that enables products in a working state to be directly reused.

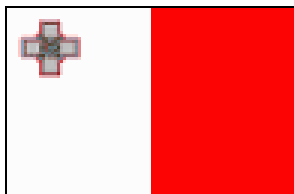
Promoting the creation of quality second hand and repair businesses.

Waste exchange¹⁶⁸

¹⁶⁶ www.sdk.lu/usersimage/File/SpillMobilBroschüre%202008%20franz.pdf

¹⁶⁷ <http://www.cupsysteme.lu/>

¹⁶⁸ <http://www.recyclingboerse.lu>



MALTA

6 islands (3 of which are inhabited), 5 regions, 68 municipalities

Population: 413,609 (Source Eurostat)

Municipal waste produced: 581 kg per capita per year in 2003 and 696 kg per capita per year in 2008 (Source Eurostat)

National waste prevention strategy

Regulatory framework

National policy directly related to waste management is contained in the following documents:

- Structural plan (1990 - 2010) for the Maltese islands is published in 1992 by the Planning Authority.
- Waste management policy for the Maltese islands, published and adopted in 1998 by the former Minister of Foreign Affairs and the Environment (currently Minister for the Environment).

Reference document on solid waste management strategy for the Maltese islands¹⁶⁹

This reference document was published by the Ministry of Resources and Rural Affairs in January 2009. It focuses on strengthening the waste management infrastructure and waste prevention:

"Minimising waste remains and essential strategic objective, and is necessary to minimise the effects of waste on the environment and society, and to comply fully with EU regulations. Large scale awareness campaigns play an extremely important role in this area and will continue to do so throughout years to come. Malta's strategic vision also includes the possibility of using the potential energy contained in waste. **The overall objective is to reduce the quantity of waste**, and to direct that which remains to recycling, the recovery of resources and the effective use of waste to produce energy. On a national level, the government will continue to research the possibility of manufacturer responsibility. A first attempt at collecting waste with a door to door collection system that could possibly be funded by the private sector has already begun".

Furthermore, waste reduction and prevention is a priority in the waste hierarchy and industry is recognised as a major factor in the success of household waste prevention projects. The priority must be to minimise the use of materials and energy during production, to used products that generate little waste and packaging design, to launch incentive based initiatives for the evaluation of products and packaging, as well as the sale of environmentally preferable products. Another similar measure is the substitution of materials already in circulation, all the more so the higher the content of dangerous materials. If this is not the case, then the government will examine ways to sanction companies that fail to make the eco-contribution required by law.

¹⁶⁹ <http://www.mrra.gov.mt/htdocs/docs/wastestrategyconsultationdocument.pdf>

Maltese island solid waste management plan 2000-2010

Malta's current waste management strategy reflects those set by the government as part of the Maltese islands solid waste management plan 2000-2010 published in 2001. It was Malta's first waste management plan and did not include measures for waste prevention.

In 2009, a revised plan was published that stated: "**Minimising and preventing waste is an absolute priority in the waste hierarchy**". Examples of ways to reduce waste in Malta include the following:

- The voluntary use of **reusable bottles** for drinks such as mineral water, soft drinks, beer, Maltese wine, etc;
- The levying of an **eco-contribution** on plastic bags in stores that is not passed on to the customer.
- The voluntary use of **pre- or post-mix systems for distributors of beverages**;
- **Reusing packaging** in certain industries of internal and external transport;
- **Extending the life of cars** and other products.

In most cases, the incentive to carry out these actions is financial rather than environmental. Unfortunately, situations where environmental benefits meet financial ones are somewhat limited.

Qualitative prevention and minimisation can be used to avoid using dangerous substances (heavy metals, dangerous chemicals) in the manufacturing process as well as in final products so as to avoid mixing different waste flows as they are generated.

Certain manufacturers in Malta use environmentally friendly manufacturing processes. However, they are not widely used as most products are imported to Malta from abroad or, if they are manufactured in Malta, must comply with international product standards.

Main prevention measures

Legal notice 382 in 2009

Waste to be stored in the Ghallies **sanitary landfill** must be **taxed at €20 per ton**, while **recyclable waste is to be taxed at €0.50 per ton** at Saint Antnin.

The government has set a cost of €20 for every ton of waste that is deemed to have been produced by local government. **This has lead local authorities to implement a waste hierarchy** defined in the revised waste management strategy for the Maltese islands. The surplus funds will be used by the Local Government to improve the local area, or to fund other expenses.

Tax on plastic bags

An eco-tax of €0.15 on plastic bags has been applied since 1st March 2009 on both standard plastic bags and **biodegradable plastic bags**. As both products are very similar, both in terms of use and appearance, they are subject to the same tax; the aim being to encourage consumers to invest in alternative shopping bags, such as canvas bags.

The ultimate goal is a reduction of the 40 million plastic bags used in Malta every year.

Regional strategy for waste prevention

No regional strategy identified.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Ministry for Resources and Rural Affairs
Beltissebh, Floriana,

WasteServ Malta
Old Railway Track, 9022, Santa Venera,
www.wasteservmalta.com

Planning Authority
PO Box 200, GPO 01, Marsa
www.mepa.org.mt

Office of the Prime Minister
Auberge d'Italie, Merchants Street, Valletta

Good practices

Eco-certification

The Malta Tourism Authority will set up an eco-certification¹⁷⁰ programme that "encourages hotels to provide a product that can better meet the needs of ever more environmentally conscious tourists".

A hotel must fulfil several criteria that aim to improve its environmental performance and raise awareness of environmental issues among their employees. The criteria include, among others, "environmental management, waste management and reduction, supply, energy, water, air quality, noise, buildings and green spaces, local culture and dissemination of information".

The project entails the appointment and **training of a project trainer within the hotel**, self-evaluation by the hotel according to the set criteria, and an independent audit of the hotel in order to check that the minimum requirements for the programme have been met.

"Green Office" Label

In 2006, the government launched a "Green Office" label: a certification system intended to promote greater **awareness and application of good environmental practices across all levels of government**.

To be awarded the label, a training course on how to implement the label over 6 months has been created. With this project, the Ministry of Rural Affairs and the Environment (now the Ministry of Resources and Rural Affairs) is making an effort to train government employees in good environmental practices in the office.

The programme lists good environmental practices that include environmental planning, waste reduction, energy and water conservation, and green public markets and transport. **A website**¹⁷¹ has been created to provide information on the programme. The aim of the site is to be used as a database for each ministry's consumption data.

Care. Create. Change.

This national project is financed by the European Social Fund. This project will provide training to hospital staff on how to prevent and reduce waste as well as how to reduce all waste flows from a product life-cycle perspective. It was launched in 2009 and will end in 2011.

¹⁷⁰ www.visitmalta.com/eco_certification?l=1

¹⁷¹ www.greennetwork.gov.mt

3Rs Ambassadors (Reduction, Reuse, Recycling)

WasteServ¹⁷² were awarded European Social Fund funding for 2004-2006 for this project that enabled 29 jobseekers to take **specialist training courses** that provide communication skills, technical knowledge on waste management, and environmental education.

Upon completing the course, **the trainees visited households throughout the Maltese islands to explain the 3Rs** (Reduce, Reuse, and Recycle waste) and selective collection of household waste to the general public.

Given this project's success, WasteServ continued to train more ambassadors, thus broadening the scope of the project to include more households around Malta and Gozo. These ambassadors visited various households to introduce the methods used to reduce, reuse, and recycle waste. This information was accompanied by advice and practical examples. The ambassadors have also made use of the media in order to reach more people on subjects such as home composting, than reduces the quantity of organic waste that ends up on the landfill.

Awareness raising campaigns in schools

From 2006 to 2010, WasteServ Malta Ltd ran an education programme in various schools that used interactive teaching methods and trips to its installations to raise awareness of waste management. Various interactive sessions (**PowerPoint presentations, games, theatre, environment week, puppet shows**) were used with young people from different age groups.

Each session began with the definition of waste, and the importance of the 3Rs (Reduce, Reuse, Recycle) and waste prevention. These sessions were held during over the entire school year and during summer school.

¹⁷² WasteServ Malta Ltd was founded in November 2002. The company is responsible for the organisation, management and operations of complete waste management systems, including complete systems for the minimisation, collection, transport, sorting, reuse, use, recycling, processing and elimination of solid and hazardous waste.



NETHERLANDS

Federal state: 12 Provinces

Population: 16.576.800

Municipal waste produced: 610 kg per capita per year in 2003 and 622 kg per capita per year in 2008 (Source Eurostat)

National waste prevention strategy

Regulatory framework

Law on environmental management

In 1997, the decision was made to **centralise waste management responsibilities in the Netherlands**. Regional authorities transferred some of their powers to central government.

The amendment to the Environmental Management Law related to this change came into force on 8 May 2002. The law states that **The Ministry for Housing, Country Planning, and the Environment must develop an updated waste management plan every six years**.

National waste management plan¹⁷³

The waste management policy for all types of waste must be specified under the Environmental Management Law.

The national waste management plan 2002-2012 was the first report that complied with the obligations laid out in the law. It was examined and implemented on the second quarter of 2009. The plan provides the policy for 2009-2015, and describes the prospects for 2021. From now on, the plan **incorporates the concept of product life cycles in waste management**. The aim of this policy is to develop **methods to reduce the environmental impact of products and materials throughout there life cycle**.

The waste management plan sets the objectives for waste prevention:

- Stimulate waste prevention, in order to **dissociate gross national product from total waste production**. Total waste production must not exceed 68 megatons in 2015 and 73 megatons in 2021.
- **Use waste as secondary raw materials** (the "cradle to cradle" concept) for seven waste flows (paper and cardboard, textiles, construction and demolition waste, organic and food waste, aluminium, PVC and bulky waste), so as to reduce pressure on the environment with a 20% reduction in waste for each flow.
- **Limit the quantity of waste incinerated or buried**, moving from 1.7 megatons in 2007 to 0 megatons in 2012.

¹⁷³ www.lap2.nl

Main prevention measures

The Dutch national waste prevention plan is not very specific on the subject of waste prevention. The most advanced aspect is the "product life cycle" approach.

Within the Ministry, waste prevention is not applied as such. There is a national agency, Agentschap¹⁷⁴, which is responsible for carrying out specific projects.

The agency coordinates several projects and research into waste management policy in relation to product life-cycles.

Regional strategy for waste prevention

Regulatory framework

Holland is divided into 12 Provinces: Drenthe, Flevoland, Fryslân, Guelderland, Groningen, Limbourg, North Brabant, South Holland, Overijssel, Hollande méridionale, Utrecht and Zeelande.

In Holland, the Ministry of the Environment is responsible for the national waste policy.

On a regional level, there are no responsibilities regarding waste management, except **the delivery of waste processing authorisations and waste processing plant monitoring**.

Local authorities are responsible for (selective) collection and processing of household waste.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Ministry for the Environment PO Box 20951 EZ, 2500, The Hague www.vrom.nl	Ministry of Infrastructure and Environment (former Ministry of Housing, Spacial Planning and the Environment) Rijnstraat 8, 2515 XP Den Haag (The Hague) www.minvrom.nl	NVRD Kroonpark 2, Arnhem, Postbus 1218, 6801, The Netherlands www.nvrd.nl	AgentschapNL PO Box 8242, 3503 RE, Utrecht, www.agentschapnl.nl
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¹⁷⁴ www.agentschapnl.nl (formerly known as SenterNovem)

Good practices

*Les Kringloopwinkels*¹⁷⁵

This chain of local companies boasts more than **220 second hand stores** in Holland. The kringloopwinkels process various waste flows (furniture, textiles, bulky waste, electrical items, and small objects).

*Carbon tax on packaging*¹⁷⁶

In 2007, Holland set up a waste fund. It is funded by a tax on the carbon contained in packaging. The **Waste fund provides a financial contribution to the separate collection of household waste from packaging**, while **the tax that funds it motivates businesses to reduce packaging**. The objective is to recycle 42% of plastic packaging by 2012.

Waste management company campaign

Berkel Milieu and Circulus are two businesses that operate in the area around Apeldoorn, Deventer, and Zutphen. They have developed a free waste themed communication campaign: "**think of the future, make waste ancient history**"¹⁷⁷.

Another collection company serves 9 local authorities in the Hilversum area. It is leading a campaign on changes to behaviour that will promote waste collection¹⁷⁸. The current campaign focuses on batteries and chemical waste.

The Utrecht region is also running a similar campaign¹⁷⁹.

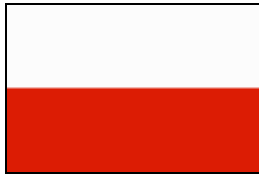
¹⁷⁵ www.kringloopwinkels.nl

¹⁷⁶ www.minfin.nl

¹⁷⁷ www.afvalvrij.nl

¹⁷⁸ www.afvalinfopunt.nl

¹⁷⁹ www.doemeermetafval.nl



POLAND

16 Provinces

Population: 38.135.876

Municipal waste produced:
260 kg per capita per year in 2003 et 320 kg per capita per year in 2008 (Source-Eurostat)

National waste prevention strategy

Regulatory framework

National waste management programme

In national environmental policy, waste management is considered to be a separate, priority area of environmental policy. The Polish Geology Institute has developed a National Waste Management Plan for the Ministry of the Environment.

The plan includes detailed analysis and evaluation of current waste management (including local governments, industrial, and hazardous waste) and a strategy for avoiding waste in both the short- and long-term.

In 2006, the Ministry for the Environment created a waste management department. The department's main responsibilities include the coordination of development and implementation of waste management policy, both on a national and European level.

The national waste management plan¹⁸⁰ was approved by the Council of Ministers on 29 October 2002, and then updated in 2006. The plan aims to fulfil the objectives of the "Second national environmental policy" and "National environmental policy for 2003-2006 with prospects for 2007-2010", as well as those of the "Executive programme for the second national environmental policy".

AS a result of this, the national waste management plan's **objective** is to **define the necessary tasks for integrated national waste management, while limiting harm to the environment**, and taking current and future techniques into account, as well as organisational, economic, and infrastructural quality possibilities. The plan is composed of three main sections:

- Local authority waste: municipal waste, packaging, municipal sludge and waste water.
- Industrial waste.
- Dangerous waste from both municipalities and the industrial sector.

A new national waste management plan is in the final stage. It will cover **2010-2014**. It will include a **waste prevention programme** for all types of waste, as well as a waste reduction strategy for biodegradable waste sent to landfills.

¹⁸⁰ www.mos.gov.pl/g2/big/2009_06/e97e2a07ce29b48c19f462f83a6bf1a9.pdf

Main prevention measures

The main activities that follow are listed in section 5 of the national waste management plan:

- continued **research** into new **technologies** that contribute to **avoiding and minimising waste** and its impact on the environment.
- support the development of **low-waste technologies** and/or technologies that do not waste any raw materials used.
- promote the implementation of an **environmental management system**;
- renewed emphasis on **environmental education** in order to promote waste reduction, and the dissemination of information through education campaigns.
- implementation of the "National Action Plan for **Green Public Procurement** 2007-2009;
- application of **economic mechanisms**, including a progressive increase in **tax** on waste disposal, especially mixed municipal waste, biodegradable waste, and other waste that is destined for another purpose, including recycling.

Regional strategy for waste prevention

Regulatory framework

Poland is divided into 16 provinces (*voivodships*). The law on waste [5] requires the development of waste management plans on national, regional (*voivodships*), district (*powiats*) and local government (*gminas*) levels.

Until 1st January 2008, the responsibility for applying waste management plans belonged to the State's regional representative (*voivoda*). This competence was delegated to the regional representative (*voivodeship Marshall*), in accordance with the **Law of 29 July 2005 on the changes made to certain laws on modifications to the structure of responsibilities and competences of internal administration** (Official journal no. 175, article 1462 and no. 267, article 2257 and 2006, no. 144, article 1043).

Main measures

Regional waste prevention strategies lists the general measures to take in order to **promote waste prevention and minimisation**, consolidate public education and awareness, encourage the use of products made from recycled waste by promoting educative activities, by directing public markets, incorporating environmental requirements into funding for public works and actions.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Ministry for the Environment Wawelska St 52-54, 00-922, Warsaw www.mos.gov.pl	National REC Office ul. Grojecka 22-24, 02-301, Warsaw www.rec.pl	Institute for the Environment in Industrial Areas ul. Kosutha 6, 40-844, Katowice,	Our Earth Foundation ul Hoża 3m5, 528, Warsaw www.naszaziemia.pl
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Good practices

EMAS Poland¹⁸¹

In Poland, a national programme for the promotion of eco-management and audits (EMAS) enables companies, organisations and public authorities to evaluate environmental performance and the quantity of waste they produce, as well as to increase the efficiency with which they use resources. Projects have created a solid working base for Poland. 350 representatives of small, medium, and large businesses, local government, and municipal waste collection organisations were trained as part of the project, in addition to 40 new EMAS inspectors.

¹⁸¹ www.emas.mos.gov.pl



PORTUGAL

Population: 10,627,250

Municipal waste produced:
477 kg per capita per year in 2008 (Source: Eurostat).

National waste prevention strategy

Regulatory framework

The framework law on waste

The framework law on waste (decree-law no. 178/2006), that created the National Authority for Solid Waste, established a "waste market". **Waste management and the regulation of this market helped conserve natural resources, through prevention, recycling, and valuation.**

The waste sector's environmental and economic impact requires **specific legal mechanisms**. It is necessary to clearly define the **responsibilities of those involved in waste policy** as well as **economic stakeholders, citizens and other members of civil society** involved in waste management, processing, and administration.

Decree 366-A/97

This decree monitors the recommendations in the European Directive 94/62/EC that prioritises **packaging waste prevention**, followed by **reuse** and **recycling**. It also states that **consumers** play a vital role in the production and management of packaging waste and should therefore **be educated to change their behaviour**.

It also states that **innovative solutions** that promote and facilitate proper waste management in terms of environmental impact and economic viability must be developed.

Strategic plan for solid municipal waste (PERSU II)

The plan is a **strategic management mechanism** for municipal waste for the period 2007-2016. The first section of the plan defines a municipal waste prevention programme.

Main prevention measures

Urban waste prevention programme

The aim of the urban waste prevention program is to suggest key actions, objectives, and resources, and to evaluate actions to reduce the quantity and danger level of waste produced. It was published in the Official Journal, no. 3227/2010 of 22 February 2010. It aims to **reduce waste production by at least 10% per capita by 2016**.

The prevention programme includes **specific preventative measures for each waste flow**. Various actions are included as an example: electronic invoicing, the promotion of individual and community composting, replacing single use bags with reusable bags.

A **programme monitoring sub-committee** has been set up. Its task is to **set action priorities** and to **involve** all **key stakeholders** in the completion of planned objectives. It also intends to **promote strategic partnerships** to achieve shared objectives and guarantee coordinated action. It defines the framework for a **more efficient use of resources**. The main role of the monitoring sub-committee will be to **monitor the implementation of the urban waste management programme**, in close collaboration with all those involved.

The sub-committee is made up of: **the national waste agency; the waste management company association; the national Portuguese local government association; urban waste management bodies; those involved in specific waste flows; the directorate general of economic activity; the Portuguese association of retailers; environmental NGOs.**

In summary, the powers delegated to the sub-committee are as follows:

- Monitoring implementation of the action plan, evaluating the measures and actions taken as part of the prevention programme;
- Promoting information exchange mechanisms and actions/initiatives taken by various parties in implementing the programme;
- Drafting an annual report to evaluate progress and areas in where actions/measures need to be consolidated or adjusted.

Regional strategy for waste prevention

Regulatory framework

Portugal does not have any regional governments. There is a single national waste management plan and 307 municipal plans.

The 307 local governments play a role in developing the national strategy through their national association.

Main prevention measures

Local governments are active stakeholders in waste management and implement local waste management and prevention strategies.

Strategic plan for integrated waste management

LIPOR¹⁸² has implemented a joint waste management plan for 8 local governments in the Porto region. In 2000, LIPOR developed a strategic plan for integrated waste management (2000-2014).

The document defined the options for processing and valuation of municipal waste, as well as **measures to comply with European and national waste management policies** (packaging, organic waste, WEEE, etc.). This document sets the appropriate budget and defines actions in the field (awareness campaign, communication campaign, etc.).

Waste prevention is not the subject of a specific chapter in the document, but is included in the **3Rs policy (reduce, reuse, recycle)** and awareness raising actions. Several other concepts – **sustainable consumption, eco-design, reuse, waste free, municipal waste reduction** – refer to prevention.

¹⁸² <http://www.lipor.pt/>

LIPOR has made waste prevention a priority of its strategic plan for sustainable management of solid waste 2007-2016. The plan's objective is to **reduce annual waste production by 100 kg per capita per year**. To meet this goal, LIPOR uses cross-disciplinary actions to support behavioural changes and involve a broad range of stakeholders in these issues across the 8 local governments under its authority.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

EGSRA National Waste Agency Avenida 5 Junho Trajouce 2785-155 Sao Domingos de Rana	National Environmental Agency Rua da Murgueira, 9/9A Zambujal Amadora www.apambiente.pt	LIPOR Apartado 1510 Baguim do Monte www.lipor.pt	National Network of Green Schools ABAE Rua General Gomes Araújo Bloco C- Piso 1 1350-355 Lisbonne www.abae.pt
National Laboratory of Energy and Geology LNEG Estrada do Paco do Lumiar, 22 1649-038 Lisbonne www.lneg.pt	Centro Educativo Navarro Paiva Rua S. Domingos Benfica, 16 1500-559 Lisbonne	QUERCUS National Association for Protection of Nature Centro Associativo do Calhau, Parque forestal de Monsanto 1500-045 Lisbonne http://residuos.quercus.pt	Escola Secundária da Boa Nova Leça da Palmeira

Good practices

*I don't produce waste*¹⁸³

LIPOR made the "I don't produce waste" *Eu nao faco lixo*) **web site** to encourage sustainable resource management, as well as to combat increased waste production in the Porto region (544,000 tonnes in the Porto metropolitan area in 2008).

The site includes various tools:

- An **eco-citizens** letter of appointment supporting waste management. Members will receive regular information on waste prevention and reduction actions.
- **10 key actions** for waste prevention effective and easy to carry out.
- Information on how to **organise or take part in local activities** as part of **European Week for Waste Reduction**.
- **Practical ideas** on how to reduce waste in everyday life: at home, in the office, at school, at Christmas, over the holidays, in the countryside, at the beach, and when shopping.
- An **interactive area** where citizens can **exchange ideas** and the "My Idea Counts" **competition** that will highlight one idea from a visitor to the web site every month.
- Waste **simulation tools and games**.

¹⁸³ www.eunaofacolixo.com

The right menu¹⁸⁴ (Menu Dose Certa)

The "Menu Dose Certa" project aims to reduce food waste in the hospitality industry by 48.5 kg per client per year in 2011. Espinho, a town in the greater Porto area, was identified as an area that produced a lot of organic waste and was selected for the "Menu dose Certa" pilot project. The programme aims to **change customer behaviour by raising their awareness of the problems caused by wasting food.**

The objective is to **support** restaurants in creating menus that **generate a small amount of food waste.** The project is part of a partnership between LIPOR, the Portuguese Association of Nutritionists, Espinho local authority, and local restaurants.

¹⁸⁴ http://ec.europa.eu/environment/waste/prevention/pdf/MenuDoseCerta_Factsheet.pdf



ROMANIA

Federal state: 8 Regions, 41 counties

Population: 21.466.174

Municipal waste produced: 350 kg per capita per year in 2003, and 382 kg per capita per year in 2008 (Source-Eurostat)

National waste prevention strategy

Regulatory framework

It is estimated that 45% of the Romanian population is without access to an organised solid waste collection and management system.

National waste management plan

The total volume of solid waste in 2006 was 320,610 tons, 99.7% of which was non-harmful waste. Around 79% of households in urban areas have access to selective collection. The main method for eliminating waste is to bury it. 239 municipalities have a nearby landfill site (only 20 of which meet EU standards).

Most industrial waste comes from mines and power stations. Around 98% of industrial waste has been eliminated from landfill sites.

In Romania **there is no national legal framework that refers specifically to waste reduction and prevention**. Mechanisms for reducing and preventing waste are included in national, regional, and local waste management legislation.

The framework directive on waste (Directive 2006/12/CE) has been incorporated into Romanian legislation¹⁸⁵, incorporating legislation on waste into:

- National waste management strategy¹⁸⁶
- National waste management plan
- Regional waste management plans
- County waste management plans

The waste management plan and strategy are the main mechanisms that guarantee Romanian implementation of European legislation on waste.

This first national waste management strategy combines the strategies of individual Ministries and was defined based on framework directive no. 1996/61/CE (on the control and **prevention of pollution**).

The national waste management strategy was developed by the Ministry for the Environment and Water Management, depending on the responsibilities that fall to this institution following the incorporation of EU legislation for waste management, and in line with the mechanisms included in the Emergency Government Order no. 78/2000 on waste, ratified by amendments to law no.

¹⁸⁵ <http://www.mmediu.ro/vechi/legislation.htm>

¹⁸⁶ http://www.mmediu.ro/protectia_mediului/gestiune_deseuri/strategii_planuri/NationalWasteStrategy.pdf

426/2001. The **strategy was developed to cover the period of 2003-2013, and should be revised regularly, depending on technical advances and environmental protecting requirements.**

The strategy's main mechanisms for **waste prevention and management** are included in the **strategic objectives and principles**. The prevention principle establishes a hierarchy of waste management activities: avoiding waste, minimising the quantity of waste, giving value to waste, and processing and eliminating waste in environmentally friendly conditions.

Depending on the waste management strategy, various options should be encouraged.

- Waste prevention: by using "**clean technology**" in activities that produce waste;
- Waste reduction: by implementing **good practices** in all activities that produce waste;
- Assigning value through **reuse, recycling materials and exploiting energy**;
- Elimination: using an incinerator or landfill.

The national waste management plan was developed in line with the strategy's provisions. Data on waste was collected as part of county waste management plans. The national waste management plan was made to cover the period from 2003 to 2013. The plan will be revised according to technical advances and environmental protection provisions.

The plan's main provisions for waste reduction/prevention are included in the general objectives and objectives for waste management (chapter 1.2, fig. 1.7)

Preventing production of waste

- **Maximise prevention of waste production**
- **Promote and apply the prevention concept to industry.**
- **Promote and apply the prevention concept to consumers.**

In emergency order 78/200 (amended and ratified by law 426/2001) on waste management, the waste hierarchy sets following priority objectives for waste management:

- **Lowering the quantity of waste and reducing harmful waste;**
- **Reusing, recycling and exploiting the energy of waste.**

The provisions on waste prevention are included in order 78/200 are as follows:

- Article 6 (1) refers to waste prevention and demands that **clean technologies be developed to optimise the use of natural resources**. The competent authorities are obliged to set up the measures required for waste prevention and reduction.
- Article 8 (1) states the **obligation of competent authorities to set up waste management plans** on both a local and a national level.
- Art. 19 relates to the **obligations of those who produce waste** to adopt **appropriate waste reduction solutions** as soon as they are developed.

Regional strategy for waste prevention

Regulatory framework

The framework directive on waste (directive 2006/12/CE) states that Member States must develop at least one waste management plan in line with pertinent directives.

Bacau Regional Environmental Protection Agency published order 61/2006 that amends and adds to the government's emergency order 782000. It states that **county councils, in cooperation with regional environmental protection agencies, are to develop regional environmental protection plans based on the national plan.**

Romania's system of governance is divided into towns, cities, municipalities, and counties. Its 41 counties and the municipality of Bucharest are classed as Level 3 divisions under the Nomenclature of Territorial Units for Statistics. Its cities and local authorities are Level 5 divisions. There are currently no Level 4 divisions in the country, but the creation of this administrative level is planned to allow better coordination of local development and management of national and European funding.

Bucharest and the 48 counties are divided into 8 regions that are classed as Level 2 divisions of the European Union. Before Romania joined the European Union, these regions served solely statistical purposes. In this light, even if they have formally existed for over 40 years, these regions' governments are new.

Developing regions and their counties

- North-West: Bihor, Bistrita-Nasaud, Cluj, Maramures, Satu-Mare, Sălaj
- North-East: Bacău, Botoşani, Iaşi, Neamţ, Suceava, Vaslui
- West: Arad, Caras-Severin, Hunedoara, Timiş
- Centre: Mures, Alba, Sibiu, Brasov, Covasna, Harghita
- South-West--Oltenia: Dolj, Olt, Vâlcea, Mehedinţi, Gorj
- South-Muntenia: Argeş, Calarasi, Dâmboviţa, Giurgiu, Ialomita, Prahova, Telorman
- Bucharest-Ilfov: Bucharest municipality and Ilfov county.
- South-East: Braila, Buzau, Constanta, Galati, Tulcea, Vrancea

Regional waste management plans have been developed by each regional environmental protection agency, in cooperation with local authorities and their representatives.

These plans have been **ratified by Ministry of the Environment and Water Management and Ministry of European Integration order no.1364/1499/2006.**

Regional waste management plans must be **revised every five years, or whenever necessary depending on the results of an annual report**, in order to include changes in the methods used to develop regional and local waste management plans, approved by the Ministry of the Environment and Water decree no. 951/06.06.2007.

Each plan takes **an inventory of waste management**: waste production, waste collection and transportation, and waste processing for exploitation or elimination. It describes **regional objectives, targets, the quantity** of municipal and packaging waste produced, specific waste flows, **the evaluation of technical solutions** for municipal waste management, the calculation of the capacity required to manage municipal waste, evaluation of cost, and implementation and monitoring mechanisms.

Regional waste management plans place **local authorities at the centre of developing sustainable waste management**. Nevertheless, their principle purpose remains the description of waste flows and available waste management options.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Ministry of Environment B-dul Libertății nr. 12, Sector 5, București http://www.mmediu.ro/	Environmental Protection Agency Suceava Str. Bistriței nr. 1A, Suceava, Cod 720264 www.apmsv.ro	Environmental Protection Agency Botosani B-dul Eminescu, nr. 44, Botosani www.apmbotosani.ro	S.C. Green Partners SRL Fantanele 18, 400294, Cluj-Napoca, Romania www.greenpartners.ro
Gorj County Council Târgu Jiu, str. Victoriei, nr.2-4, Județul Gorj, Cod 210165 www.cjgorj.ro	Pitești City Hall Str Victoriei nr. 24, Pitești, jud. Argeș, Cod 110017 www.primariapitesti.ro	Maramures County Council Str. Gh. Sincai nr. 46, cod 430311, Baia Mare, Maramures www.cjmaramures.ro	SC Eco-Rom Ambalaje SA B-dul 1Mai Nr. 51-55 (fosta Compozitorilor), Pavilion Adm., Etaj 7 (cladirea Munplast), Sector 6, Bucuresti, Cod 061629 www.ecoromambalaje.ro
asi Metropolitan Area Association Județul Iași, municipiul Iași, Bld. Poitiers nr. 10, Cod 700761 www.zmi.ro	Baia Mare City Hall Baia Mare, str. Gh. Șincai nr. 37, cod poștal 430311, județul Maramureș www.baiamarecity.ro		

Good practices

Network for sustainable planning of solid waste management and the promotion of integrated decision making tools in the Balkan region (BALKWASTE¹⁸⁷)

The LIFE+ project (LIFE07 ENV/RO/000686) led to the creation of a network for sustainable planning of solid waste management in four Balkan states (**Bulgaria, Romania, Slovenia and Greece**).

While there is no special focus on waste prevention, the project has, in many countries, facilitated exchanges of information on best practices in environmentally friendly waste management.

An environmental tax for use by an Environmental Fund.

Non-biodegradable packaging is regulated by emergency order 196/2006. It is used to finance the Environmental Fund. This fund selects and **finances environmental protection projects, including those for waste prevention and management.**

Packaging Deposit Scheme

A system for returning reusable packaging is described in governmental decision 621/2005 on packaging and waste management:

Battery Deposit Returns

The car battery deposit scheme is described in governmental decision 1132/2008 on batteries and accumulators and the waste they produce.

¹⁸⁷ www.balkwaste.eu



SLOVAKIA

Population: 5,412,254

Municipal waste produced:
297 kg per capita per year in
2003 and 328 kg per capita
per year (Source-Eurostat)

National waste prevention strategy

Regulatory framework

Law on waste no. 223/2001

The law on waste 223/2001 defines waste management as "an activity focused on the prevention and reduction of waste produced, and the reduction of environmental risks involved in processing waste".

The main objectives are to:

- **Prevent waste production and reduce the quantity of waste produced** by promoting the development of manufacturing technology that produces savings in natural resources as part of the manufacturing process. These technologies must also limit, as much as possible, the waste produced at the end of the product's life cycle. They should also limit pollution and develop methods for eliminating any harmful substances contained in waste that is to be exploited.
- **Exploiting waste** through recycling, **reuse** or other processes that provide secondary raw materials.

Other laws on waste

The laws on waste that stipulate prevention are as follows:

- **Law no. 529/2002**, section 5 for packaging waste: **Packaging** must be designed, produced, and distributed in such a way that they can be **reused and exploited**.
- **Law on waste no. 409/2006**, section 41 on **batteries and accumulators**. When these products become waste, they must be **managed according to the waste hierarchy**.
- **Law no. 409/2006**, section 50 on **vehicles at the end of their life-cycle**. The must be managed according to the waste hierarchy.
- **Law no. 409/2006**, section 54b on the management of **Electrical and Electronic Waste**:
 - electrical and electronic equipment must be **designed in a way that facilitates** disassembly and recovery, and that in particular enables them to be **reused**, and products, parts, and materials at the end of their life-cycle to be recycled.
 - the **manufacturing process** for electrical and electronic equipment **must not hinder** their "reusability".
- **Law no. 17/2004: taxes on landfills**: landfill charges will be progressively increased. The tax will be applied depending on the number of different types of waste sorted at source by the municipality in question. The tax will be paid by the municipality where the landfill site is located.

Main prevention measures

National waste management programme

The national waste prevention strategy is part of the National Waste Management Programme 2006-2010, approved by governmental resolution 118 of 15 February 2006.

The Slovak Republic's Sustainable Development Action Plan¹⁸⁸

The plan for years 2005-2010 also includes a **waste reduction objective** and outlines **economic mechanisms** to promote waste reduction.

Eco-label system

An eco-label system was set up in 2002 (**law no. 217/2007** on product eco-labels) and an initial eco-label programme ran from 2004 to 2008, granting the **national eco-label** "environmentally friendly product" to 144 products in 2007.

The programme's objectives include: **minimising waste produced when manufacturing products** as well as by the products themselves; reaching 100% "recyclability"; using waste from wood in the building industry; minimising electrical energy consumption in the manufacture and use of a product.

Regional strategy for waste prevention

Regulatory framework

There are no regional laws on waste, but regional authorities, districts, and municipalities manage their own waste management programme that must fit the national programme.

Slovakian law also states that **local governments** are **responsible for the processing, selective collection, and elimination of household waste**.

Each municipality can select the collection system to use, as well as the means of waste processing and elimination. These systems and methods must, however, **comply with the obligations cited in national waste laws** and all relevant regulations.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

Environmental Agency (SAZP) Tajovského 28 97590 Banská Bystrica www.sazp.sk	Ministry for the Environment Námestie Ľudovíta Štúra 1 81235 Bratislava	REC office Slovakia Vysoká 18 811 06 Bratislava www.rec.sk	Government Council Government Office, Nám. slobody 1 81370 Bratislava www.tur.vlada.gov.sk
SPZ - SPOLOČNOST PRIATEĽOV ZEME (FRIENDS OF THE EARTH SOCIETY) P.O.Box H-39 SK-040 01 Košice www.spz.sk	STUZ-SSL/SR - SOCIETY FOR SUSTAINABLE LIVING IN THE SLOVAK REPUBLIC Staroturský chodník 1 811 01 Bratislava www.seps.sk/zp/stuz	Slovak University of Technology in Bratislava Vazovova 5 812 43 Bratislava 1	REPANET SLOVAKIA RepaNet o.z. Staré Grunty 14 84104 Bratislava www.repanet.sk

¹⁸⁸ www.tur.vlada.gov.sk

Good practices

Conwaste¹⁸⁹

The CONWASTE (LIFE 2006) project aims to **reuse waste in order to minimise the use of natural resources** such as clay and sand, etc. in the **construction sector**.

It aims to **limit waste disposal and the dispersal of pollutants into the environment** (waste from water treatment plants is used as manure).

It also aims to **put those who produce and those who use waste in touch via a network**, leading to a significant reduction in the quantity of pollutants produced and waste transported.

Automatic milk distribution¹⁹⁰

Dairy farmers organise direct deliveries to their consumers. Quality milk is available at affordable prices. This **avoids packaging waste**.

Milk producers developed the system in 2009 in reaction to the sharp decrease in the sum paid for milk by the food industry. The first machines were funded by the government but now, with almost 100 machines in operation, the majority are self-financed.

The system presents the following advantages for the dairy farmers: they sell milk to customers at a higher price than to the factory, and they receive a stable income (prices do not change throughout the year).

The advantages for customers are as follows: the milk is cheaper than in shops and is of a high quality.

The advantages for the environment: customers take the milk in their own reusable bottles, thus not producing any packaging, and the milk travels a shorted distance between the producer and the consumer and is always fresh.

¹⁸⁹ www.conwaste.eu www.eko-salmo.sk

¹⁹⁰ www.polnoinfo.sk



SLOVENIA

Population: 2,032,362

Municipal waste produced:
418 kg per capita per year in 2003 and 459 kg per capita per year in 2008 (Source Eurostat)

National waste prevention strategy

Regulatory framework

Law for environmental protection

Waste management regulations and decrees are based on the environmental protection law. This law allocates **functional responsibilities** in waste management to national and local authorities.

Currently, waste management is planned on the national level: the Ministry of Environment and Land Development (*MOP*¹⁹¹) being the legislative body and the Republic of Slovenia (*ARSO*¹⁹²) acts as the competent authority for implementation of legislation on waste. ARSO also grants licences and authorisations in line with current environmental legislation. This same organisation published national waste reports that provide up to date information on waste production and management in Slovenia.

Decree on waste management

Published in the Official Journal of the Republic of Slovenia/OJ RS/no. 34/2008, the decree sets the general regulations on waste prevention and incorporates the waste hierarchy into article 6 as follows:

If processing a certain type of waste is regulated by the operational action plan for the environment relating to waste management, then the **following waste management measures must be given priority in the following order: preventing waste production, processing for reuse, recycling, other waste exploitation or elimination procedures.**

This decree is supplemented by three other regulations on:

- managing certain waste flows (such as packaging waste, batteries and WEEE);
- waste processing operations (waste elimination and incineration);
- cross-border waste transfer.

Main prevention measures

There aren't any **existing waste prevention programmes** on neither the national nor local level. There are plans to develop a national waste management plan in 2013.

Specific measures have been included in legal documentation for particular waste flows such as WEEE, batteries, and accumulators:

¹⁹¹ <http://www.mop.gov.si/en/>

¹⁹² <http://www.arso.gov.si/>

DEEE management regulations (OJ RS, no. 107/2006)

- When designing Electrical and Electronic Equipment, manufacturers must aim to facilitate dismantling and exploiting materials and parts at the end of their life-cycle, especially through **reuse** and recycling;
- **Manufacturing and production** must take "reusability" criteria into account.

Regulations for managing out-of use vehicles (OJ RS, no. 118/04), 2004

This specifies the regulations for the prevention and management of vehicle waste (especially **eco-design** criteria).

Decree on battery and accumulator management and battery and accumulator waste management (OJ RS, no. 78/2008 and 3/2010) 1998

Decree on management of packaging and packaging waste (OJ RS, no. 86/2006, 106/2006, and 110/2007), 2007

- The **volume and weight of packaging must be reduced as much as possible**.
- Packaging must be designed, produced, and sold in such a way that they can **be reused and exploited**

Decree on processing of biodegradable waste (OJ RS, no. 62/2008)

Decree on management of organic kitchen waste (OJ RS, no. 86/2006, 68/2008, and 39/2010)

Environmental tax

The series of decrees on the environmental tax on the production of different types of waste sets a "**polluter pays**" principle that also aims to **facilitate preventative measures**:

- Decree on environmental tax on **production of packaging waste** (OJ RS, no. 32/2006, 65/2006, 78/2008, and 19/2010)
- Decree on environmental tax on **end-of-life vehicles** (OJ RS, no. 87/2005 and 118/2005)
- Decree on environmental tax on **production of electrical and electronic equipment waste** (OJ RS, no. 32/2006, 35/2006, and 78/2008)
- Decree on environmental tax on **the use of oils and lubricants** (OJ RS, no. 53/2005 and 19/2010)

Other provisions for national prevention have been set:

- The use of **recovery systems for packaging** (OJ RS no. 125/00) by a **voluntary agreement on waste reduction in industry**.

New measures have recently been adopted, and more are in development, in order to meet the new recycling objectives set by the Waste Framework Directive. For example, domestic composting is now a priority under the new laws on organic kitchen waste and garden waste management.

Regional strategy for waste prevention

Regulatory framework

The regional prevention framework must comply with the national framework.

Main measures

With the exception of national measures, there was no available information on regional waste prevention programmes.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

ARSO Agence Slovène de l'Environnement Vojkova cesta 1b, 1000 Ljubljana www.arso.gov.si/en/	Ministry of the Environment Dunajska cesta 48 SI – 1000 Ljubljana www.mop.gov.si	Regionalni center za okolje za srednjo in vzhodno Evropo REC Regional Office for Slovenia Slovenska cesta 5, 1000 Ljubljana www.rec-lj.si	ZEG Union of the Environmental Associations Kardeljeva ploščad 1, 1000 Ljubljana www.zveza-zeg.si
Institute for Sustainable Development Trubarjeva 50, 1000 Ljubljana www.itr.si	Environmental Research Institute Spodnje Preloge 55, 3210 Slovenske Konjice www.orz.si	Komunalno Podjetje Vrhnik KPV Pot na Tojnice 40, 1360 Vrhnik www.kpv.si	Ecologistes sans frontières Društvo Ekologi brez meja Sostrska cesta 27E 1261 Ljubljana www.ocistimo.si

Good practices

Local awareness campaigns for school children¹⁹³

Local awareness campaigns for young people on waste reduction have been run. Various cities (Vrhnika and Borovonica and the Log Dregomer communities) have joined the Jernej FEFER awareness campaign. The programme targets primary schools and provides them with a full range of teaching materials including 4 books, software, downloadable teaching materials, and a teacher's book. 30 schools and 3200 children discovered selective collection, the advantages of clean waste processing, and the behavioural changes necessary to avoid pollution from waste. These initiatives do not currently receive state funding.

Awareness raising conferences for adults¹⁹⁴

Awareness conferences for the prevention and processing of waste produced by adults have also been organised in various companies. For example, KPV companies organise visits to their waste management centres and educate the public from three local authorities (21000 people, 9000 trained in 6 years).

¹⁹³ www.fif-jf.si

¹⁹⁴ www.kpv.si

"Clean Slovenia in a day" (Očistimo Slovenijo v enem dnevu! ¹⁹⁵)

This national campaign on 17 April 2010 aims to raise awareness of the environment, environmentally friendly waste management, and changes to individual behaviour.

270,000 volunteers (more than 13% of the Slovenian population) took part in the national environmental campaign. The volunteers carried out the action with the help of 210 Slovenian local authorities, 72 partners, 527 schools, and 273 nursery schools and 63 public services companies. Together, they **collected more than 11,000 tons of waste that had been thrown away in the Slovenian countryside and cities**. Various activities were organised in the run-up to the event: three creative competitions, a green journey through 14 Slovenian towns, a debate, and several exhibitions.

Network for sustainable planning of solid waste management and the promotion of integrated decision making tools in the Balkan region (BALKWASTE)

This LIFE+ project (LIFE07 ENV/RO/000686) led to the creation of a network for sustainable planning of solid waste management in four Balkan states (**Bulgaria, Romania, Slovenia, Greece**).

While there is no special focus on waste prevention, the project has, in many countries, facilitated exchanges of information on best practices in environmentally friendly waste management.

The certified reuse centre in Rogaska Slatina (EKO-TCE ¹⁹⁶)

The first reuse centre opened on 10 June 2010. This waste prevention and reuse project was launched by the Institute for Environmental Research (*Okoljsko raziskovalni zavod* in Slovenske Konjice) and the Centre for Applied Environmental Technology in Celje. This project is subsidised by the European Social Fund. The aim is to **set reuse standards**, as well as to **raise awareness of environmentally friendly consumption among centre users**.

The organisation coordinates **training for different groups of repair craftsmen and those from other fields linked to waste prevention, reduction, and management**.

The centre's objectives are to promote reuse of various objects (e.g. furniture, books, etc.) that are partially repaired and/or modified in the centre.

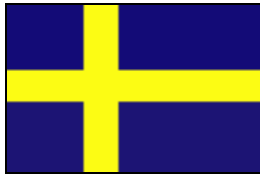
The project aims to implement the reuse concept contained in the European Framework Directive on Waste, thus saving natural resources and energy, and avoiding waste production. Furthermore, **the project endeavours to integrate and classify marginalised social groups, especially the jobless**. As well as paid staff, the reuse centre provides training to 10 individuals who are excluded from the jobs market in waste management and related activities:

- Raising awareness of waste management and environmental issues;
- A network for repairing and restoring objects;
- Maintenance of electrical equipment;
- Carpentry and craftsmanship;
- Environmental innovation;
- Eco-design;
- Marketing and promotion of environmentally friendly consumerism.

¹⁹⁵ www.ocistimo.si

¹⁹⁶ www.eko-tce.eu

Following cleaning, repair, and restoration, the product is ready for sale for a symbolic or fair price. The project also aims to develop new national standards for "reuse", and to use the knowledge gained in regional waste sorting centres in training programmes.



SWEDEN

3 large regions, 21 counties, 25 Provinces

Population: 9,256,347
(Source: Eurostat 2009)

Municipal waste produced:
471 kg per capita per year in 2003 and 515kg per capita per year in 2008 (Source: Eurostat)

National waste prevention strategy

Regulatory framework

Environmental code

All waste management is based on the **waste hierarchy** (as indicated in the new directive on waste). The **main priority is to prevent the production of waste**. The code's overarching objective is to reduce the environmental impact of all human activity through preventative measures and evaluation of different initiatives.

The Swedish government has set 16 environmental quality objectives. **Objective 15**, "a well built environment", sets intermediate waste objectives. For example, **the quantity of waste produced must not increase**. Potential resources produced by waste must be used as much as possible, while minimising their impact on health and the environment.

Main prevention measures

Mechanisms for waste prevention and the promotion of efficient use of materials¹⁹⁷

Sweden takes part in **Nordic Cooperation** and the **Nordic Council** (Norden¹⁹⁸), a regional body for cooperation of Scandinavian countries. As part of this, a study was published in 2009 on "mechanisms for waste prevention and efficient use of materials"

Regional strategy for waste prevention

Regulatory framework

Waste management strategies are developed and implemented on a **local level**, rather than regionally.

Each local authority in Sweden must have a waste management plan.

Main prevention measures

All plans must describe the waste processing method used in the local authority, as well as the actions to be taken to reduce the volume of waste and any danger produced.

¹⁹⁷ <http://www.norden.org/en/publications/publications/2009-532>

¹⁹⁸ <http://www.norden.org/en>

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

IVL Söderman PO Box 5302, 400 14 Göteborg www.ivl.se	Konvex SME LIFE+ Project Lead PB Box 734 53117 Lidköping	National Waste Agency Avfall Sverige Prostgatan 2 21125 Malmö www.avfallsverige.se	Naturvårdsverket 106 48 Stockholm www.naturvardsverket.se
Sustainable consumerism association Föreningen för Medveten Konsumtion Ladulåsgatan Magnus 24 (1 tr) 11866 Stockholm www.medvetenkonsumtion.nu	Svensak Retursystem AB LIFE+ Project Lead Gaevlegatan 16 6620 11384 Stockholm www.retursystem.se	Kretsloppspark Kristianstad (Snåarp) Bruksgatan 5, 291 59 Kristianstad http://www.kristianstad.se	SP Box 857, 501 15 Borås www.sp.se

Good practices

Towards sustainable waste management

A cross-disciplinary research programme has been created, dedicated to identifying policy mechanisms and strategic decisions to develop more sustainable waste management. The programme, funded by the Swedish Environmental Protection Agency, is planned to run for 6 years: 2006-2012.

Its objective is to find **sustainable solutions for waste prevention and processing**, to evaluate **existing or possible policy mechanisms**, and to explore scenarios that illustrate greater sustainability for waste management in the future.

The Swedish Environmental Research Institute (IVL¹⁹⁹)

IVL is an independent **research institute** that has been involved in solutions to environmental problems since 1966. IVL deals with environmental issues from a holistic perspective, aiming to **contribute to sustainable growth of businesses and society**.

Raising awareness of food waste reduction in restaurants

All businesses taking part in the action (**most restaurants in 150 towns**) have **measured the volume of waste produced by their business and their customers** and have displayed the quantity of food waste they produced.

This information was made available to customers and staff in the restaurants. The restaurants also provided information on the impact of waste production and the actions that anyone can take to reduce waste production.

A **list of 10 actions for waste reduction** was compiled to be used by both restaurant staff and customers. Special attention was given to those measures that enable restaurants to reduce the quantity of waste produced and to plan their menus. Advice was given to customers that included using the same plate for the starter and main course, using a cloth napkin, avoid using disposable plates, using china cups, etc.

¹⁹⁹ <http://www.ivl.se/>

Anti-waste food labels

Maxi ICA set the goal of not throwing away any food products when their Optimal Use Deadline (Best Before Date) had been reached.

ICA stores developed a **labelling system**. A green label with the text **"to be used quickly"** is stuck to products nearing their use-by date, and the price of the product is also reduced.

Eco-consumers board game

"4000 young people in Gothenburg questioned their lifestyle. And you?" As part of this campaign led by the Gothenburg recycling and waste management office (*Kretsloppsk kontoret*²⁰⁰) in secondary schools, a **board game** was developed by **the pupils to raise awareness of eco-consumerism**.

The game focuses on **consumer habits in relation to their lifestyle**. The game tries to give students advice on lessening their own impact on the environment. In addition to the game, everyone is invited to watch a film and to think about their own lifestyle and impact on the environment.

Dematerialised services

Several companies have joined together to offer dematerialised gifts through a web site²⁰¹. There are several stakeholders in this sector. By purchasing an e-gift (water-skiing, horse riding, etc.) instead of an object, waste is reduced as much as possible.

Reuse in businesses

The aim of the Allwin organisation is to have all **incorrectly labelled products that are otherwise in perfect condition, or merely unsold products** sent to charities to be resold.

Online sales for second hand products

Blocket²⁰² is a web site where people can sell second hand products. There are several stakeholders in their sector.

Reuse/Recycling Centre (Kretsloppsparken)

A recycling centre was opened in Gothenburg in 2007 (2nd largest city in Sweden). Other centres followed in other cities such as Sundsvall. It is an innovative concept that **provides citizens with a single site for dropping off their items to be reused or exploited**.

At the centre, citizens can hand in their old objects such as furniture, clothes, and other items that they no longer wish to keep. The "waste" is then given to regional charities to be sold on.

²⁰⁰ <http://www.goteborg.se/wps/portal/kretslopp>

²⁰¹ www.upplevelse.com

²⁰² <http://www.blocket.se/>



UNITED KINGDOM

Federal state: 4 regions

Population: 61.595.961 inhabitants

Municipal waste produced: 593 kg per capita per year in 2003 and 565 kg per capita per year in 2008

National waste prevention strategy

Main prevention measures

The United Kingdom is a State that contains 4 countries, each with their own regional strategies for waste. The countries are divided as follows:

- England (with 39 counties and 7 metropolitan counties)
- Scotland (with 32 local authorities)
- Wales (with 22 local authorities across 3 regional areas)
- Northern Ireland (with 26 districts)

Regional prevention strategy

Main prevention measures

England

The government published the **Waste Strategy for England 2007 - WS2007²⁰³** on 24 May 2007. This strategy describes the main actions to implement for sustainable waste management in England. The government then published the **annual waste strategy report 2007/08** on 10 July 2008.

One of the main objectives of this strategy is to "**dissociate increased waste produced** (across all sectors) **from economic growth**" and to highlight waste prevention and reuse, without setting objectives for the overall volume of waste reduced.

The importance of prevention in the waste hierarchy is highlighted through a **range of prevention actions: economic incentives, special regulations, voluntary actions, and awareness raising**. In October 2009, the Secretary of State presented the "**zero waste nation**" programme that accompanied 6 English pilot projects, the "**zero waste places**" that concluded in March 2010.

Following its involvement in the waste strategy, DEFRA (Department of Environment, Food, and Rural Affairs) created a committee of **Waste Strategy Group Stakeholders**. It advises DEFRA on the implementation of strategy and the policy changes to make around the strategy. The members are from a broad range of organisations. Their main function is to advise the ministry on implementing priority waste management strategies. Within six months of completion of "Zero Waste Places" projects, DEFRA will publish a full waste prevention strategy that sets objectives to achieve.

²⁰³ www.defra.gov.uk

Scotland

The Scottish Government launched its first **"Zero Waste Plan"**²⁰⁴ on 9th June 2010. The plan describes the "zero waste" society that the Scottish Government seeks to achieve. The plan states that waste must be considered as a resource, reduced to a minimum, and that rare resources must not be sent to landfills, and sorting should limit the quantity of waste for processing. To meet these objectives, the plan includes measures such as a **"Waste Prevention Programme"**. It ensures that waste prevention and reuse form the foundation of actions and policy.

The plan's main fields of application are as follows:

- **Resource flows:** reduce overall use of resources in Scotland, reducing impact on the climate and improving resource efficiency.
The Scottish Government is developing a prevention programme for all waste producing sectors that will put prevention at the heart of its policy, in line with the European Waste Framework Directive. This action is due to be published in early 2011.
- **Economic opportunity:** Initiatives launched by the Scottish Government include a 2010 study on the implementation of European Directives and initiatives that involve manufacturer responsibility (especially where plastic bags, electronic products, batteries, and packaging are concerned). The study's aim is to identify any possible changes to be made to better coordinate the recycling market and waste prevention actions in Scotland. The study also focuses on the addition of new collection schemes that involve greater manufacturer responsibility.
- **Managing sector resources:** The Scottish Government has researched measures to ban use of landfills in order to ensure that only resources that offer no environmental or economic advantages to being reused or recycled are used for energy recovery. The aim is to obtain an energy yield that is similar to the current level while reducing the amount of waste exploited.
- **Education and awareness-raising:** In collaboration with local authorities, Zero Waste Scotland runs a consistent, targeted, and coordinated awareness- raising and education programme for businesses and the public on both a local and national level.

Scotland also has other, regional laws:

The **Household Waste Prevention Action Plan for Scotland**²⁰⁵ was published in February 2007. The plan covers the following four areas:

- Waste prevention, with, for example, a reduction in purchasing useless products
- Waste reduction, notably through eco-design products, and the promoting products that produce less waste
- Reusing products
- Qualitative waste prevention: reducing the danger level of waste

²⁰⁴ www.scotland.gov.uk/Publications/2010/06/08092645/0

²⁰⁵ www.scotland.gov.uk/Resource/Doc/166848/0045564.pdf

Wales

The **Towards Zero Waste**²⁰⁶ plan outlines the Welsh Government's strategy. The strategy is based on the successes of 2002's "**Wise About Waste**" **national Welsh waste strategy**²⁰⁷. It outlines a long term framework for the promoting resource efficiency and good waste management from 2010 to 2050.

Wales is made up of 22 local authorities that are supported by local Welsh Local Government Associations (WLGA). These authorities are grouped into three regional areas for waste planning: North, South-East, and South-West Wales. Plans are revised every three years. Regional waste plans were recently revised to meet "Towards Zero Waste" 2010 objectives. It describes the national Welsh objectives:

- 70% of all waste either recycled or composted by 2025
- 90% of construction waste either reused or recycled by 2025
- A maximum of 30% residual waste by 2025

"Towards Zero Waste" objectives should be achieved using **sector plans for different municipal, commercial, and construction sector waste flows**.

The aim of the sector plan for the reduction of municipal waste is to reduce the volume of household waste produced by 1.2% per year until 2050. Another sector plan "collections, infrastructure, and markets" identifies the physical infrastructures required for this collection and processing of materials, including those that can be reused. This approach lengthens product and material life before waste processing becomes necessary.

The WLGA formed a public communication team for **raising awareness of waste in Wales** ("*Waste Awareness Wales*"). It brought together public, private, and other stakeholders in a steering committee for waste prevention and reuse. The group supports communication campaigns such as *LoveFoodHateWaste* or *The Real Nappy Campaign* (see good practices).

Wales is currently finalising a **tax** on retailers that provide single use **plastic bags** in their stores. It also supports pilot projects to promote "towns without plastic bags".

Product design is also covered by this programme. The government also supported the **Ecodesign Centre Wales** that works in close collaboration with manufacturers for more efficient use of resources in the design stage.

The Welsh National Assembly supports the work of *Cylch*, a community association for reuse and recycling that is currently developing a **reuse strategy for Wales**. *Cylch* developed a reuse tool kit and provides practical support to the development standards and collection capacities, and the preparation of objects made for reuse.

²⁰⁶ www.wales.gov.uk/docs/desh/consultation/090429wasteconsultationen.pdf

²⁰⁷

<http://wales.gov.uk/about/programmeforgovernment/strategy/publications/environmentcountryside/2096132/?lang=en>

Northern Ireland

Towards Resource Management is the Northern Irish waste management strategy for 2006-2020²⁰⁸, launched on 30th March 2006. It highlights the need to recover and recycle waste, specifying methods to use such as updating recycling objectives, running targeted awareness campaigns and incentive systems.

The Northern Irish **waste prevention framework** was drawn up in 2005 by the Ministry of the Environment and the *Environment & Heritage Service*, today the *Northern Ireland Environment Agency*. It groups together the results of discussions on waste management led by the **National Resources Waste Forum (NRWF)**. The consultation process began in October 2004 and 600 representatives from all areas of Northern Ireland were invited to take part. The framework outlined an integrated approach to motivate stakeholders in all sectors to take part in waste prevention initiatives²⁰⁹. The following priority measures are included in those proposed by the NRWF: advise the public and private sectors in order to reduce the amount of waste they produce and to promote green procurement, promote the NRWF's waste prevention tool kit²¹⁰, support community waste prevention actions through a broad range of mechanisms, set up a cross-sector forum on waste management and run awareness campaigns on waste prevention.

Main contacts

Non-exhaustive list of the main contacts for the country within the area of waste prevention.

WRAP (Waste & Resources Action Programme) The Old Academy, 21 Horse Fair, Banbury, Oxon OX16 OAH, England www.wrap.org.uk	Zero Waste Scotland Suite 1b, Hillside House, Laurel Hill Business Park, Stirling, Scotland FK7 9JQ www.zerowastescotland.org.uk	WAG Waste, Local Environmental Quality and EA Sponsorship Welsh Assembly Government, Cathays, Park, Cardiff, CF10 3NQ www.wales.gov.uk	The Scottish Government Zero Waste Policy Team Environmental Quality Division, 1-J(N) Victoria Quay, EDINBURGH, EH6 6QQ
Waste Watch Association 56-64 Leonard Street, London, EC2A 4LT England www.wastewatch.org.uk	Environment Agency Wales 29 Newport Road, Cambria House, Cardiff, CF24 0PT www.environment-agency.gov.uk	Zero Waste Europe www.zerowasteurope.eu	

Good practices

The Courtauld Commitment

The retail sector produces the most waste. From a total of 12.7 million tons produced in 2002-2003, more than half was sent to landfills.

The Courtauld Commitment is a **voluntary commitment for retailers to stop the increase in the volume of packaging in England**. The Commitment achieved its goal in 2008. Retailers now aim to reduce the volume of packaging waste by 2010, together with the broader aim of reducing food

²⁰⁸ www.ni-environment.gov.uk/wms.17.pdf

²⁰⁹ www.ni-environment.gov.uk/wasteprevention.pdf

²¹⁰ www.nrwf.org.uk/Wasteprevention.htm

waste. The government's strategy for new packaging was launched in June 2009. The strategy includes plans to add new objectives to the Courthauld commitment.

National Industrial Symbiosis Programme

The *National Industrial Symbiosis Programme* (NISP) is managed by WRAP and the National Industrial Society and was launched in order to lead companies to consider waste as a resource that has not been sufficiently exploited. NISP works to change long term industrial attitudes so that resources are considered an asset whose value should not be wasted or scrapped. It carries out research into industrial waste production, and waste prevention methods founded on innovation and inter-company synergy. A regional approach is adopted so that businesses can establish waste exchange schemas to facilitate reuse.

Household waste incentive schemes

This programme provides the tools needed to encourage households to reduce the quantity of waste they produce by recycling more. In 2008, the government included provisions in the law on climate change that enabled local authorities to set pilot tax schemes as an incentive to reduce household waste. For example, **households get money back if they recycle more, or are taxed more if they don't recycle.**

Sustainable Clothing action plan

This DEFRA led plan includes general suggestions for reducing the environmental impact of clothing. It aims to increase **textile reuse** and to encourage the use of recycling centres, specialist waste collection sites, roadside containers, charity shops, and separate collections for clothing.

***Rethink Waste*²¹¹**

A new **web site** was launched in 2010 and has since become the main tool in a wide reaching campaign to change waste prevention habits in Northern Ireland. The "Rethink Waste" web site includes **information** adapted to each target group, and aims to **involve the public through interactive, fun applications**. It also acts as a portal for partner organisations to share best practices across different sectors.

Slim Your Bin

Slim Your Bin²¹² is a **web site** created by Rowan in Scotland in 2009 and provides the public, businesses, schools and communities with **ideas and advice on how to reduce their waste.**

The Real Nappy Campaign

There are several programmes that encourage mothers to use **reusable nappies** instead of disposable ones. These programmes are currently running in the UK within: Scotland²¹³, Wales²¹⁴ and England²¹⁵.

²¹¹ www.rethinkwasteni.org

²¹² www.rowan.org.uk/slim-your-bin

²¹³ www.changeworks.org.uk/content.php?linkid=133

²¹⁴ www.realnappies-wales.org.uk

²¹⁵ www.goreal.org.uk

Master Composter programme 2008 – 2010²¹⁶

The United Kingdom has many local composting initiatives. The "master composter" programme has, since 2010, included the "Zero Waste" voluntary programme that promotes **home composting activities led by volunteers**, and other waste prevention campaigns in Scottish local authorities.

Compost Doctors are a consortium of **professional composters** across the UK that also specialises in small scale, on-site food waste composting. These "doctors" carry out case studies and composting experiments and have compiled a **unique data collection that covers everything from equipment to legislation**. They also provide advisory services to all types of restaurants, pubs, hotels and tourist attractions, prisons, and hospitals²¹⁷.

"Growing with Compost²¹⁸" is a social project that provides training and teaching materials to encourage adults to actively participate in sustainable management of organic waste by making their own compost.

Love Food, Hate Waste²¹⁹

"Love Food, Hate Waste" is a Waste and Resources Action Programme. Special effort has been made **to reduce the quantity of food wasted** by consumers. 3.7 million tons of food (one third of all food purchased) are currently thrown away in the UK. Half of this waste was food that could still be consumed. This food waste produces 18 million tons of carbon dioxide, the equivalent of 4 million cars, and also costs the consumer £10m every year. "Love Food, Hate Waste" is the first **national food wastage awareness campaign for all consumer groups** (initially the campaign targeted only households), that also provides solutions. The campaign motivates consumers to be thrifter with food. DEFRA also announced **its intention to modify labelling on packaging** to provide clearer information on use by dates.

Construction waste and waste management plans

Considerable measures have been taken in recent years to improve the efficiency of resource use in the **construction sector**. On 6 April 2008, **Site Waste Management Plans (SWMP)** were made mandatory in England for all construction projects valued at more than £300,000, thus meeting a key waste management commitment. SWMPs reduce the volume of waste produced, encourage reuse and recycling, and strengthen requirements for those involved in managing construction, demolition and excavation waste to visit a doctor.

SOURCES: the information summarised in these documents was obtained from Ministries, National Agencies, and Non Governmental Organisations for waste management and prevention in the relevant countries, and/or the publications listed in the bibliography.

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²¹⁶ www.crns.org.uk/index/master-composter

²¹⁷ www.crn.org.uk/compostdoctors/index.htm

²¹⁸ www.growingwithcompost.org

²¹⁹ www.lovefoodhatewaste.com