A Review of Current Priorities and Emerging Issues in European Waste Policy

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

The work of the EPA can be divided into three main areas:

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- large scale industrial activities (e.g. pharmaceutical, cement manufacturing, power plants);
- intensive agriculture (e.g. pigs, poultry);
- the contained use and controlled release of Genetically Modified Organisms (GMOs);
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- Advising Government on matters relating to radiological safety and emergency response.
- Developing a National Hazardous Waste Management Plan to prevent and manage hazardous waste.

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- Generating greater environmental awareness and influencing positive behavioural change by supporting businesses, communities and householders to become more resource efficient.
- Promoting radon testing in homes and workplaces and encouraging remediation where necessary.

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- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiation Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.

A Review of Current Priorities and Emerging Issues in European Waste Policy

A report commissioned by the Environmental Protection Agency Research Programme

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The purpose of this report is to extract best practice examples from the individual country reports, prepared as part of the European Commission's Environmental Implementation Review. Much of the information contained in this summary report has been sourced from the individual country reports compiled on behalf of the Commission, and related links.

The EPA Research Programme addresses the need for research in Ireland to inform policymakers and other stakeholders on a range of questions in relation to environmental protection. These reports are intended as contributions to the necessary debate on the protection of the environment.

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Summary

Scope
The Clean Technology Centre (CTC), at Cork Institute of Technology, was commissioned by the Irish Environmental Protection Agency (EPA) to undertake desktop research to review the current priorities and emerging issues in European Waste Policy. This was to include (be based on) information pertaining to the European Commission and selected Member States.

Entities assessed
This report sets out to assess key current issues, and important emerging issues, in the waste policy arena in the European Commission, and in selected Member States. Eight countries were chosen for review. The choice was based on several factors.

- One was the result of a recent CTC survey, carried out on behalf of the Irish EPA, which examined the European Union (EU) Environmental Implementation Review reports of the 28 Member States.

- Another factor was the issue of replicability – countries were chosen with the policies, initiatives and best practices that could possibly be replicated in Ireland.

The Member States examined were Austria, Belgium (Flanders), Denmark, Finland, France, Germany, the Netherlands, and Sweden. Each is described in terms of a number of headings, and the descriptions can be found in the annex to this report.[1]

Understanding of the "waste" concept
Although the assessment is ostensibly concerned with "waste", it is necessary to view this in a wider context – one that places "waste", its causes, and solutions, within a framework of other wider social, economic, and environmental issues.

Member State analysis
Each country was examined under a number of headings. These were:
- Policy framework
- Regulation measures
- Major initiatives
- Best practice examples
- Targets for waste, resource efficiency, and related areas
- Priority waste streams / streams of concern / challenging waste streams
- Perceived challenges in addressing the circular economy policy ambitions
- Drivers – positive and negative influencing factors
- Materials of concern
- Emerging issues

Outputs from Member State analysis
A "factsheet" for each Member State has been produced. These are contained in the annex to this report.

Policies, programmes, and actions in the selected Member States
A survey in 11 fields incorporated the activities and policies and programmes of each of the eight selected Member States. The fields considered were:
- Priority streams
- Construction and demolition (C&D) waste
- Food waste
- Circular economy and resource efficiency
- Materials policies and programmes
- Regulation measures
- Taxes, levies, and fiscal measures
- Extended producer responsibility
- Recycling and reuse
- Hazardous waste
- Emerging issues

Outputs from the research
The results of the analysis of these surveys are presented in 11 "factsheets". These address all the issues identified above.

1 Key Waste Policy Issues in Eight Selected EU Countries. Annex to the report: Review of Current Priorities and Emerging Issues in European Waste Policy.

Conclusions

The main over-riding conclusions are:

- Countries are moving away from a waste focus towards a materials focus, and are embracing the circular economy.

- On foot of this, there are very many initiatives aimed at increasing recycling and reuse. These include legislative instruments and targets (all countries), extended producer responsibility initiatives (particularly the case in France), and fiscal instruments (such as the reduced VAT rate for repair in Sweden).

- It is essential, however, to move further up the waste hierarchy, and to this end many waste prevention programmes have been formulated. It is not clear, at this point, how these relate to the circular economy (whereas the connection between recycling/reuse and the circular economy has been made clear in many programmes).

The selected Member States prioritised a number of streams. In particular:

- Food/biomass
- C&D
- Textiles, which also appear to be an important stream for several countries

Other conclusions of note are the move in several countries to:

- Ban the landfilling of combustible waste
- Ban the incineration of recyclable waste
- Levy a tax on incineration, as well as on landfill

A very interesting concept is presented by Germany. This is the definition of a parameter called "Commodity (or raw material) Productivity", which is used along with "Resource Productivity". It measures (in euros per tonne) the full biotic and abiotic resource consumption for goods, and processes, including imported goods. The aim is to prevent "false" outcomes of increased resource productivity due to economic changes only.

Another exciting project (Netherlands) is a green deal (voluntary agreement) that facilitates the take-back of chemicals. In TaBaChem the supplier is not paid to purchase the chemicals per unit volume, but for the function performed by the chemicals; for example, payment per square metre of surface cleaned.

This idea (service vs product) is gaining traction in many European countries.

European Commission analysis

A comprehensive review of European Commission policy, programmes, communications, and future activities was also carried out. A range of Commission documents and external study reports were assessed. These included various draft items of legislation, consultants' reports on implementation of legislation and in preparation for legislation, Commission communications, and summary analysis sites for European Commission activities.

Without doubt, the main priority in waste policy for the European Commission is the various implementing actions to roll out the Circular Economy Strategy.

Several other issues, waste streams and targets are also emerging and are under consideration/development. These include measures in relation to waste electrical and electronic equipment (WEEE), hazardous waste classification guidance, end-of-life vehicles (ELVs), environmental liability, and critical raw materials.

In the longer term, there are plans in the areas of C&D waste, waste shipment legislation, waste batteries and accumulators, ELVs, WEEE, mining waste, plastics and plastic waste, the intersection of chemicals, products and waste legislation, a monitoring framework for the circular economy, ship-generated waste, standards on secondary raw materials and on material efficiency, and on environmental footprinting.

The increasingly closer interface of policies on products, materials, and procurement with policies on waste is apparent in many of the above.

Another observation is the Commission wanting increasing harmonisation as to how Member State's implement EU legislative requirements, and taking a number of measures in that regard, e.g. a planned measure on common data formats for shipment of waste.

In addition, the continuation of implementation and enforcement of existing EU legislation is of priority for the Commission, with some measures being taken to assist Member States in this regard.

Future considerations

An array of policies, programmes, targets, and activities have been proposed by Member States, and by the European Commission.

It is clear that there is considerable overlap, and that there could be significant cooperation on these issues. It is unclear whether the Commission and the Member States are jointly engaged in this process.

Examples of potential joint activities are:

- Bans on disposal or incineration
- Application of reduced taxes and other fiscal measures to repair
- Concept of detailed analysis of materials and recycling limits
- Concentration on specific waste streams (e.g. food, C&D, textiles, plastic)

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Introduction

Waste and raw materials

This report sets out to assess key current issues, and important emerging issues, in the waste policy arena in the European Commission, and in selected Member States. Although the assessment is ostensibly concerned with "waste", it is necessary to view this in a wider context – one that places "waste", its causes, and solutions, within a framework of other wider social, economic, and environmental issues.

Waste and use of materials

Recent trends in Commission and Member State thinking emphasises the strong link between environmental protection, waste, and resource efficiency (circular economy, green economy, and so on). An emphasis on materials means that many countries see the close connection between material usage (consumption) and waste. Balances and accounts measure the inputs (material consumption, often measured by domestic material consumption (DMC), etc.) and the outputs (production, often as gross domestic product (GDP), and waste). This correlation is evidenced by Commission statements such as: *"In Europe, we currently use 16 tonnes of material per person per year, of which 6 tonnes become waste."* [1] This 16 tonnes represents the DMC.

Waste and the circular economy

One aspect of the circular economy is turning this waste into resources. *"The European economy currently still loses a significant amount of potential "secondary raw materials" such as metals, wood, glass, paper, plastics present waste streams. In 2010, total waste production in the EU amounted to 2,5 [sic] billion tons. From this total only a limited (albeit increasing) share (36%) was recycled, with the rest was landfilled or burned, of which some 600 million tons could be recycled or reused."* [2]

However, circularity should not be seen as the only aspect. The underlying premise of European Waste Policy (i.e. the waste hierarchy) demands that it is preferable that less waste is produced – not merely that the waste produced is somehow recovered. This is "moving up the hierarchy" A recent Commission review of environmental implementation is 28 countries,[3] recommended for a number of countries that they take measures to more fully implement the waste hierarchy by moving from incineration, through recycling and reuse to promoting prevention.

It can be argued that there are three fundamental approaches to waste reduction. These are:

1. Recovery and reuse of waste – this seems to be the easiest facet of the circular economy. Examples include repair centres, waste segregation infrastructure, and recycling facilities. However, additional resources (in terms of energy and material, economic, and labour inputs) are required.

2. Greater efficiency in production and consumption – so that there are larger products streams and smaller waste streams for the same material input. Examples of initiatives in this strand are higher chemical yields, more efficient separation techniques (on the production side) and extended product life and miniaturisation (affecting the consumer side).

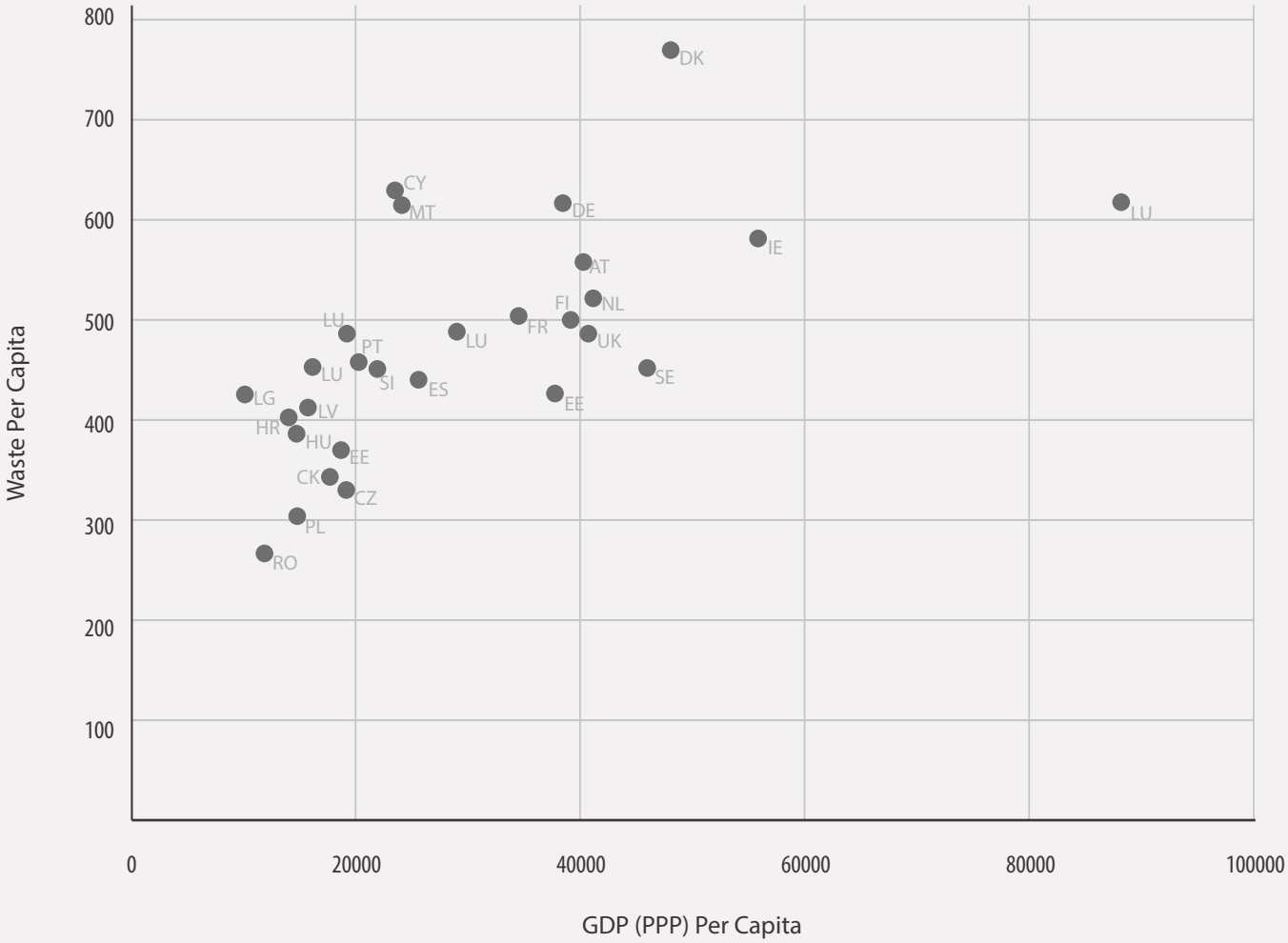
3. Lower intrinsic material use – this directly reduces DMC, and for the same values of GDP will increase resource productivity. Measures include changing societal (consumer and producer) behaviour, improved distribution efficiency, and so on.

Clearly, there is overlap between many of these definitions and concepts. For example, extending product life, or repair and reuse can also reduce DMC. Irrespective of these definitions and examples, it is obvious that "waste" (including "waste prevention") should not be examined in isolation. It is closely tied to materials use, resource efficiency, the circular economy, and other related fields.

For this reason, this report examines all of these areas, in an attempt to outline current and future thinking in the Commission and selected Member States in terms of "waste policy".

1 http://ec.europa.eu/environment/waste/index.htm
2 ibid.
3 http://ec.europa.eu/environment/eir/country-reports/index_en.htm

Figure 1: Waste as a function of gross domestic product (2015)



Waste and the conventional economy

Apart from policies, instruments, and implementation of programmes and activities, waste arisings appear to be influenced by the economic situation within a country. There is a strong correlation between waste per capita and GDP per capita, as shown in Figure 1, which plots these parameters for all 28 Member States for 2015.

The EU recognises this, but points to additional confounding factors.

"The variations reflect differences in consumption patterns and economic wealth, but also depend on how municipal waste is collected and managed. There are differences between countries regarding the degree to which waste from commerce, trade and administration is collected and managed together with waste from households."[4]

Waste, raw materials and the economy

One of the most noticeable trends over the past thirty years with respect to this topic is the shift from waste being a matter of environmental concern to being an economic priority. The main driving force behind the EU's Circular Economy Programme is its economic motivation.

This is also reflected in some countries' development of raw materials plans and resource efficiency programmes – seeking to boost production efficiencies, create jobs, reduce costs, and also make those countries more self-sufficient and more competitive.

The fact that resources and raw materials are being seen as commodities and that waste, in itself, is now being viewed as a raw material, rather than something to be disposed of, will move the whole issue up the political agenda and will be a major instrument for change.

4 http://ec.europa.eu/eurostat/statistics-explained/index.php/Municipal_waste_statistics

Choice of exemplar countries

Eight countries were chosen for review. The choice was based on several factors.

One was the result of a recent Clean Technology Centre (CTC) survey, carried out on behalf of the Irish Environmental Protection Agency (EPA), which examined the EU Environmental Implementation Review reports of the 28 Member States. The countries chosen were found in that study to be mature in terms of waste policy, and progressive in their environmental plans, programmes, and activities.

Another factor was the issue of replicability – countries were chosen with the policies, initiatives and best practices that could possibly be replicated in Ireland. Several initiatives in Ireland are already in place with similarities to those outlined here, reinforcing their value.

Another issue was the size, population and economic status of the countries. Some were large economies with sizeable populations, such as France and Germany. Others were smaller countries such as Austria, Denmark and the Netherlands, more similar in scale with Ireland.

Another factor was that of experience. CTC has worked with partners and organisations in all the chosen countries and has first-hand experience of and contacts with them.

The selected countries are as follows:

Austria
Austria is an advanced country with a very mature waste management structure and a steady performance of waste recovery. It has had a high-level of environmental awareness for decades and has developed a range of progressive and responsible policies. Raw material consumption in Austria in households, the public sector and business is standard for EU norms and applicable to Irish and British contexts. Austria is exceptional in that it has in place a National Resource Efficiency Plan and a Raw Materials Plan, as well as a Waste Prevention Plan. Austria has many worthwhile waste prevention initiatives and the administrative structure to ensure their successful implementation.

Belgium (Flanders)
The region of Flanders is highly advanced in many aspects of waste policy. Openbare Afvalstoffenmaatschappij voor het Vlaams Gewest (OVAM), the Public Waste Agency of Flanders, was established in 1981 and has long been a leading light of research and development in this field, and has implemented many successful policies and initiatives. Flanders was also chosen because it is a region within a country and works on the devolved regional administrative level as well as through federal or national policies and programmes. In that, it is similar in some respects to the UK, which has regional as well as national waste and environmental organisational structures.

Denmark
Denmark has long been seen as a leading country in the development and implementation of good environmental practice and policy. Denmark, for example, has applied a range of environmental levies since the 1970s, including those on single-use beverage containers, packaging, plastic bags, tableware, etc. It has also put in place a strict regulatory regime for business and has instituted a very detailed and research-driven regime for hazardous waste and chemical policies and regulations.

Finland
Like other Nordic countries, Finland has an established, mature environmental regime, but with a different range of raw material challenges, assets and resources, and different economic conditions (Finland's GDP and population are much lower than Sweden's, for example). In recent years, a number of plans and strategies have been introduced, targeting recycling, the circular economy, and natural resources. Finland has developed plans for several sectors and prioritised several raw material/waste streams. It has also set targets for food waste, recycling of municipal bio–waste, construction waste, and total municipal recycling.

France
While the recovery of waste in France (39.5%) is still at a relatively low rate when compared with, for example, Germany (64%), several recent wide-ranging and ambitious targets have been declared. A range of extended producer responsibility (EPR) programmes has been implemented, and many instruments have been put in place. France has also made a very strong commitment to food waste, for example, in implementing an unprecedented regulatory initiative, obliging food retailers and distributors to donate unsold goods.

Germany
As far back as 2002, the German Federal Government set the goal to double the German resource productivity by 2020 compared to 1994 (its sustainable development strategy). In 2010, it was one of the first countries in Europe to develop a *Raw Materials Strategy*. Germany is now implementing its second *Resource Efficiency Programme (ProgRess)*. Germany is among the top performers in the EU regarding waste management with a very high rate of recycling of municipal solid waste (64%) and very low landfilling (0.3%). However, it now seeks to move beyond considerations of waste and the distinction between waste and raw materials. It has made legislative changes to incorporate byproducts as raw materials and has set targets for both resource efficiency at a national level, and specific targets for the recovery of several material streams.

Netherlands
The Netherlands has long been a forerunner in environmental policy, both in terms of tackling environmental pressures, and in organising effective environmental governance in partnership with regional and local administrations, with business and civil society.

It was one of the first countries in Europe to develop a circular economy programme (in 2014), followed in September 2016 by the government wide plan: *A Circular Economy in the Netherlands by 2050*. The Netherlands has set itself two very specific challenges: shared use and providing a product as a service, and precision farming (closing nutrient cycles).

Sweden
Sweden has a mature and effective suite of waste management policies and programmes in place. Swedes have been segregating and recycling household waste effectively for decades. Sweden is committed to optimising this recovery of materials with an ambitious range of targets for food waste, construction and demolition (C&D) waste, textiles, and chemicals. Sweden is especially strong on economic instruments, with several green taxes in place. Recently, in order to move towards a circular economy, Sweden applied a lower VAT rate to repairs – 12% instead of 25% as well as tax credits.

Main issues identified/ report structure

The researchers have identified the main topic areas across Europe and in the eight individual Member States under consideration. The Circular Economy Programme of the EU is driving much of the current work being done across the Union, and this is reflected strongly in the plans and programmes being put into place across the eight countries selected. The research, for the most part, also concentrated on policies and programmes currently in place in relation to waste and raw materials – these included regulatory measures, monetary instruments, EPR initiatives, etc. Another finding from the research is that certain specific raw material and waste streams are considered to be high priority and specific, and targeted measures are being put into place to tackle these. Such streams include C&D materials and wastes, food, hazardous materials and wastes, and others (such as information and communications technology (ICT), textiles, etc.).

Other issues and topics were identified in the project brief (e.g. emerging issues). The report has been structured to reflect these. The report is structured as follows:

The Summary of the report briefly condenses the main findings, both in terms of the specific countries and the EU as a whole.

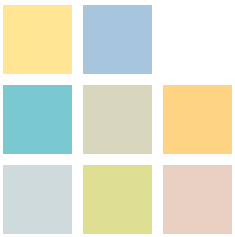
The Introduction introduces the main topics of consideration, in particular the move in today's Europe from concerns of waste management to a more life-cycle approach and raw-material-based circular focus. The reasons why the specific eight countries were chosen is briefly explained and the structure of the report is described.

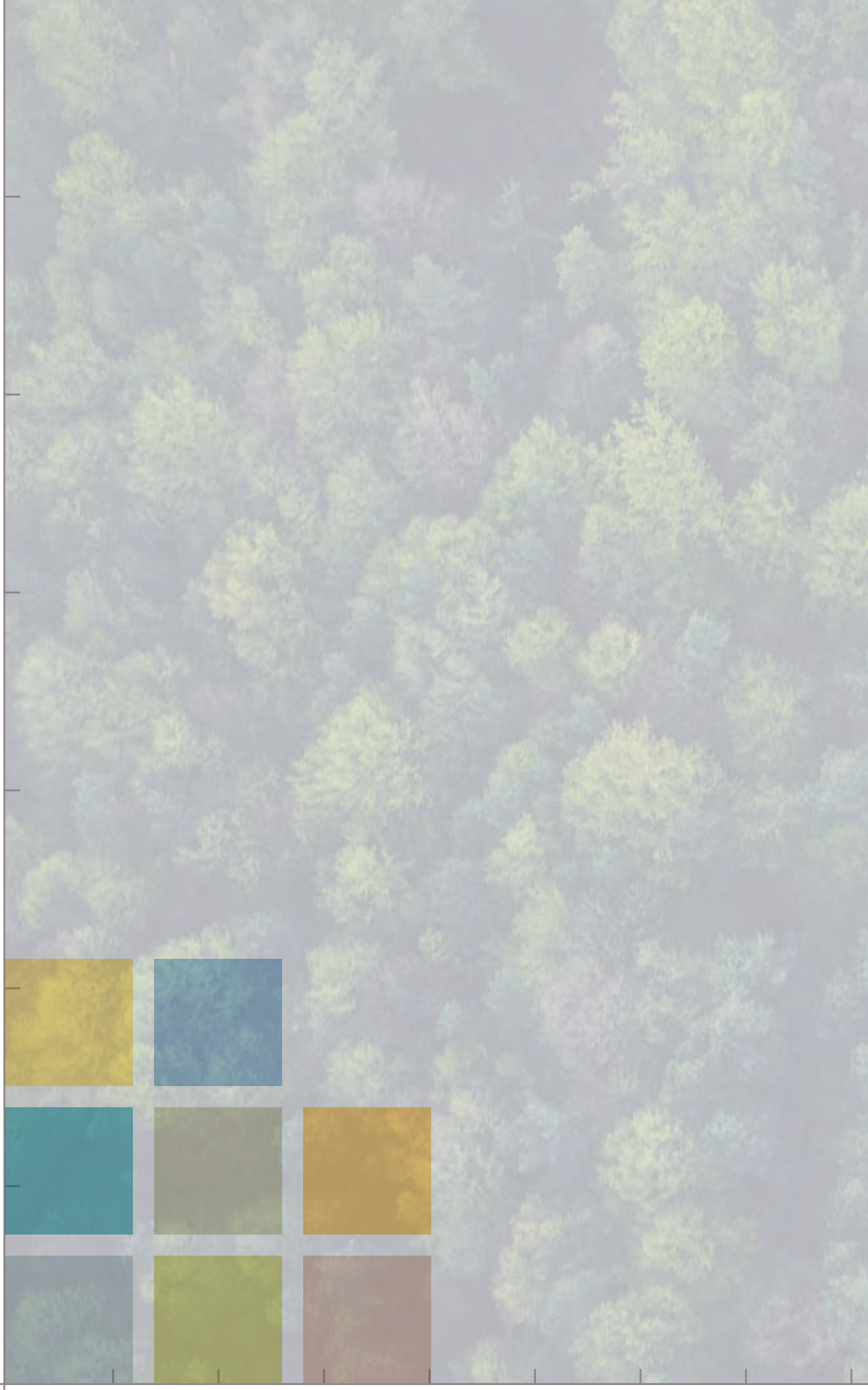
An examination of current priorities and emerging issues for eight countries analyses the performance and approaches of these countries. The analysis considers the main topics currently dominating the agenda, such as: the circular economy, the measure being implemented (regulatory, fiscal, EPR, etc.). It also examines priority streams, such as C&D waste, and food.

Current priorities and emerging issues in the European Commission's waste policy outlines the existing waste and raw material priorities in current European policies. The circular economy is defining the agenda across a whole range of policies and programmes. A timeline of proposals (from 2015 to 2017) under the circular economy is presented. Other existing and important proposals regarding waste are also outlined. Future initiatives by the European Commission are described – these are new priority and emerging issues which may challenge The Union and Member States.

Several **Conclusions** are drawn from the research.

Factsheets for the eight selected countries are presented in a separate annex.





An examination of current priorities and emerging issues for eight selected Member States

Eight Member States have been researched and examined (see the annex to this report for a detailed factsheet for each country).

An analysis of the current and future situation for each country has been made, in accordance with 11 perceived important issues and topics. These issues are presented in accordance with the following tenets:

Member States have, in the main, elucidated certain priority streams. Thus, the first three sections are:

- Priority streams
- Construction and demolition waste
- Food waste

Current and future policies are veering away from "waste" as an isolated concept and towards more holistic approaches, such as:

- Circular economy and resource efficiency
- Targets for waste, resource efficiency, and related areas
- Materials policies and programmes

A number of instruments are presented. These have been categorised as:

- Extended producer responsibility
- Regulation measures
- Taxes, levies, and fiscal measures

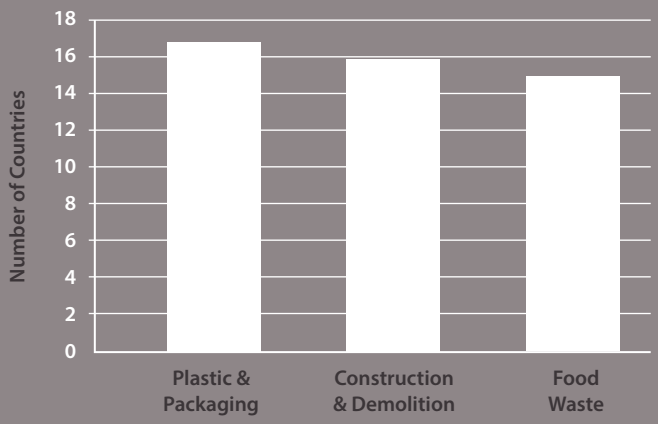
Finally, the following are outlined:

- Recycling and reuse
- Hazardous waste
- Emerging issues

Priority Streams

A 2016 European Environment Agency report, entitled More from Less – Material resource Efficiency in Europe found that a majority of countries (26) identified certain waste streams and secondary materials as the most common group of priority materials. These are illustrated in the figure below.

Legend: Most common priority waste streams within EU Member States



Energy sources (fossil fuels and renewable) were mentioned by 18 countries as priority resources.
The following 16 streams have been specifically identified among the 8 countries examined in this study (number of incidences in parentheses):

STREAM		COUNTRIES
C&D	7	AT, DK, FI, FL, FR, NL, SE
Food/ biomass	7	AT, DK, FR, FL, DE, NL, SE
Textiles	4	DK, FL, NL, SE
WEEE	4	DK, FI, FR, SE
Packaging	3	DK, FI, NL
Batteries	2	FI, FR
Chemicals	2	FL, FR
Critical metals	2	FL, NL
Hazardous waste	2	FI, NL
Paper and cardboard	2	FR, NL
Plastics	2	FL, DE
Wood	2	DK, DE
Electrical appliances	1	NL
Electronics	1	DE
Furniture	1	FR
Mining waste	1	SE

AUSTRIA

The priority waste streams as identified by the actions of the Resource Efficiency Action Plan (REAP) and the National Waste Prevention Plan are:
- Food waste
- Construction waste

The programme for food waste prevention is outlined above. A large amount of research, support programmes and, recently, legislation, has been put in place with regard to construction waste. This legislation refers to end-of-life criteria for C&D waste and criteria for recycling wood.

DENMARK

Denmark has not officially identified or targeted specific waste streams or sectors. However, construction materials (e.g. bricks), wood, waste electrical and electronic equipment (WEEE), textiles, packaging and food waste are high priorities in the policies and instruments that are in place.

The "Denmark Without Waste II – Strategy for Waste Prevention" focuses specifically on resource efficiency in the C&D, food, electronics, textiles, and packaging sectors.

FINLAND

The draft plan up to 2030 has the following priority streams: building waste, biodegradable waste, municipal waste, and WEEE.
Previous plan up to 2016/17:
- Sectors: mining, raw material processing; construction and infrastructure; manufacturing; sale, retail, transport; households; private service activities/hospitality; and public services.
- Prevention of waste types: C&D waste; hazardous waste; household/municipal waste; packaging; WEEE/batteries; and industrial waste.

FLANDERS

In the Flemish Materials Programme, there are four main material categories that have been prioritised for 2014–2019:
- Critical metals (as defined by EU)
- Chemicals and plastics
- Bio-waste, food losses and waste water. Flanders is systematically listing available biomass, and determining which residues are suitable for high-value applications or energy recovery
- C&D materials

Additionally, the following initiatives are ongoing:
Plastics:
- Federal: various initiatives, including defining criteria to guarantee the content of recycled products; analyses of the sources of micro-plastics in water, with a view to possibly setting product standards, analysis regarding the EU Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals, 2006 (REACH) legislation and the recycling of plastics.
- Flanders Plastic Vision developed a quality label that indicates the percentage of recycled materials a product contains.

Building materials:

- Federal: various initiatives including legislation on environmental product declaration (EPD) and development of life-cycle assessment tools on minerals and metals; raw materials from biomass (biotic primary materials) only considered if they can substitute "classical" raw materials.

Food: the agreement on combating food loss is expected to deliver a reduction in food loss. It covers the whole chain. It will give incentives for more sustainable food production and consumption and contribute to a reduction in the food chain's resource inputs.

Textiles: "Close The Loop – Towards a Circular Fashion Industry" – sets out a guide for the industry.

FRANCE

The waste streams of highest priority are: food waste, C&D waste, chemicals, batteries, electrical and electronic equipment (EEE), furniture and paper.

The second highest priority level is assigned to: household packaging, plastics, metals, vehicles and textiles.

GERMANY

Sustainable building/urban development and resource efficiency of information and communications technology (ICT) products are two key focal points of the 2nd German Resource Efficiency Programme (ProgRess II) of 2016. Specific targets for plastics waste, biomass, and the electronics in used vehicles are also worth mentioning.

The National Biomass Action Plan (2009) and the Action Plan for the Industrial Use of Biomass (2009) both aim to increase the energy production and industrial use of biomass as a significant contribution to reducing the use of fossil raw materials and to combat climate change.

The Forest Strategy 2020, launched in 2012, focused on sustainable forest management and efficient use of wood in German forest-based industry. The Policy Strategy Bio-Economy focused on the efficient and sustainable use of biomass through innovative technologies and production processes, especially in the chemical industry.

In 2013, the German government commissioned the German Raw Material Agency to implement a monitoring scheme on critical raw materials. Monitoring includes an evaluation of emerging supply risks for important raw materials and intermediate products that have to be imported to Germany for industrial production.

Two other areas of concern with supportive initiatives are the types and amounts of consumption with regard to public procurement and in relation to food.

NETHERLANDS

Rather than priority waste streams the Netherlands has identified priority material resources, sectors and consumption categories.

Priority materials: In keeping with the materials and circular economy ethos, the Netherlands policy evolved from a waste stream approach into a value-chain or sector-based approach. In 2014 the Ministry of Economic Affairs carried out research on the 22 non-organic (abiotic) materials considered critical for Dutch companies, and 13 materials/products are currently subject to the value-chain approach (see table).

Although the concentration in the Netherlands is on materials and sectors, as outlined above, priority waste streams are still outlined in the, (EEA Waste Prevention Programme Netherlands fact sheet, October 2016). These are given as: C&D waste, food waste, textile and carpets, metals, paper and cardboard, packaging, electrical appliances, and hazardous waste.

SWEDEN

Waste streams of concern are: food waste, WEEE, textiles, C&D waste, and mining waste.

Food waste: initiatives on sustainable production and consumption of food including limiting food waste throughout the food supply chain. A campaign to reduce food waste is run by the EPA, the National Food Agency and the Board of Agriculture. This group also convened the SaMMa group (food waste reduction action group). Anaerobic digestion (AD) is the most common treatment method for food waste. The Swedish Waste Management Association estimates that if all household food waste was used for plant nutrients this would replace 7% of the phosphorus imported in mineral fertilisers.

Textiles: The Swedish EPA has actions on better collection and treatment of waste textiles. Actions have included increased collections for reuse at civic amenity sites, in conjunction with charities. As of 2016, half of these sites now accept material for reuse including clothes and furniture. Also included are actions on prevention – including sustainable consumption.

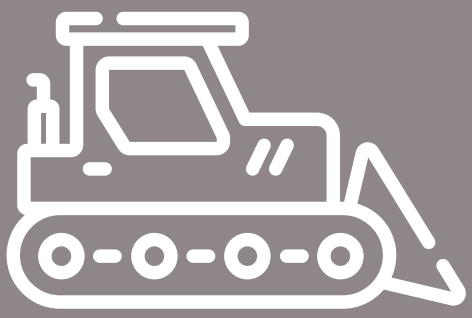
WEEE: while Sweden has had WEEE collection since 2001, since 2015 large shops that sell electronics collect all types of consumer electronics smaller than 25 cm, even if the consumer does not buy anything (for smaller shops the exchange is one-for-one).

Mining: the Swedish mineral strategy of 2013 "For Sustainable use of Sweden's Mineral Resources that Creates Growth throughout the Country" outlines a broad set of measures covering sustainability and the social and cultural aspects of mining, but also touches on resource efficiency and waste-related issues. This includes an analysis of the extraction and recycling potential of Swedish metal and mineral assets and an aim to increase the recycling rate of end-of-life metallic and mineral products and of process waste. Also discussed are measures to use crushed rock, a by-product of mining and construction, in place of natural gravel.

The strategy also identifies economically critical minerals and metals.

Construction and Demolition Waste

A 2016 EU report for the Commission on C&D waste found that five EU Member States stand out in terms of the amount of recycled aggregates produced (the Netherlands, UK, Belgium, Germany and France). The study found that this is likely due to the fact that all of these countries have set end-of-waste criteria in their own national law.



AUSTRIA

The National Resource Efficiency Programme (REAP) 2012 includes measures on recycling of materials critical to the Austrian economy, on urban mining from construction materials and on wood. There is a specific focus on construction materials among other topics. A potential focus on the recycling of critical materials is considered

The Waste Prevention Programme (WPP) 2011 and Federal Waste Management Plan (2011) both focus on the specific areas of: construction waste prevention, waste prevention in industry, waste prevention in households, and prevention of food waste.

The Action Plan on Sustainable Procurement includes public purchasing criteria on the use of recycled materials in building construction.

DENMARK

Denmark Without Waste II – Strategy for Waste Prevention, April 2015: this waste prevention strategy has 72 action points covering two general cross-cutting topics and five main focus areas, including the following: To ensure that the **construction** sector acts more resource-efficiently, that substances of concern are managed appropriately and that there is better knowledge sharing throughout the sector.

FINLAND

- To increase use of C&D waste as a material, voluntary contract procedures for the sector are proposed, reviewing the potential for utilisation of demolition and renovation projects, and guidance on public procurement. Electronic transfer documents to be used for statistics on building waste
- Develop recycling centres for construction products. Increase networking and sales for recycling centre operators via a digital marketplace. Interim storage facilities. Municipal coordinators
- Construction end-of-waste criteria. Material efficiency in construction education

The draft document "From Recycling to a Circular Economy – National Waste Plan to 2023" includes the following:

- Voluntary agreements on promoting material efficiency and recycling – including with the construction sector
- Development of recycling centres for construction products. Increase networking and sales for recycling centre operators via a digital marketplace. Interim storage facilities
- Construction end of waste criteria. Material efficiency in construction education

FLANDERS

As in most countries, the construction sector is the largest consumer of materials.

The policy programme on construction (covering all building materials) addresses five key domains: 1) selective demolition and dismantling; 2) stony fraction; 3) non-stony fraction; 4) materials performance of buildings; and 5) dynamic (re)construction. It looks at the whole life cycle of buildings and also at future use of their component materials over time. It starts from an integrated environmental assessment of the use of materials in buildings at the level of materials, building elements, buildings and the built environment.

One interesting action is to "Carefully examine the rules for earthworks to prevent recycled materials from being used for low-grade applications; promote the use of recycled granulates in road construction".

FRANCE

Measures under the construction sector include a voluntary agreement. Other initiatives include:

- "Regional quarry schemes" (formal planning for forecasting/sourcing materials) must now also take into account use of waste materials and the capacity/equipment of such locations to recycle materials
- Setting up a network of waste facilities welcoming waste from construction
- Training programmes on C&D waste prevention for those responsible for worksites' construction phases
- Promotion of a management system in the flow of construction/demolition waste
- Specific projects including:
  - The BAZED initiative to design buildings to reduce waste generation at all stages of their life cycle
  - The ReQualif project on the technical and regulatory feasibility of the reuse of products through demonstration works

SWEDEN

Swedish waste management and waste prevention plans: the 2012-2017 waste management plan's main purpose is to steer waste management towards greater resource efficiency. It includes measures to promote material recycling. Priority areas in both plans are: construction, engineering, household waste and food chain waste.

Food Waste

Food Waste is a major priority for most countries.
As a result there are many programmes and targets.

AUSTRIA

The National Resource Efficiency Programme (REAP) 2012 includes measures on recycling of materials critical to the Austrian economy, on urban mining from construction materials and on wood. There is a specific focus on construction materials among other topics. A potential focus on the recycling of critical materials is considered.

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DENMARK

Denmark Without Waste II – Strategy for Waste Prevention, April 2015: this waste prevention strategy has 72 action points covering two general cross-cutting topics and five main focus areas, including: to have avoidable **food waste** reduced in all links in the food product value chain.

FINLAND

On food waste and bio-waste: establish a specific food waste reduction strategy, national advice/communication on sustainable food choices and reduced loss; education in grocery industry and in schools; Swan eco-label for retailers, hotels, and restaurants; animal feed measures; improve home bio-waste segregation, composting and estimates; incentive waste payment system to promote bio-waste segregation in business; Increase use of, and research into, fertilisers from recycled raw materials to replace virgin-based ones, including for tailor-made nutrition and a voluntary quality system.

FRANCE

Food waste and biodegradable wastes
A 2013 Covenant to halve food waste by 2025. A food waste law came into force in February 2016. It defines the hierarchy of priorities in the fight against food waste – prevention, donations, animal feed, production of methane, energy, and composting. Food wasted in France across the chain is estimated to be worth €16 billion and 3% of carbon emissions. Projects include "1,000 schools and colleges against food waste". Legislative measures now oblige public authorities to put in place an approach for combating food waste in the catering services they manage. The law also provides for prohibition of a "date of minimum durability" (DDM) on certain categories of products, in particular fruit and fresh vegetables, alcoholic beverages, vinegar, sugars, salts, etc.

Initiatives under the waste prevention plan for food and biodegradable waste include:

- A food waste campaign launched in May 2016 "Ça Suffit le Gâchis/" "That's Enough of the Waste". for consumers, businesses and communities that aims to restore value to food.
- Training and awareness programmes on the prevention of biodegradable wastes.
- Promotion of "doggy bags" at restaurants.
- A workgroup to exchange best practice on the fight against food waste.

GERMANY

Minister of Food and Agriculture Christian Schmidt wants eliminate the best before date (BBD) on packaging, with the declared aim of halving food waste by 2030. Reforming expiry dates is only step one in the plan to cut waste. There is a call for electronic chips to be installed in food packaging, such as yoghurt pots, which would show the consumer how the product has aged through the use of a colour-coded scale. The idea is that the electronic chip in the food packaging would analyse its contents and gradually change from green to red, allowing the consumer to decide for themselves whether the product is still edible or not.

Germany, together with the Netherlands, has already launched a European initiative on how to make changes to expiration dates in the short term and how to proceed with "smart" packaging in the long term.

NETHERLANDS

The policy document "A Circular Economy in the Netherlands by 2050" enumerates five priorities. Among these are: biomass and food

Biomass is an indispensable raw material in the circular economy. This is the case for both produced biomass and biomass from residues. By its nature, biomass is a circular raw material, which distinguishes it from other raw materials.

Together with Germany, the Netherlands has launched a European initiative on how to make changes to food expiration dates in the short term, and how to proceed with "smart" packaging in the long term.

SWEDEN

Sweden has committed to fulfil Target 12.3 of the UN's Sustainable Development Goals to halve per capita global food waste at retail and consumer levels by 2030 and reduce food losses along production and supply chains, including post-harvest losses.

The Swedish National Food Agency has produced a report on reducing food waste. Proposals for measures in each stage of the food chain were recommended. The stages included were:

- Primary production
- Processing
- Wholesale and retail
- Institutional and commercial kitchens
- Private households

In Sweden, there is an obligation for food retailers to donate unsold goods to charities.

Circular Economy and Resource Efficiency

In many countries, these two concepts are interwoven, and in most cases indistinguishable. As a consequence, they are treated together in this analysis.

AUSTRIA

National Resource Efficiency Programme (REAP) 2012
Austria was one of the first countries in Europe to put in place a resource efficiency programme. This has also put ambitious resource efficiency targets in place, which is almost unique in the EU (see below in Targets section). REAP includes measures on recycling of materials critical to the Austrian economy, on urban mining from construction materials and on wood. There is a specific focus on food and construction materials but also on agricultural and energy efficiency plans using biomass. A potential focus on the recycling of critical materials is being considered. Priority industries and economic sectors for REAP include:

- Resource efficiency production
- Public procurement
- The circular economy
- Awareness raising

Waste Prevention Programme (WPP) 2011 and Federal Waste Management Plan (2011)
Both of these focus on the specific areas of: construction waste prevention, waste prevention in industry, waste prevention in households, prevention of food waste and reuse.

DENMARK

Denmark Without Waste – Recycle More, Incinerate Less, 2013
This strategy, since replaced by the 2015 strategy, focused mainly on recycling and how to achieve more efficient use of raw materials.

Denmark Without Waste II – Strategy for Waste Prevention, April 2015
This waste prevention strategy has 72 action points covering two general cross-cutting topics and five main focus areas.

Cross-cutting topics:

1. Production focus: support for Danish businesses in becoming better at producing more for less.
2. Consumption focus: stimulation of demand for green goods and services through central and local government procurement from retailers, and for the individual consumer through information campaigns.

There are five main focus area objectives:

1. To have avoidable **food waste** reduced in all links in the food product value chain.
2. To ensure that the **construction** sector acts more resource-efficiently, that substances of concern are managed appropriately and that there is better knowledge sharing throughout the sector.
3. To make it easier for **textile** businesses to reduce their environmental impact during the manufacturing phase, as well as to make it easier to reuse and recycle textiles, e.g. by reducing the use of substances of concern in textiles.
4. To increase the reuse and recycling of **EEE** and WEEE, so that products will have longer life spans and can be a part of circular production models.
5. To reduce the overall impact of **packaging** on the environment.

FINLAND

- The Finnish Draft National Waste Plan is entitled, **"From Recycling to a Circular Economy – National Waste Plan to 2023'**

The Waste Plan presents a vision for waste management in Finland in 2030:

- Waste management is part of the Finnish circular economy.
- Material-efficient production and consumption saves natural resources and creates jobs.
- Volumes of waste have decreased and recycling has risen to a new level.
- Markets for recycled materials and products works well.
- Valuable raw materials present at low levels are recovered from recycled materials.
- Hazardous substances are safely eliminated from the cycle and less hazardous substances are used in production.
- In the waste sector there is high-quality research and experimentation and citizens and companies are highly competent in waste issues.

There is also a proposal for the teaching of "circular economics' across all levels of education.

The national Roadmap to a Circular Economy (2016)
A new circular economy focus area was introduced in 2016 into the Finnish Innovation Fund (SITRA). A SITRA report estimates, the circular economy represents a €1.5-2.5 billion opportunity for Finland. Some companies will benefit indirectly from efficient use of material flows while others will be able to sell products and services based on new business models that take advantage of the circular economy.

FLANDERS

The Flanders Materials Programme and the Plan on Municipal Waste deal with challenges concerning materials and moving towards a circular economy.

Circular economy
There was a 2014 federal roadmap on the circular economy, followed in March 2016 by the Flanders "Vision 2050" with the circular economy as one of the seven transitions. The transition policy is further shaped through the continuation of the Flanders' Materials Programme as a circular economy platform focusing on innovation.

Extensive activities at federal and regional levels in promoting the circular economy, demonstrating leadership to public and private stakeholders. Using European Regional Development Fund Operational Programmes to promote the circular economy.

Resource efficiency
A working group has been set up at federal level with the Ministries of Environment and Economy on resource efficiency and the circular economy. Focus: efficient use of abiotic raw materials (except fuels), with a particular emphasis on minerals and metals; raw materials from biomass (biotic primary materials) only considered if they can substitute "classical" raw materials.

Priority industries and sectors for resource efficiency:

- Federal: chemical and building sectors; within these the working group identified plastics, building, and non-ferrous metals as priority sectors.
- Flanders: construction sector life-cycle approaches; the sector is the largest consumer of materials.
- Bio-economy: a shift from petroleum-based materials to renewable. The main aim is to give biomass residues a second life. An interdepartmental working group on the bio-economy is also involved in the updates of the Flemish renewable energy action plan and the agricultural policy.

FRANCE

Energy Transition for Green Growth Act 2015
A circular economy strategy will be drawn up including a programme on resource efficiency. Closing the material loop has high political priority and secondary raw materials are perceived as resources of great interest, as they form an output for local industries with strong growth potential.

National Waste Prevention Programme (NWPP) 2014-2020
The plan includes regulatory tools, voluntary agreements with sectors to increase waste prevention, awareness raising and information sharing, public procurement, and subsidies and incentives.

In particular, it includes various EPR schemes – see Targets section. Some of the targets set in the plan have been revised by the Energy Transition for Green Growth Act 2015: There are information initiatives to raise consumers' awareness of waste prevention in EPR schemes, including actions to increase the role of producer responsibility organisations in promoting the concept of eco-design and the practice of reuse.

Circular Economy and Resource Efficiency

GERMANY

Germany was one of the first countries in Europe to develop a raw materials strategy in 2010.

This led to the German Resource Efficiency Programme (ProgRess) in 2012, covering the years 2012-2015, to promote resource efficiency. The main aim of the programme was to decouple economic growth from the use of resources in Germany. The programme contained a set of concrete actions. A coordinated implementation programme was followed by a national platform ("Nationale Plattform Ressourceneffizienz" (NaRess)) which included representatives from business, environmental and consumer organisations as well as trade unions.

In March 2016, the German Federal Government adopted a successor programme, **ProgRess II (2016-2019)**, which encompasses a total of 123 different resource efficiency measures with the primary aim of decisively contributing to the transition towards a circular economy. Two of the main focus areas are:

- Sustainable building and sustainable urban development
- Resource efficiency of ICT products

This approach to resource efficiency at the national level is supported by additional programmes, measures and actions at regional level. Ten major fields of action have been set in place by ProgRess II:

- To ensure a sustainable supply of raw materials
- To increase resource efficiency in production
- To improve products and consumption patterns
- To increase resource-efficient cycle management
- For sustainable construction and sustainable urban development
- For resource-efficient information and communication technology
- To promote overlapping instruments
- To open up synergies to other policy areas and to reduce target conflicts
- For resource efficiency policies at local and regional levels
- To strengthen resource policy at the international and EU level

NETHERLANDS

The policy document, "A Circular Economy in the Netherlands by 2050" enumerates five priorities. Among these is:

A Circular Economy in the Netherlands by 2050

This document, published in 2016, further outlines Dutch priorities and plans for the circular economy. Some important extracts are, as follows:

- In concrete terms, this means that by 2050 raw materials will be used and reused efficiently without any harmful emissions into the environment. If new raw materials are needed, they will be obtained in a sustainable manner and further damage to social and physical living environments and public health will be prevented. Products and materials will be designed in such a way that they can be reused with a minimum loss of value and without harmful emissions entering the environment.
- The necessity to strive for a circular economy comes from a concurrence of three developments.
  - Explosive demand for raw materials (for example: rare earth metals for batteries, dynamos and electric motors). This growth is not sustainable.

- Dependency on other countries: the Netherlands and Europe are dependent on third countries to a high degree for raw materials. Of the 54 materials that are critical for Europe, 90% must be imported, primarily from China.
- Interconnectivity with the climate (CO_2 emissions): the extraction and use of raw materials has a negative effect not only on the environment and natural capital. It also makes a considerable contribution to the consumption of energy and the emission of CO_2.

The transition involves a shift from "take, make and waste" to a system that uses as few new raw materials as possible.

Priorities
The programme is focused on five priorities that are important for the Dutch economy, that have a large impact on the environment, and that fit in with the priorities of the European Commission. The five priorities are:

Biomass and food
Biomass is an indispensable raw material in the circular economy. This is the case for both produced biomass and biomass from residues. By its nature, biomass is a circular raw material, which distinguishes it from other raw materials.

Plastics
The use of plastics has increased twentyfold over the past fifty years. Expectations are that plastic use will double once again in the 20 years ahead.

Manufacturing industry
Sectors such as electronics, machinery and systems industry, automotive industry, electric transport, aerospace, and sustainable energy technologies use increasingly more raw materials due to a growing demand for products and services.

Construction sector
The construction industry is estimated to account for 50% of the raw materials used, 40% of total energy consumption, and 30% of total water consumption in the Netherlands.

Consumer goods
Consumer goods (things or stuff) rank first in the environmental impact top ten of average annual consumption per capita.

Afvalpreventieprogramma Nederland (Waste Prevention Programme Netherlands)
The Netherlands also has a Waste Prevention Programme, the objective of which is a shift towards a circular economy handling natural resources as efficiently as possible and ensuring the lowest possible environmental impact.
The circular economy entails:
- Optimal use of resources
- No waste, no emissions
- Sustainable resource use

Three forms of practical action are proposed:
- Better design (less material usage, less harmful substances, more recycled material, longer life)
- Less waste in the production phase (less material usage/ material loss, less harmful substances, closed material cycles)
- Conscious consuming (increase awareness of prevention by informing consumers and encouraging careful choices, less waste and more reuse)

SWEDEN

Swedish waste management and waste prevention plans: The 2012-2017 waste management plan's main purpose is to steer waste management towards greater resource efficiency. It includes measures to promote material recycling. The two main focus areas of the plan are economic instruments and incineration and promoting reuse to prevent waste. The plan also includes plans on waste statistics and traceability. Priority areas in both plans are: construction, engineering, household waste and food chain waste.

The waste prevention plan sets eight objectives and 167 measures. The waste management plan and the prevention programme will be replaced by new plans by 2018.

NORDIC REGION

Denmark was awarded "The Circulars", a circular economy award, for its waste strategy "Denmark without Waste". The Danish strategy is aimed at transforming policies, businesses and society towards a more circular way of thinking, and contains initiatives that include encouraging green business models, better regulation and favourable waste policies. Also, in alignment with circular economic thinking, Sweden has a consistent focus on waste prevention, combined with targets for handling, for example, food waste.

A recent example of Nordic co-operation within the circular economy is the fusion of three of the main players from Denmark, Sweden and Finland into the Ekokem consortium. The aim is to increase the re-use and recycling of resources in the Nordic region, by specialising and exploiting synergies across sectors.

Targets for Waste, Resource Efficiency, and Related Areas

Setting of targets is essential to the achievement of actual and real improvements. Many targets have been set by the eight selected countries.

In particular, France has a wide range of targets. In line with their priority waste streams, targets for the countries focus on areas such as Food waste, C&D waste, and various recycling objectives.

AUSTRIA

National Resource Efficiency Programme (REAP) 2012
Austria is one of the few EU countries with resource efficiency targets. These were set in REAP and are, in GDP/DMC:

- 50 % reduction by 2020 compared to 2008; and
- A factor of 4–10 by 2050.

DENMARK

Action	Target	Deadline
Collection of waste electronic equipment from the service sector	75%	2018
Recycling of paper, cardboard, glass, metal and plastic packaging from the service sector	70%	2018
Recycling of organic waste from the service sector	60%	2018
Energy recovery from garden waste from all waste streams	25%	2018
Collection of waste electronic equipment from all waste streams	65%	2018
Collection of batteries from all waste streams	55%	2018
Recovery of shredder waste from all waste streams	70%	2018
Recycling of phosphorus in sewage sludge from all waste streams	80%	2018
Recycling of organic waste, paper, cardboard, glass, wood, plastic and metal waste from households	50%	2022

FINLAND

The new plan is due later in Autumn 2017. Expected targets:

Action	Target	Deadline
Bio-waste from municipal waste is recycled.	60%	-
Develop recycling targets in public purchasing of recycled fertilisers for landscaping.	-	-
Increase recovery of construction waste to 70% (in line with EU targets).	70	-
Municipal waste-recycling	55%	2023
Increase recovery of nutrients, especially in Baltic areas, so that 50% of manure and wastewater sludge undergoes advanced treatment processes	50%	2025
Food waste is halved by 2030	50%	2030

FLANDERS

Targets for Flanders relating to waste and materials:

Action	Target	Deadline
Reduction in amount of food waste	15%	2020
The share of alternatives in the total amount of mineral resources required will have increased relative to 2013.	60%	2020
The share of Flemish mineral resources in the total amount of mineral resources required will have increased relative to 2013.	-	2020
Reduction in industrial residual waste compared to 2013, taking into account employment rate.	15%	2022
Reduction in amount of food waste	30%	2025

FRANCE

Under the Energy Transition for Green Growth Act:

Action	Target	Deadline
Waste prevention target to reduce municipal waste production per inhabitant compared to 2010	10%	2020
Recycling target (including organic waste) of non-hazardous, non-inert waste	55%	2020
Recycling target for C&D waste, in line with targets set by the Waste Framework Directive.	70%	2020
Reduction in non-hazardous, non-inert waste sent to landfill compared to 2010	30%	2020
The waste prevention plan's target was stabilisation of industrial waste (excluding C&D waste) compared to 2010. This Act revised this target, requiring a reduction by 2020 compared to 2010.	Reduction	2020
The waste prevention plan's target was stabilisation of C&D waste. This Act revised this target, requiring a reduction by 2020 compared to 2010.	Reduction	2020
Recycling target (including organic waste) of non-hazardous, non-inert waste	65%	2025
Reduction in non-hazardous, non-inert waste sent to landfill compared to 2010	50%	2025
A resource/material productivity target – a 30% increase between 2010 and 2030, as well as a decrease in DMC per person	30%	2030

Targets for public bodies:

Action	Target	Deadline
Use of recycled paper (paper containing > 50% recycled fibres), with remainder from sustainably managed forests.	25%	2017
Share of reused or recycled building waste materials in road construction materials purchased by national and local authorities.	50%	2017
Decrease in office paper consumption.	30%	2020
Use of recycled paper (paper containing > 50% recycled fibres), with remainder from sustainably managed forests.	40%	2020
Reuse/recycling/recovery rate for road construction and maintenance waste.	70%	2020
Share of reused or recycled building waste materials in road construction materials purchased by national and local authorities.	60%	2020

France has numerous other targets. These are related to the following areas:
2013 Covenant on Food waste: halving food waste by 2025.
Agriculture, Forestry and Agri-Food:
EPR schemes (these have associated quantified targets and sub-targets):

- Waste household graphic paper and similar
- Waste clothing, household textiles and shoes
- Waste furniture
- Waste household packaging (beyond european waste packaging targets)
- Waste packaging and plastic products for agricultural supplies (voluntary)
- Printer cartridges (voluntary):
- Batteries and accumulators – portable, automotive or industrial
- Consumer and professional EEE
- Targets – automotive waste
- Waste tyres

Qualitative indicators:

- Decoupling the production of household and similar waste and expenses from household consumption
- Decoupling the production of non-hazardous, non-mineral waste from economic activity and GDP
- Decoupling material consumption from economic wealth (GDP)

Targets for Waste, Resource Efficiency, and Related Areas

GERMANY

With regard to waste, some recent targets have been published in ProgRess II for specific streams, including:

Action	Target	Deadline
Phosphorus from secondary sources	Significant increase	-
Electrical appliances: collection and recycling of WEEE	65%	2019
Municipal waste recycling	> 65%	2020
Plastic waste recycling	Significant increase	2020
End-of-life-vehicle-electronics: extensive disassembly	-	2020
Bio-waste: increase in the quantity of separately collected organic waste and high-quality recycling/ recovery of such waste	50%	2020
Building materials waste (concretes, etc.) recycling	Significant increase	2030
Recycling of gypsum/plasterboard in construction	Significant increase	2030

NETHERLANDS

Action	Target	Deadline
Household waste (including bulky waste) collected separately	≥ 75%	2020
Separate collection of waste produced by small companies, offices, stores and services	≥ 75%	2020
Kilograms per person/per year of residual household waste	< 100	2020
Recycling of plastic packaging waste	≥ 51%	2021
Recycling of wood packaging waste	≥ 43%	2021
Million tonnes of residual waste allowed to be incinerated or sent to landfill (in 2012 the figure was 10 million tonnes)	< 5	2022
Kilograms per person/per year of residual household waste	< 30	2025
Recycling of metal packaging	85 %	2030

SWEDEN

Action	Target	Deadline
Food waste from households and commercial sources to be treated biologically to recover plant nutrients.	≥ 50%	2018
Food waste from households and commercial sources to be treated to recover both nutrients and energy.	≥ 40%	2018
Non-hazardous C&D waste prepared for reuse, recycling and other material recovery.	70%	2020
The amount of waste generated shall be continuously reduced from 2010 onwards.	-	-
The content of hazardous substances in materials and products shall be reduced.	-	-
Food waste shall be reduced compared to 2010 throughout the entire food value chain (except for primary production). There shall be an action plan for reduced food wastage in the primary food production by 2016.	≥ 20%	2020
The amount of textile waste generated by households shall be reduced compared with 2010. A target to be developed.	-	-
The proportion of total textiles sales made up of second-hand goods sales to increase compared with 2014.	-	-
Knowledge in the textile sector about the use and content of hazardous substances in textiles shall be increased compared with 2014.	-	-
Waste generation per square metre built will be reduced compared with 2014.	-	2020
WEEE pre-processors and recyclers shall have better access to useful information on the composition of products and their hazardous substances content than they did in 2014.	-	2020

Materials Policies and Programmes

Many countries see the close connection between material usage (consumption) and waste. Hence these countries are now establishing Materials Programmes.

AUSTRIA

Austria is exceptional in that it has a National Resource Efficiency Plan, a Raw Materials Plan, and a Waste Prevention Plan.

National Resource Efficiency Programme (REAP) 2012: Austria was one of the first European countries with a resource efficiency programme. This has adopted ambitious resource efficiency targets. It includes measures on recycling of materials critical to the Austrian economy, urban mining from construction materials, and wood. Specific focus is on food and construction materials but also agricultural and energy efficiency plans using biomass. The recycling of critical materials is being considered.

Masterplan on Green Jobs: this aims to further develop the environmental protection industries and technologies through:

- Promoting resource-efficient products, techniques and services
- Replacing primary non-renewable resources with renewable resources and recycled materials

FINLAND

The draft **"From Recycling to a Circular Economy – National Waste Plan to 2023"** has the following vision for Finland in 2030:

- Waste management is part of the Finnish circular economy.
- Material-efficient production and consumption saves natural resources and creates jobs.
- Volumes of waste have decreased and recycling has risen.
- Markets for recycled materials and products works well.
- Valuable raw materials present at low levels are recovered from recycled materials.

Actions:

- Increase use of fertilisers from recycled raw materials to replace virgin-based ones, including for tailor-made nutrition and a voluntary quality system.
- Voluntary agreements on promoting material efficiency and recycling – including with the construction sector and in the food sector.
- To increase use of C&D waste as a material, voluntary contract procedures are proposed.
- Increase public procurement looking at use of recycled materials, amount of waste produced, product quality/ durability, and recyclability. Network of advisory organisations. Guide for green buildings procurement.
- Establish a nationwide waste information system.
- Increase use of the "material review tool" for companies.

The Finnish Material Efficiency Programme (2014) includes measures to clarify the waste and environmental permit system and to use waste and industrial secondary flows in a sustainable way. It also proposes a trial of a material-efficiency contract between the administration and companies. A circular economy focus area was introduced in 2016 into the Finnish Innovation Fund (SITRA).

FLANDERS

The Flanders Environmental Policy Plan includes:
- Materials and waste: moving to a circular economy
- Executive plan on management of municipal waste
- Policy plan for primary raw materials

The Flanders Materials Programme and the Plan on Municipal Waste deal with challenges concerning materials and moving towards a circular economy.

Circular economy and resource efficiency
A 2014 federal roadmap on the circular economy, was followed in 2016 by the Flanders "Vision 2050" with the circular economy as one of seven transitions. The transition policy is further shaped through the continuation of the Flanders' Materials Programme as a circular economy platform focusing on innovation.

A working group at federal level (Ministries of Environment and Economy) on resource efficiency and circular economy has a focus on the efficient use of abiotic raw materials, with emphasis on minerals and metals.

A Materials Decree – the Sustainable Management of Material Cycles and Waste
Flanders transposed the Waste Framework Directive into a new materials decree, rather than revising the previous waste decree. The scope of action was extended from the end-of-life phase to the entire materials cycle. Therefore, it now looks at impact of design on the waste phase and at shared use of products.

The 2012 Materials Programme has 45 actions. Examples are:
- Examine rules for earthworks to prevent low-grade applications; promote use of recycled granulates in road construction.
- Intensify use of EPR to close material loops.
- Increase consideration for sustainable materials management in permit issuing.
- Government purchases to take sustainable materials management into consideration.
- Teach tomorrow's citizens and employees skills to manage materials more efficiently.

FRANCE

Energy Transition for Green Growth Act 2015
This Act sets includes, among various topics, measures on waste and improving material resource efficiency.

A circular economy strategy will be drawn up including a programme on resource efficiency. Closing the material loop has high political priority and secondary raw materials are perceived as resources of great interest, as they form an output for local industries with strong growth potential.

Actions from this strategy related to materials are:
- Strategic materials in WEEE, batteries, accumulators, etc.
- Voluntary multi-thematic agreements that include material resource efficiency.
- Development of methodological handbooks targeting communities and businesses; networks and competitiveness clusters (of which 21 out of 71 are highly involved in resource savings or substitution concerns including recycling, bio-resources and alternative material technologies).

GERMANY

Germany was one of the first countries in Europe to develop a Raw Materials Strategy.

This led to the German Resource Efficiency Programme (ProgRess) in 2012, covering the years 2012-2015, to promote resource efficiency. The main aim of the programme was to decouple economic growth from the use of resources in Germany.

ProgRess II (2016-2019) encompasses a total of 123 different resource efficiency measures with the primary aim of decisively contributing to the transition towards a circular economy.

Ten major fields of action have been set in place by ProgRess II. Among these is to ensure a sustainable supply of raw materials.

Materials Policies and Programmes

NETHERLANDS

Afvalpreventieprogramma Nederland (Waste Prevention Programme Netherlands)
Three forms of practical action are proposed:
- Better design (less material usage, less harmful substances, more recycled material, longer life)
- Less waste in the production phase (less material usage/ material loss, less harmful substances, closed material cycles)
- Conscious consuming (increase awareness of prevention by informing consumers and encouraging careful choices, less waste and more reuse)

A Circular Economy in the Netherlands by 2050
- The aim is that, by 2050, raw materials will be used and reused efficiently without any harmful emissions into the environment. If new raw materials are needed, they will be obtained in a sustainable manner. Products and materials will be designed in such a way that they can be reused with a minimum loss of value and without harmful emissions entering the environment.

- The necessity to strive for a circular economy comes from a concurrence of three developments.
  1. Explosive demand for raw materials. This growth is not sustainable.
  2. Dependency on other countries. Of the 54 materials that are critical for Europe, 90% must be imported, primarily from China.
  3. Interconnectivity with the climate (CO_2 emissions): The extraction and use of raw materials has a negative effect on the environment and natural capital. It also makes a considerable contribution to the consumption of energy and the emission of CO_2.

Vision
The transition involves a shift from "take, make and waste" to a system that uses as few new raw materials as possible.

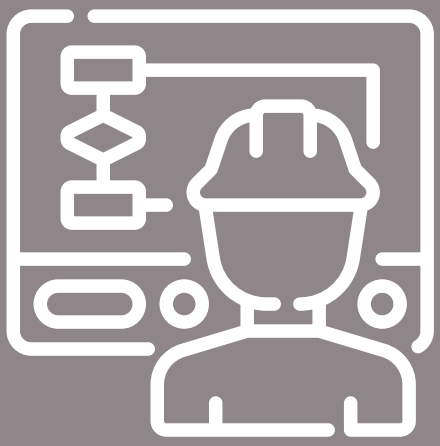
There are five priorities. These are:
- Biomass and food: biomass is an indispensable raw material in the circular economy.
- Plastics: the use of plastics has increased twentyfold over the past fifty years. Expectations are that plastic use will double once again in the next twenty years.
- Manufacturing industry: sectors such as electronics, machinery and systems industry, automotive industry, electric transport, aerospace, and sustainable energy technologies use increasingly more raw materials.
- Construction sector: the construction industry is estimated to account for 50% of the raw materials used, 40% of total energy consumption, and 30% of total water consumption in the Netherlands.
- Consumer goods: consumer goods rank first in the environmental impact top ten of average annual consumption per capita.

NORDIC REGION

The Nordic Council Platform "Green Growth the Nordic Way" has emerged through the Nordic Council and the Nordic Council of Ministers. Activities that are waste related include work on textile waste as a resource; and reducing food waste. There is also a Material Efficiency Centre – national coordinator for material efficiency (many projects).

Extended Producer Responsibility

EPR is an important tool for waste reduction. All countries have some EPR initiatives, but France is particularly strong in this regard.



FLANDERS

Under the 2016 municipal waste plan, the following initiatives are proposed:

- Plans for a specific policy for furniture and mattresses, with incentives for eco-design, more (local) re-use, and source-separated collection. The negotiations for an EPR measure for mattresses started in 2016 and will be introduced from 1st January 2018. The EPR focuses on eco-design, selective collection, recycling and marketing. Recycling targets will depend on the results of a study that is under way. Similarly, maximising the reuse of furniture and the possibility of an EPR is being explored.

- Looking at the sorting message for reusable textiles versus worn textiles, both of which are required to be source separated. In 2017, OVAM is also bringing together actors from across the textile chain with a view to formulating an instrument in 2018; this may be an EPR, a Code of Practice, or some other instrument.

The 2012 Decree, "A Materials Decree – On the Sustainable Management of Material Cycles and Waste" specifies 45 actions, including:
- Intensify the use of EPR as an instrument to close material loops.

FRANCE

National Waste Prevention Programme (NWPP) 2014-2020
The plan includes various EPR schemes. Some of the targets set in the plan have been revised by the Energy Transition for Green Growth Act 2015.

The plan also includes information initiatives to raise consumers" awareness of waste prevention in EPR schemes, including actions to increase the role of producer responsibility organisations in promoting the concept of eco-design and the practice of reuse.

Energy Transition for Green Growth Act 2015
Actions related to waste prevention, recycling and recovery, include various targets for producer responsibility schemes.

EPR schemes (these have associated quantified targets and sub-targets):
- Waste household graphic paper and similar
- Waste clothing, household textiles and shoes
- Waste furniture
- Waste household packaging (beyond European waste packaging targets)
- Waste packaging and plastic products for agricultural supplies (voluntary)
- Printer cartridges (voluntary)
- Batteries and accumulators – portable, automotive or industrial
- Consumer and professional EEE
- Targets – automotive waste
- Waste tyres

Regulation Measures

For several countries measures include mandatory segregation, and the banning of landfill or incineration of recyclable materials.

AUSTRIA

The Landfill Tax was reinforced in 2009 when waste containing more than 5% total organic carbon (TOC) was banned from landfill (with some exceptions) along with untreated waste and waste with a calorific value greater than 6 MJ/kg.

Separate mandatory collection of different types of packaging and paper, and take-back systems for used cars, batteries and electric/electronic equipment are used as a means of achieving high recycling rates are well established in Austria.

DENMARK

Denmark has implemented all the requirements of waste regulation under the Waste Framework Directive.

Hazardous materials are heavily regulated in Denmark under the Danish Chemicals Act and a wide array of advice and assistance is available from the Danish EPA. For example, there is a general ban on the use, sale, import or export of ozone-layer-depleting substances and products containing ozone-layer-depleting substances. The use of cadmium must be limited as it is a toxic heavy metal. There are limits on the amount of nickel in products, which are used for long-term contact with the skin.

In Denmark, there is a ban on the use of phthalates in toys and childcare articles for children aged 0-3 years. There are specific requirements relating to PVCs and phthalates, volatile organic compounds (VOCs) in refinishing products, hydrofluorocarbons (HFCs), perfluorinated compounds (PFCs) and sulphur hexafluoride (SF6), Nonylphenol (NP) and nonylphenol ethoxylates (NPE), pentachlorophenol (PCP), mercury, etc.

FINLAND

Finland's compliance promotion measures include regular dialogue with the regulated community and co-financing with business associations of environmental management studies. National-level negotiations with representatives of specific industrial sectors are also organised on a regular basis.

There is a high degree of specialisation along the compliance assurance chain, including police officers and prosecutors specialised in combating environmental crime and a specialised administrative court in Vaasa. Advanced training programmes for environmental inspectors and police officers are in place.

Legislation on the promotion of sustainable environmental and energy solutions (cleantech solutions) in public procurement. In particular in relation to waste:

- Waste management procurements shall be aimed at the implementation of cleantech solutions, with an emphasis on the creation and implementation of first references in the prevention, sorting, collection, transport, recycling and processing of waste. In addition, lifecycle cost accounting shall be used to reduce costs and adverse environmental impacts for the entire lifecycle of waste management.
- In institutional food services, an effort shall be made to systematically reduce food waste.
- A sustainable procurement advisory service, which offers all procurement units free assistance in procurement planning.

FLANDERS

Flanders policy instruments include:
- Landfill ban on recyclable waste;
- Incineration ban on recyclable waste;
- Pay-as-you-throw schemes – using weight-based systems on residual waste and bio-waste with electronic registration;
- EPR schemes;
- Various ecodesign tools.

Steps have been taken against illegal exports of metal containing waste.

Criteria that have been defined for determining whether electronic devices can be reused have made checks easier. Contractors to Recupel, the WEEE take-back organisation, are certified. Standards for collection and recycling of "e-waste" have been submitted as the basis for new European requirements.

OVAM is conducting a study to map the quantity, cost price, composition, locations, and perpetrators of illegal dumping in Flanders, with a view to an action plan.

There is emphasis in the GPP actions to include criteria to promote products containing recycled materials.

At a federal level in Belgium, there are Ecodesign Regulations in force.

FRANCE

There are a number of interesting regulatory measures in France, including:
- Obligation by law for food retailers and distributors to donate unsold goods
- Mandatory demolition diagnostic assessment of the building and audit of the materials to be deconstructed.
- Since March 2016, businesses are required to sort at source 5 types of waste: paper, metal, plastic, glass and wood
- A law requiring vehicle repair professionals to use second-hand spare parts instead of new ones

GERMANY

The Waste Management Act (KrWG) 2012, is today Germany's main waste disposal statute. Disposal of specific types of product waste (respectively ELVs used batteries and end-of-life electronic and electrical devices) are governed by the ELV Regulation, the Battery Regulation, and the WEEE Regulation. The Waste Management Act (KrWG) was intended to tighten resource, climate and environmental protection regulations.

The Waste Management Act contained a new provision concerning the distinction between waste on one hand, and byproducts that do not fall within the scope of the law on the other. It set in place criteria for byproducts – substances that are produced in connection with the manufacture of another substance or product, and are thus not the main focus of the manufacturing process.

From January 2015, sorting is mandatory for organic waste, as well as for paper, metal, plastic and glass. Recovery rates will become mandatory in 2020.

Since July 2013, Germany has made it an obligatory feature on building products with Conformité Européenne (CE) markings whether they contain Substances of Very High Concern in concentrations of more than 0.1%.

NETHERLANDS

The programme "From Waste to Resource" is part of the Dutch move towards a circular economy. It promotes the reuse of waste as a valuable raw material.

However, a range of regulatory instruments is also available with respect to waste. These include, for example:
- Landfill bans: ban on landfill of all recyclables and products/materials that can be incinerated
- Producer responsibility legislation: for example on packaging, WEEE, ELVs, batteries, tyres, and a generally binding declaration-of-waste management fee on flat glass
- End-of-waste/by-products: in cooperation with the Ministry of Economic Affairs, a taskforce has been established to look at the barriers and problems companies experience with legislation

SWEDEN

EPRs: EPR schemes for paper, packaging, newspapers, tyres, cars, WEEE, batteries, and pharmaceutical products. Producers are responsible for dealing with end-of-life products. This means that there must be suitable collection systems and treatment methods for recycling.

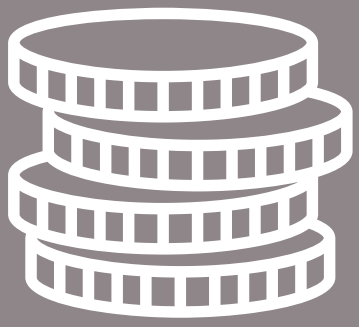
Landfill bans: ban on landfill of sorted burnable materials since 2002, and an organics ban since 2005.

Source segregation: since 2002, burnable waste has been required to be sorted at source.

Swedish Environmental Code (Sweden's environmental laws): includes general consideration of resources, the waste hierarchy, and maintaining natural cycles.

Taxes, Levies, and Fiscal Measures

A number of countries are introducing, or considering, reduced taxes (VAT) and other subsidies for repair. Several countries have taxes on both waste disposal and incineration.



AUSTRIA

Austria has had a landfill tax in place since 1989 with significant effect. An incineration tax is also in place.

DENMARK

Economic instruments have been deployed in Denmark for the purpose of waste prevention for many years. For example:

- The tax on raw materials covers raw materials which are extracted or imported – this contributes to reducing raw material consumption and the promotion of recycling, especially in the C&D sector.
- The waste tax implements a levy on waste for incineration and landfilling, but exempting waste for recycling. This contributes to the promotion of recycling and encourages businesses to use technologies that reduce waste.
- Denmark first introduced taxes on packaging in 1978. The packaging-waste tax comprises a volume-based tax on packaging for different types of beverage containers (1978); a tax on carrier bags (1994); a tax on disposable tableware (1982); and a tax on food wrap film (1998). The objective of these levies is to contribute to reducing waste volumes and to establish an incentive to use less packaging.

FINLAND

Plans exist for a lower VAT rate for repair services for bicycles, shoes, leather goods, clothing and home textiles.

Drinks packaging tax and bring-back schemes – tax paid on packaging for alcoholic beverages, beer and soft drinks, €0.51 per litre. Tax does not apply to packaging in the approved returnable deposit systems that collect packaging for refilling or material recycling.

Environmental taxation – waste taxes have been gradually increased. There are plans to look at an incineration tax.
Municipalities are to promote small repair service businesses by offering them low-cost premises and publicity.

Possibility of subsidies to encourage recycled fertilisers.
Consideration of a "land-based tax" for builders to use virgin material effectively and to increase the use of recycled material in construction.

Finland is carrying out studies on which natural resources should be subject to economic instruments.
Finland is examining a more extensive "household deduction" for maintenance and repair services aimed at extending the useful life of household appliances, furniture and other durables, and the purchase of renovation design services.
Measures to promote uptake of resource efficiency audits in companies–companies may receive economic incentives for audits.

The Finnish government has allocated an extra €300 million to fund strategic development and investments in the bio-economy, circular economy and cleantech for the period 2016-2018. The circular economy was selected as one of the key projects of the Prime Minister's 2015 government programme, with a planned public investment of €40 million.

FLANDERS

Flanders has taxes on landfill and on incineration.

FRANCE

"Incentive pricing" for waste collection to reduce household waste amounts is in the process of being rolled out. This has resulted in a decrease of 20-50% in the collected residual waste tonnages and an increase in the collections of separate streams like packaging and paper. Interestingly, these effects were noted to appear even before the fee entered into force due to prior communication to sensitise householders. Also, the roll out is happening gradually – aiming for 15 million people covered by 2020 and 25 million by 2025.

The NWPP includes measures for increased application of environmental tax and subsidies. Analysis has also been carried out of the incentive effect of environmental taxes.

The Investment for the Future Programme (PIA) finances research development innovation (RDI) programmes (including demonstrators), infrastructure and institutes as well as financial instruments (mainly equity and loans) for innovative projects that target different eco-industry-related issues, with the objective of supporting companies' growth. By 2015, the PIA had dedicated €2,850 million to clean energy and the circular economy. Half of the total amount of the second PIA, which is currently active, is dedicated to various programmes that consider eco-conditionality criteria.

GERMANY

In 2017 the German Environment Agency (UBA) produced a policy brief entitled: Obsolescence – Political Strategies for Improved Durability of Products. The aim of the policy brief is to feed into EU developments with regard to the Circular Economy Action Plan and legislation such as the Ecodesign Directive.

Among its main recommendations is: Reduce value added tax for repairs: the EU Directive on the common system of value added tax already permits the use of reduced VAT rates for locally provided, labour-intensive repair services.

NETHERLANDS

In terms of environmental taxes, the Netherlands has levies on water, energy, waste disposal, and coal.

Waste Disposal taxes
On 1 January 2016 the waste disposal charge was fixed at €13.07 per 1,000 kg. This rate applies to waste that goes to landfill or is incinerated. There is no charge on waste that is recycled. Waste processors pay the charges to the Tax and Customs Administration and may recharge them customers who use their landfill sites. This is below the EU average of €28/tonne .

SWEDEN

Taxation measures to stimulate a repair culture – reduced VAT and consumer income tax breaks: under the first measure, repairs only need apply a lower VAT rate – 12% instead of 25%. This covers the repair of household appliances like dishwashers, washing machines, fridges, freezers, cookers and so on; as well as personal items including bicycles, clothes, leather goods, household textiles and shoes.

The second measure is that individuals can claim back half of the labour cost for repairs carried out to their own goods from their income tax. The two measures have been in effect since January 2017. It is hoped the measures will boost the economy as well as encourage people to buy high quality goods in the first place that can be repaired.

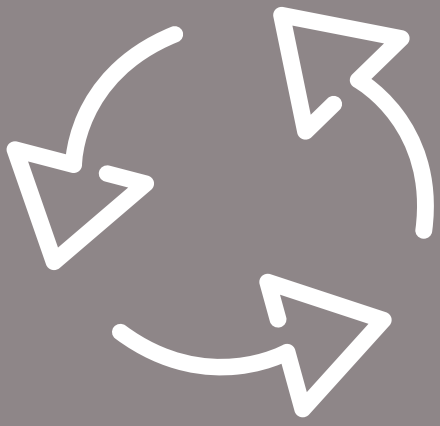
A Green Tax Shift reform programme: this was undertaken between 2001 and 2006 to reallocate taxes from labour to environmentally harmful activities. The main change regarding environmental taxes was that the carbon tax was increased, but other taxes were adjusted too, including those for waste. Despite the reform programme, revenues from environmentally-related taxes have not kept pace with increases in GDP. Partly this has been due to the intended behavioural impacts of taxes.

Natural Gravel Tax: Sweden has a gravel tax in place since 1996. In 2016 this generated SEK 157 million (~ €17 million).

Landfill Tax: landfill tax since 2000 has reportedly dramatically decreased landfill amounts and helped to implement landfill bans on burnable waste and on organics. In 2016 taxes on waste generated SEK 302 million (~ €32 million).

Recycling and Reuse

Many countries have policies to increase recycling and to decrease incineration.



AUSTRIA

National Resource Efficiency Programme (REAP) 2012
REAP includes measures on recycling of materials critical to the Austrian economy, on urban mining from construction materials and on wood. A potential focus on the recycling of critical materials is being considered.

DENMARK

Denmark Without Waste – Recycle More, Incinerate Less, 2013
This strategy, since replaced by the 2015 strategy, focused mainly on recycling and how to achieve more efficient use of raw materials.

Denmark Without Waste II – Strategy for Waste Prevention, April 2015
Of five Main Focus Area Objectives, the following relates to recycling: To increase the reuse and recycling of EEE and WEEE, so that products will have longer life spans and can be a part of circular production models.

FINLAND

The Draft "From Recycling to a Circular Economy – National Waste Plan to 2023"
In the vision for Finland in 2030, are the following:
- Volumes of waste have decreased and recycling has risen.
- Markets for recycled materials and products works well.
- Valuable raw materials present at low levels are recovered from recycled materials.

In preparation for the revised plan, Finland forecasted future waste volumes and undertook a study into what policy instruments could be used to increase recycling to meet EU targets. They propose:
- A tax on waste incineration
- The introduction of weight-based waste management systems
- Tightening municipal waste management obligations and the efficiency of household sorting advice

Actions within the draft plan include:
- Increase use of, and research into, fertilisers from recycled raw materials to replace virgin-based ones, including for tailor-made nutrition and a voluntary quality system
- Voluntary agreements on promoting material efficiency and recycling – including with the construction sector and in the food sector
- Increase use of C&D waste as a material
- Increase public procurement looking at use of recycled materials, amount of waste produced, product quality/ durability, recyclability of products/parts and material efficiency
- Develop recycling centres for construction products. Increase networking and sales for recycling centre operators via a digital marketplace. Interim storage facilities
- Explore a ban on energy recovery from segregated recyclables
- Increase WEEE collection; sufficient resources for customs and police to improve control on WEEE exports; an inspection fee for exporters; inspections targeted at likely illegal sources of WEEE export

FLANDERS

Flanders aims to restrict illegal networks for metal-containing waste products; collect even more metals for recycling; increase research and development for closing metal cycles; and actions on traceability and uniformity of recovered metals.

Flanders has an incineration ban on recyclable waste

FRANCE

Measures to develop reuse and repair, including of WEEE:
- Tie-ins with social programmes
- Reuse avoided 940,000 tonnes of waste (2013 figures)
- A WEEE repair training partnership is being set up
- The repair sector has been analysed in terms of employment and turnover

GERMANY

In 2017 the UBA) produced a policy brief entitled: "Obsolescence – Political Strategies for Improved Durability of Products".
Its main recommendations are as follows:
- Need for product standards with regard to minimum lifetime.
- Producers must inform consumers on availability of spare parts and repair services (e.g. through the Ecodesign Directive).
- Introduce a manufacturer's duty to issue a guarantee statement e.g. in the Consumer Sales Directive. It should be made mandatory for manufacturers to indicate a manufacturer's duty to issue a guarantee statement for their product.
- Improved framework conditions for repairs: available spare parts, repair instructions and diagnostic software should always be available also to independent repairers and repair initiatives as well as to re-use centres.
- Reduce value added tax for repairs: the EU Directive on the common system of value added tax already permits the use of reduced VAT rates for locally provided, labour-intensive repair services.
- Strengthening product appreciation: measures and initiatives contributing to extended product service lives, continued use and joint use of products should be afforded greater support.

NETHERLANDS

"From waste to resource" (VANG programme)
VANG's focus is on adapting the current waste policy into a transition to a circular economy, including stimulating recycling in specific waste flows. By adopting such an integral programme, the Dutch government is aiming to minimise resource use and to close the resource loop.

VANG also has, as one strand, the objective to gear waste policy to the circular economy, and improve waste collection and recycling.

SWEDEN

Swedish waste management and waste prevention plans:
The 2012-2017 waste management plan's main purpose is to steer waste management towards greater resource efficiency. It includes measures to promote material recycling. The two main focus areas of the plan are economic instruments and incineration and promoting reuse to prevent waste. The plan also includes plans on waste statistics and traceability. Priority areas in both plans are: construction, engineering, household waste and food chain waste.

Hazardous Waste

Hazardous waste, given its potential for environmental and human harm, is considered a priority waste stream in the EU. Across Europe, sources of hazardous waste are in order of decreasing magnitude the waste management sector, construction, mining and quarrying, and, at about one fifth of all hazardous waste, households.

AUSTRIA

The management of hazardous waste from households outside EPR schemes is mostly financed through municipal fees. The main household waste source is WEEE (73%) and this is tackled by awareness raising programmes and increased separation – leading to recovery.

Austria's Action Plan on Sustainable Procurement includes criteria on the use of products with low hazardous substance concentrations.

The remediation of contaminated sites is financed through levies on landfilling and incineration.

DENMARK

Hazardous materials are regulated under the Danish Chemicals Act. There is a ban on the use, sale, import/export of ozone depleting substances and products containing such substances. The use of cadmium is limited as well as nickel in certain products used for long-term contact with skin. There is a ban on phthalates in certain toys and childcare articles. There are specific requirements relating to PVCs and phthalates, VOCs in refinishing products, fluorinated gases, NP and ethoxylates, PCP, mercury, and so on.

Denmark's national waste prevention plan specifically tackles hazardous waste up to the year 2027. It aims to support textile companies in reducing impacts in production and making it easier to reuse/recycle textiles, including by reducing use of hazardous substances.

The Danish Eco-Innovation Programme promotes the development and application of new, efficient solutions to environmental challenges including the reduction of hazardous chemicals.

Legislation on pesticides is extensive, with many requirements for the professional user, importer or distributor.

Denmark has also put in place a strict regulatory regime for business and has instituted a very detailed and research-driven regime for hazardous waste and chemical policies and regulations.

FINLAND

Finland's waste prevention programme specifically targets hazardous waste. The current plan is to aim for for hazardous substances to be "safely eliminated from the cycle' and less hazardous substances be used in production by improving source separation and giving priority to reusable packaging.

The National Hazardous Chemicals Programme (2006) aims to contribute to the sustainable use of biocides, enhance knowledge on environmental micro-plastics and on exposure to sensitisers. A major objective is to replace materials/products with harmful characteristics with viable alternatives.

FLANDERS

The waste prevention programme of Flanders from 2007 specifically targets hazardous waste up to the year 2020.

There is a ban on hazardous materials being used in new buildings. Schemes are in place to retrieve hazardous substances during demolition. During pre-demolition audits, particular attention is paid to hazardous substances. Demolition monitoring ensures no hazardous substances present in material from which aggregates will be recycled. The reuse or building waste containing hazardous substances is prohibited.

For households, batteries are a priority, with 55% recovered and ongoing awareness raising. Pesticides and packaging must be sorted by households and small business and is collected by municipalities.

The extensive reuse system in Flanders prolongs the life of products like WEEE.

FRANCE

With regard to the national waste policy, WEEE, polychlorinated biphenyls waste and wastes containing asbestos are important. Like most countries, France seeks, through the European Commission to further the phasing out of many hazardous streams through improved product design and sustainable alternatives.

EPR schemes are in place for WEEE, and awareness-raising programmes have had some success according to surveys. Economic instruments such as a levy for stabilisation and landfilling are in place.

GERMANY

The widespread use of the Blue Angel labelling scheme allows consumers to learn the hazardous nature of products. For industry, Germany has tackled industrial emissions, including a specific requirement for the licensing process of industrial facilities, targeting materials such as chemicals, dyes, metals and surface cleaners. The production-integrated environmental protection (PIUS) Check programme also targets small or medium-sized enterprises (SMEs) to increase their material efficiency, including reducing the use of hazardous materials.

NETHERLANDS

Increasing the recyclability of waste by using fewer and less hazardous substances has been the focus of many activities. To this end, the avoidance of hazardous waste generation has been a key element and is approached from an integrated perspective of lifecycle thinking that goes beyond pure waste prevention.

This focus on improving circularity is also reflected in the Dutch waste prevention programme, which includes objectives to: improve product design by using less harmful substances and reduce waste generation in the production phase, with a specific focus on harmful substances.

Specific hazardous streams addressed include: hazardous waste from C&D, polluted water from rinsing tanks in vessels in Dutch ports and process chemistry, which are prevalent in the Netherlands. One of the most successful measures has been the TaBaChem, a green deal that facilitates the take-back of chemicals. In TaBaChem the supplier is not paid to purchase the chemicals per unit volume, but for the function performed by the chemicals; for example, payment per square metre of surface cleaned.

SWEDEN

Overall, in Sweden the level of separation of hazardous waste is quite high relative to other European countries. The highest flow is C&D producing one third of the total, the largest part of which is contaminated soil. While mining is a large industry in Sweden, it generates a very small amount of hazardous waste.

The NWPP includes objectives for the main hazardous waste streams. For example, by 2020, WEEE pre-processors and recyclers should have access to more useful information on the composition of products and the content of hazardous substances.

It also sets a target to significantly increase knowledge in the textile sector on the use and content of hazardous substances. Currently around 10% of textiles are not suitable for recycling because of impregnation with fire-proofing and dirt repellent substances and textiles with thick plastic printing or azo-dyes.

Policies in place include a support system for using products in construction that do not contain hazardous elements. Strict building standards are in place. Tax deductions through VAT or labour costs being reclaimed for repair prevent hazardous waste. Strict labelling of hazardous materials in products offer consumers good information in selecting alternatives.

Some Statistics on Hazardous Waste in the EU

Sectors Covered in National Waste Prevention Progammes (NWPPS):

30 COUNTRIES COVERING HOUSEHOLDS

27 COUNTRIES COVERING CONSTRUCTION

11 COUNTRIES COVERING MINING

OUT OF THE TOTAL NWPPS: 25 waste prevention programmes covering the prevention of hazardous waste

OUT OF THE TOTAL NWPPS: 17 objectives for reducing quantities of hazardous substances or haz waste generation

OUT OF THE TOTAL NWPPS: 4 set targets for hazardous waste prevention

7 programmes included a list of indicators for hazardous waste

10 programmes include a description of monitoring systems

WASTE BY SECTOR:

CONSTRUCTION

32 Kg

PER PERSON (drop of 38 kg pp to 32 kg in 2010)

MINING AND QUARRYING

27 Kg

PER PERSON

HOUSEHOLD

7 Kg

PER PERSON (increase from 2006 to 2012)

Current priorities and emerging issues in the European Commission's waste policy

Without doubt, the main immediate priority and emerging issues in waste policy for the European Commission are the various implementing actions to roll out the Circular Economy Strategy.

Several other issues, waste streams and targets are also emerging and are under consideration/development. These include measures in relation to WEEE, hazardous waste classification guidance, ELVs, environmental liability, and critical raw materials.

In the longer term, there are plans in the areas of C&D waste, waste shipment legislation, waste batteries and accumulators, ELVs, WEEE, mining waste, plastics and plastic waste, the intersection of chemicals, products and waste legislation, a monitoring framework for the circular economy, ship-generated waste, standards on secondary raw materials and on material efficiency, and on environmental footprinting. These are all discussed here.

These issues will be discussed in two categories:

- Existing proposals – current policy proposals in development but not yet adopted.
- Potential future initiatives – longer-term policy under discussion, for which studies, consultations, and so on may be under way but no concrete proposals have yet been issued.

Timeline for existing Commission proposals under the circular economy

DECEMBER **(2015)**
The European Commission adopts a package of measures which includes:

1. A Communication on the circular economy strategy
2. A proposal revising EU waste targets
3. A proposal revising the directive on packaging and packaging waste
4. A proposal revising reporting obligations of Member States under the WEEE, ELVs, and Batteries and Accumulators Directives

1. The Commission's Communication intends to give a clear signal as to the central role waste management plays in the circular economy. In relation to waste, the Communication includes long-term waste targets, measures for greater use of economic instruments, plans to clarify rules on by-products, provisions to boost reuse activities, establishing conditions for producer responsibility schemes, taking measures to prevent illegal waste shipments, promoting voluntary certification of waste treatment facilities, measures to optimise waste-to-energy, harmonising recycling calculation methods, providing funding support, and encouraging exchange of best practice.

2. The waste targets proposal would establish a requirement for Member States to meet targets for recycling and landfilling as shown (some exemptions proposed for seven eastern and southern states).

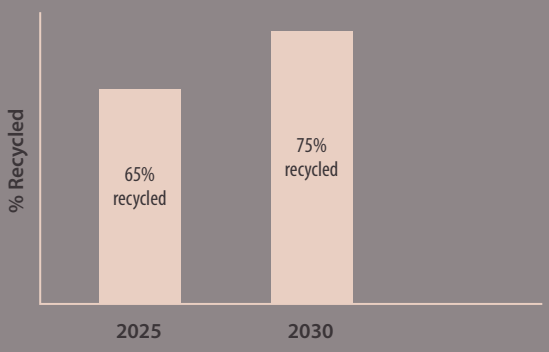
3. The Commission proposal revising waste packaging targets aims at improving waste management throughout the EU, with a view to protecting the quality of the environment and human health and ensuring a prudent and rational utilisation of natural resources. It would revise the packaging recovery, reuse and recycling targets under the Packaging and Packaging Waste Directive (94/62/EC). For detail on the targets, see the figures opposite.

4. The proposal aims at simplifying reporting requirements for Member States on the implementation of Directives on ELVs (2000/53/EC), Batteries and Accumulators (2006/66/EC), and WEEE (2012/19/EU). It would no longer require Member States to submit implementation reports every three years, instead only reporting statistical data electronically on an annual basis.

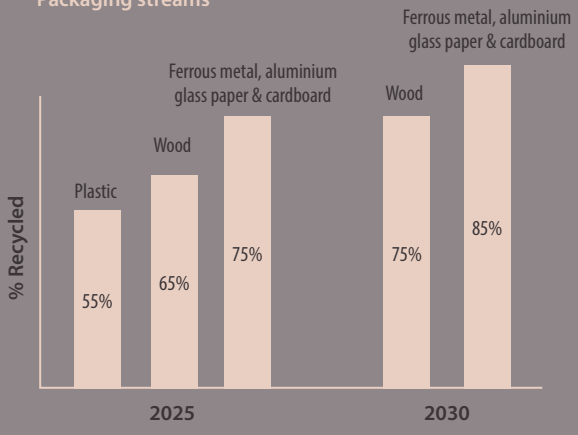
Municipal waste targets

Construction & demolition waste recycling targets

All packaging



Packaging streams



2016

JUNE
Environment Council adopts draft Conclusions on the circular economy Communication. Key priorities mentioned: eco-design, marine litter and micro-plastics, and markets for secondary raw materials.

AUGUST
European Commission publishes the first Raw Material Scoreboard* prepared by the Commission's Joint Research Centre (JRC) in cooperation with the stakeholders operating in the raw materials sector.

NOVEMBER
The Commission confirms implementation of the circular economy action plan is a key priority in 2017 and is an integral part of its strategy to promote economic growth in the EU**.

NOVEMBER
The Commission publishes the results of a study on existing regulatory barriers to the circular economy. Among other obstacles identified†, the main obstacle to high-quality recycling was the lack of clear legislation. The study proposed a series of policy recommendations‡ to address these issues

*The Scoreboard presents an overview of the current challenges and opportunities in the raw materials sector in the EU, including primary and secondary raw materials. According to the Scoreboard, circular use of raw materials is relatively low, mostly due to technical limitations to recycling and because demand for raw materials to build infrastructure is higher than what can currently be met through recycling. Yet, the EU is still the global leader in this aspect. The report finds that cross-border movements of waste have increased significantly over the last decade indicating that a considerable amount of secondary raw materials leaves Europe, instead of re-entering the market for raw materials.

**The key initiatives of the Commission's intentions for 2017 in relation to waste are: the expected strategy on plastics; a monitoring framework for the circular economy; and an initiative addressing legal, technical or practical bottlenecks at the interface of chemical, product and waste legislation. The Commission reached preliminary agreement on the products to be included in the delayed Eco-design Working Plan. For food waste the Commission needs to complete development of a common EU methodology to measure food waste, possibly in order to eventually set specific targets.

†**The study identified the following main obstacles:**
- The lack of definitions and the occurrence of gaps in legislation
- Unclear definitions of targets in legislation, for example in the context of the Waste Framework Directive
- The definition of hard numerical limits in regulations, for example, REACH legislation and the EU Regulation on Classification, Labeling and Packaging of Substances and Mixtures, 2009 (CLP) Regulations
- Lagging or incomplete implementation or enforcement of legislation, notably of the Waste Framework Directive and the Exports and Shipment Regulation
- Different and conflicting national implementation of legislation observed in the context of the Waste Framework Directive, Basel Convention and WEEE Directive
- Conflicting legislation, represent conflicting values, for example with hygiene rules versus food waste

‡**Recommendations include:**
- Formulate clearer definitions for end-of-life criteria to limit grey areas in trade flows
- Stimulate and relieve barriers for intra-European trade of valuable resources currently classified as waste to enable economies of scale for recovery operations
- Allow deviations in one-size-fits-all legislation for specific materials in specific applications, possibly in pilot settings for a limited time with intense monitoring
- Make material contamination limits of secondary materials specific to the purpose of application
- Enforce the ban on landfilling of materials for which a recycling alternative is available
- Restrict recovery operations, trade and handling of materials to certified operators
- Increase and harmonise data collection efforts to monitor material flows, assist legislation enforcement, and assist circular economy options impact assessments
- Extend eco-design requirements to include end-of-life options for products, including considerations for "fitness for remanufacturing"
- Resolve conflicting national implementations of directives and harmonise national action plans to stimulate the internal market for secondary materials
- Review legislation to always aim for the highest possible processing method as implied by the waste hierarchy
- Review and design legislation to reflect current technically possible circular options, and make them flexible enough to allow for expected circular options

2017

JANUARY
The Commission presents a report taking stock of the progress achieved in implementing the Circular Economy Action Plan. In particular, the report includes a list of all the relevant initiatives adopted by the Commission since the publication of the Plan. Ω

JANUARY
The Commission also presents a Communication on the role of waste-to-energy in the circular economy.

APRIL
The Commission Report re-examining recovery targets under the WEEE Directive was made available. The Commission also published a report on the exercise of power to adopt delegated acts under EU rules on the collection of waste from EEE.

JULY
Council experts held discussions on the following Commission proposals:
- Landfill of waste–revision of targets
- Revising the waste targets of the Packaging and Packaging Waste Directive
- Revising reporting obligations of Member States under the WEEE, ELVs, and Batteries & Accumulators Directives

BY END OF 2017
Adoption is expected of:
- The amendment of the Waste Framework Directive
- The amendment of the Landfill Directive
- The amendment of the Packaging Directive

Ω **Key initiatives completed–relevant to waste include:**
- Eco-design Work Plan 2016-2019
- Communication on the role of waste-to-energy in the circular economy
- A measure requesting European standardisation organisations to develop standards on material efficiency
- A proposal to amend the EU rules on the restriction of the use of certain hazardous substances in EEE
- A protocol on the management of C&D waste
- An implementing act to improve enforcement of the revised Waste Shipment Regulation
- The launch of a Circular Economy Finance Support Platform with the European Investment Bank (EIB)
- Amendment of fertilisers legislation to set out rules for converting bio-waste into raw materials used to manufacture fertilisers

For more detail on the above see the rest of this chapter.

Amending Waste Directive including revised targets

Aside from the targets outlined in the timeline for municipal waste and C&D recycling, the proposal for the amending directive also deals with several other issues:

- Requires the "adequate use of economic instruments" to provide incentives for the application of the waste hierarchy.
- New definitions: municipal waste (to align it with that used for statistical purposes), C&D waste, final recycling process, and backfilling.
- Greater harmonisation and simplification of the legal framework on by-products and end-of-waste.
- EPR schemes – setting minimum requirements for these which will apply to both existing and new EPRs. These include: defining measurable waste management targets; clear rules on financial contributions to EPRs; a reporting system to gather data on products placed on the EU market, which once these products become waste ensures data is gathered on collection and treatment of that waste; equal treatment and non-discrimination of producers; very specific requirements for third-party organisations including noting who funds these and how much, and how waste operators are selected; and clear definitions of roles and responsibilities.
- Under EPR, Member States to take measures to create incentives for waste holders to take part in available separate collection systems, notably through economic incentives or regulations.
- Under EPR, the potential has been added for Member States to implement measures to encourage the development, production and marketing of products that are suitable for multiple use, are technically durable, take life-cycle impacts into account, and once a waste, are suitable for re-use and recycling.

- **Prevention of waste – Member States must take measures to:**
  - Encourage use of resource-efficient, durable, reparable and recyclable products
  - Identify and target products that are the main sources of EU critical raw materials and prevent those materials becoming waste
  - Encourage systems promoting reuse activities to be set up, including in particular for EEE, textiles and furniture
  - Reduce waste generation in industrial production, extraction of minerals and C&D
  - Reduce food waste generation in throughout chain
  - Establish common indicators

- **Reuse and recycling – Member States must take measures to:**
  - Promote re-use activities, encourage/support reuse and repair networks, facilitate access for such networks to waste collection points, and promote the use of economic instruments, procurement criteria, quantitative objectives or other measures
  - Promote high quality recycling where feasible
  - Promote sorting systems for C&D waste and for wood, aggregates, metal, glass and plaster
  - Ensure separate collection of bio-waste where feasible; promote recycling, including composting, and digestion of bio-waste; the use of environmentally safe materials produced from bio-waste

- Rules on the calculation for attaining waste targets
- Bio-waste: Member States must establish specific food waste prevention measures and measure progress in food waste reduction, reporting every two years. Uniform measurement methodologies are being addressed
- Registration: to reduce regulatory burdens on businesses collecting or transporting small quantities of non-hazardous waste (< 20 t/yr), their registration requirements will be simplified
- Establish electronic registries for hazardous waste, and if wished, for other wastes
- Reporting changes: compliance monitoring will be exclusively based on annual statistical data, rather than three year reports; there will be a single entry point for all waste data; obsolete reporting requirements will be deleted, national reporting methodologies will be benchmarked, most recent EU methodologies must be used when checking against targets, and a data quality check report will be introduced
- Early warning report system for Member States at risk of not meeting the targets

Final adoption of the amending directive is expected before the end of 2017.

Target for reducing landfill of municipal waste – amending legislation

The Landfill Directive is to be amended by a separate amending draft directive to introduce a 10% limit on landfill of municipal waste by 2030. Seven eastern and southern European Member States can obtain five additional years for the attainment of this target. Related definitions and reporting requirements are included. It is expected to be adopted by Parliament before the end of 2017.

Recycled nutrients as fertilisers – amending legislation to allow market access

Only 5% of bio-waste is currently recycled. According to estimates, if more bio-waste was recycled, it could replace up to 30% of inorganic fertilisers. The EU imports around 6 million tonnes of phosphates each year but could replace up to 30% of this total by extraction from sewage sludge, biodegradable waste, meat and bone meal, and manure. The market opportunities for companies producing fertiliser products from such sources are significant.

Previous fertilisers legislation allowed the free movement of conventional fertilisers in the EU single market. An amending regulation drafted in March 2016 aims to ease the access of waste-based fertilisers to the market and boost their use.

The amending fertilisers legislation sets out rules for converting bio-waste into raw materials used to manufacture fertilisers. It defines safety, quality and labelling requirements for all freely traded fertilisers, including limits for contaminants and physical impurities. Limits, for example for heavy metals, now also apply to inorganic fertilisers, where they previously had not. CE marking can be used on products that meet the requirements. Where only traded locally, national standards can be used.

Commission Communication on waste-to-energy

In January 2017, the Commission presented a Communication on the role of waste-to-energy in the circular economy and calls on Member States to apply its considerations when revising their waste management plans.

It makes recommendations for the transition from mass incineration of mixed waste to a better application of the waste hierarchy and a transition towards more efficient waste-to-energy processes.

It provides guidance to Member States on how to make better use of economic instruments and capacity planning, with a view to avoiding, or addressing potential over-capacity, in waste incineration. It notes that previous experience in some Member States shows the risk of stranded assets is real. It recommends a long-term view, looking at neighbouring countries' plans, the likely eventual effect of EU recycling targets on incinerator feed-stock, and to consider existing co-incineration capacity (cement kilns, combustion plants). In justified cases, cross-border shipments could help make optimal use of waste-to-energy capacity available in other Member States, and this does not necessarily contradict the proximity principle. However, life-cycle analysis should be carried out to ensure that the overall environmental impacts, including transport, do not offset the benefits. Where new capacity appears justified, it advocates careful consideration of plant size, plant location (for supply of heat or cooling to local residents/industry where possible), and energy-efficient plant.

It found that the best techniques to increase efficiency in waste-to-energy are:

- For all facilities to work in CHP mode rather than electricity or heat mode only.
- Co-incineration in combustion plants: to replace fossil fuels in electricity and heat production by gasification of SRF (solid recovered fuel) and co-incineration of the syngas.
- Co-incineration in cement: convert waste heat to power.
- AD: upgrade the biogas into bio-methane for further use like grid injection or transport.
- Waste incineration: super heaters, harnessing flue gas energy, heat pumps, supplying heat and chilled water to district heating and cooling networks.

It clarifies the position of different waste-to-energy processes in the waste hierarchy and how this affects public financial support. The Communication gives preference to waste-to-energy over landfill. At the same time, it reiterates that incineration for energy recovery should only be used as a last resort for waste that cannot be recovered or reused. It ensures that increases in recycling and reuse are not hampered and that over-capacities for residual waste treatment are avoided.

Measures on food waste

Food waste is one of the key areas under the circular economy. Aside from the measures being included in the amending Waste Directive, some other activities include:

- An EU methodology to measure food waste is under development. This will be used by Member States to fulfil reporting obligations on food waste under the amended Waste Framework Directive. Would establish a common methodology and include minimum quality requirements. Will not be adopted until after the amending directive on waste is adopted (which is expected before end of 2017), so will likely be second half of 2018.
- EU guidelines on food donation and the use of foodstuffs as feed are to be prepared. These will provide a more consistent interpretation by Member States' regulatory authorities of EU rules applying to food redistribution. They will address legal (food safety, traceability and legal liability) and operational barriers for both donors and receivers. For animal feed – food from manufacturing and retail will be included, but catering waste, and food from meat/fish will be excluded. Includes recommendations for competent authorities. These will be published before the end of 2017 in the form of a Recommendation.
- Plans to examine ways to improve/simplify the use of date marking in the food chain and its understanding by consumers, in particular "best before" labelling. Under consideration is extending the list of foods exempt from the obligation for a BBD (like vinegar, sugar or salt). Changing the terminology "best before" is another option being looked at. Results from a study are expected by the end of 2017.
- A European stakeholder's platform on food waste prevention is up and running.

Plastic waste

The Roadmap for the Plastics Strategy which was published in January 2017 provides some insight as follows into the expected Strategy:

- To increase the current low rate of recycling and reuse of plastics. Proposed measures include enouraging design innovations to facilitate recycling especially for single-use applications; addressing the presence of substances of concern in plastics that can hinder recycling; EPRs; better information and awareness raising for consumers; dealing with a weak market for secondary plastics with few incentives; developing new technologies in plastic waste treatment, e.g. converting mixed plastic waste into virgin polymers. The aim is that in future a higher share of plastic waste can be prevented or diverted from energy recovery to recycling.
- To reduce significant leakage of plastics into the environment and especially into the ocean. The Circular Economy Action Plan has a 30% reduction target for litter items found on beaches and for fishing gear found at sea. There are two ongoing studies in relation to this area for microbeads and micro-plastics generated during product life cycles. Actions would include measures on biodegradable plastics (standards).
- To encourage a move away from fossil fuels for plastics production, 90% of plastics are from fossil fuels.

The Strategy is to be discussed and consulted on during the Autumn of 2017 (consultation currently open for micro-plastics and the marine environment) and is expected to be adopted before the end of 2017.

Several specific EU policy initiatives emerging in relation to plastics are discussed in the next section of this chapter.

Restricting the use of certain hazardous substances in EEE – RoHS Directive amendment

This proposal, made in January 2017, will enable second-hand market operations and reselling for certain EEE, and repair with spare parts of certain EEE that were placed on the market before July 2019.

Thus, it will extend the lifetime of existing equipment, including medical devices. It corrects an unintended consequence of the 2011 directive that would restrict the secondary market. Expected to be adopted in December 2017.

Amending reporting requirements for several waste directives

The proposal would no longer require Member States to submit implementation reports every three years to the Commission. Instead, Member States would be required to report electronically every year just the statistical data concerning the implementation of these directives. The format of the electronic data to be established by the Commission through implementing acts. The communication of the statistical data to the Commission would be accompanied by a data quality check report produced by Member States. Expected to be adopted by Parliament before the end of 2017.

Protocol on C&D waste management

The protocol aims to improve the identification, source separation and collection of C&D waste, as well as logistics, processing, and quality management. It sets out the conditions for an appropriate regulatory framework including making waste ownership clear, enforcement being key including the importance of post-demolition follow-up and evaluation by regulators, landfill restrictions being a prerequisite for developing a market for C&D recycled materials, keeping the administrative burden to a minimum, the power of landfill bans and landfill taxes, and the role of virgin materials taxes.

Eco-design working plan for 2016-2019

This working plan is mainly in relation to energy-using products. However, the plan includes some actions indirectly related to waste including exploring the establishment of product requirements such as durability, reparability, upgradeability, design for disassembly, provision of information, and ease of reuse and recycling. There is a draft regulation for electronic displays which includes marking plastics, marking flame retardants, and avoiding gluing/welding.

Other existing proposals related to waste

Other existing proposals in the waste policy arena and related fields are as follows:

- WEEE – examining targets, potential use of transitional arrangements, and deadlines – no changes made
- Hazardous waste: guidance document on definition and classification
- ELVs Directive – proposed technical amendment on hazardous components.
- Environmental Liability Directive – a review is under way
- Critical raw materials and waste management plans

Waste electrical and electronic equipment

a) WEEE recovery and reuse targets – conclusion: no changes

In April 2017 the Commission Report re-examining recovery targets under the WEEE Directive (2012/19/EU) was made available. The Commission does not consider a revision of recovery targets as opportune at this stage. The feasibility of setting a separate target for preparation for re-use is also not considered appropriate because of insufficient data on the quantities of WEEE re-used or prepared for re-use. The development of standards for WEEE recovery and recycling under the circular economy is seen as a better approach.

The Commission asked the European standardisation organisations to develop European standards for the treatment of WEEE, including recovery, recycling and preparation for re-use, reflecting the state of the art. These standards are expected to assist operators inside and outside the EU in complying with the directive's treatment requirements. These standards are under development by CENELEC and are expected to be finalised by the end of 2017.

The method used to calculate the achievement of recovery targets was examined. The best approach to collect output-related data was judged to be enforcement of the directive's requirements for producers/third parties to maintain records on output-related data, and to promote tools for harmonisation of these records.

b) Possible use of transitional arrangements for meeting WEEE collection targets

In April 2017, the Commission published a report concluding that it would not introduce transitional arrangements for the collection of WEEE to get around Member States' difficulties. This in particular was in relation to WEEE exported from the EU. Such WEEE shipments count towards the targets as long as they comply with the shipments of waste legislation. A key problem faced by Member States is the high rate of collection that is unaccounted for in WEEE collection statistics, particularly if collection occurs outside the framework of WEEE compliance systems or if WEEE is not handled

by authorised WEEE recyclers. Limited enforcement and monitoring capabilities, a large and varied group of actors, still-limited public awareness, and inadequate collection infrastructure were noted as adding to difficulties.

The report outlines that despite the ambitious collection target set for 2019, Member States are expected to make additional efforts to gradually tackle the difficulties identified, particularly noting that some Member States have already achieved high collection rates. On this basis, there was no justification for the Commission to adopt transitional adjustments. Instead, there will be a targeted initiative on compliance promotion with the WEEE Directive, in particular the mandatory reporting requirements for producers/third parties. The conclusion is that Member States need to tackle the problem of unreported quantities of WEEE collected informally, because this is a significant factor in reaching the target.

c) WEEE scope, targets deadline and individual collection rates

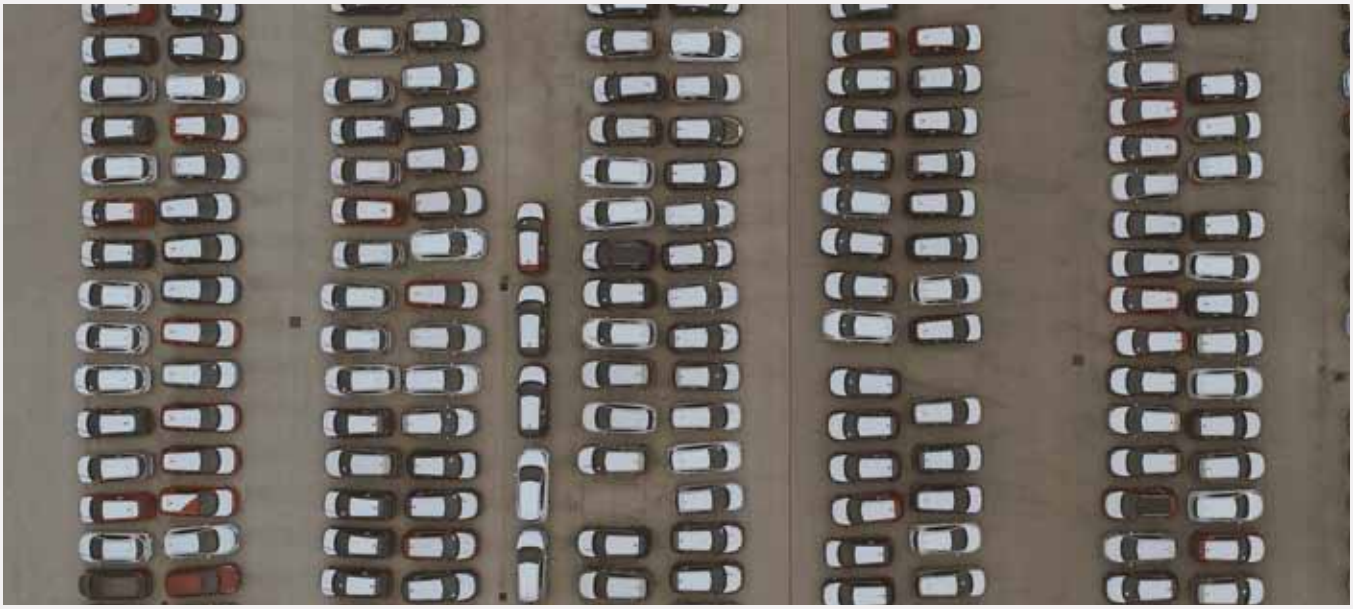
In April 2017, the Commission presented a report on the review of the scope of the WEEE Directive, on possibly extending the deadlines for reaching the collection targets, and on the possibility of setting individual collection targets.

The report concluded that extending the deadlines for targets, or revising the collection target based on the amount of WEEE generated, is not justified. The focus will instead be on implementation of the legislation as it stands since Member States are still in a period of transition. The "open scope" approach of the directive, separating EEE into six categories from August 2018, is anticipated to eliminate classification issues.

It concluded that the 50 cm external dimension to distinguish between small and large equipment is practicable and in line with the practical constraints of WEEE operators.

Amending the scope to reflect the RoHS Directive is also deemed unnecessary from a practical standpoint as it would bring limited environmental benefits (80% of such "RoHS-only' equipment recycled in any case).

The report notes that individual targets for one or more categories of EEE are not appropriate at this stage, as they would cause confusion.



Hazardous waste: guidance document on definition and classification

The expected guidance document on the definition and classification of hazardous waste will be published before the end of 2017, according to the Commission.

The expected Commission non-binding guidance document aims to clarify the existing definitions and classifications of hazardous waste in the current EU legislative framework.

The study is structured in three chapters and four annexes. The first chapter provides an overall background on waste classification. In the second chapter, the relevant parts of EU waste legislation for the definition and classification of hazardous waste are briefly presented. Chapter 3 analyses the general steps required to classify different types of hazardous waste. The annexes contain more detailed instructions on how to define and classify waste in different scenarios.

The expected Commission guidance document will be used by the interested parties involved in the production, assessment, management and regulation of hazardous waste.

End-of-Life Vehicles Directive – proposed technical amendment on hazardous components

Expected to be adopted Quarter 4 of 2017. The amendment to the ELVs Directive (2000/53/EC) would amend its Annex II which deals with materials and components of vehicles that are allowed to be put on the market. The amendment proposes to keep allowing aluminium with up to 0.4% lead and copper alloy with up to 4% lead by weight, but qualifies the allowed aluminium exemption with certain conditions. In addition, there is a new exemption allowing lead and lead compounds in batteries. Some new review dates set.

Environmental Liability Directive – a review is under way

An April 2016 report found the effectiveness of this legislation varies significantly across Member States, with the main reason being different interpretations of "significance threshold" for environmental damage. A draft report in May 2017 from Parliament sets out a number of suggested amendments, including the need to improve and broaden the definition of "environmental damage" and new dangerous activities (possibly to include the car industry). There is a proposal to also set up a special EU Fund for cases of environmental damage that are not covered by the directive. A Parliament resolution is expected in Quarter 4 of 2017 to adopt this report.

Critical raw materials and waste management plans

Certain raw materials are of a high importance to the EU economy and their supply is associated with a high risk. The Commission has established a list of critical raw materials for the EU, which includes materials like various rare metals, phosphate rock, magnesium and magnesite. The draft amending Waste Directive will require Member States to:

- Take measures to achieve the best possible management of waste containing significant amounts of these critical raw materials, including appropriate measures for collection and recovery. Waste Management Plans will have to address this.
- Promote the reuse of products constituting the main sources of these critical raw materials.

Potential Future Initiatives by the European Commission

The following are future planned initiatives by the Commission in the area of EU Waste Policy:

- **C&D waste:** recovery targets will likely be revised, and the setting of prevention targets recommended
- **Waste Shipments legislation:**
  - Commission expected to adopt a revised regulation by end 2018
  - Commission to hold discussions with Member State experts as part of on going review
  - Report on electronic data exchange study published, and associated implementing measure expected
  - Implementation report for 2013-2015 to be presented
- **Batteries and accumulators:** evaluation of the existing directive to identify potential future changes; a possible regulation on export to third countries
- **ELVs** – possible revision of monitoring requirements
- **WEEE:**
  - The development of EU standards for WEEE treatment
  - An expected measure on formats for producer registration and data reporting
- **Mining facilities and mining waste** – development of guidelines on management and inspections
- **Plastics and plastic waste:**
  - End-of-waste criteria for plastic waste
  - A report is to be published on the environmental impact of oxo-degradable[1] plastic carrier bags
  - A report is to be published on the effectiveness of Member States' measures under the Plastic Bags Directive
  - Harmonised EU labels/marks to be developed on biodegradable and compostable plastic carrier bags
  - European standards for biodegradability and compostability criteria for plastic packaging to be developed
  - A methodology for calculating the annual consumption of lightweight plastic carrier bags is to be developed
  - The Commission is not expected to propose new rules on consumption of very lightweight plastic carrier bags; awaiting results of a forthcoming study
  - A report is to be published assessing the effectiveness of national measures on lightweight plastic carrier bags
  - Micro plastics in the environment: Commission launches a public consultation
  - No derogation for specific types of plastics and rubber waste from the EU waste list, after consideration by the Commission
- **An expected initiative on chemicals,** products and waste legislation
- **Circular economy:** an expected measure on a monitoring framework
- **Ship-generated waste:** expected legislative proposal revising EU rules
- **Secondary Raw Materials** – development of quality standards
- **Waste markets** – planned measure to improve efficiency not pursued, the proposed recycling targets to act instead
- **Expected European standards** on material efficiency
- **Environmental footprinting** – development of sector rules for products and organisations

C&D waste: recovery targets will likely be revised

The preliminary results of a preparatory study show the need to revise the current C&D waste recovery targets, as well as set targets for prevention of C&D waste. The amendments that will be adopted in the Waste Framework Directive before the end of 2017 do not make any change to the overall target of 70% recovery of C&D waste by 2020. It made some changes to the definition of "recovery" by defining "back-filling", as recommended by this report.

The report recommends a new recovery target after 2020, and to consider introducing separate targets for waste types – inert, non-inert, non-hazardous and hazardous, as well as overall prevention targets.

1. Note: oxo-degradable plastic is plastic to which additives (e.g. metal salts) have been added. These catalyse the fragmentation of the plastic material into micro-fragments.

The report also has recommendations to:

- Enhance landfill restriction and taxation, especially for inert waste
- Introduce EU end-of-waste criteria for recycled aggregates
- Introduce mandatory percentages of recycled aggregates in large civil engineering projects through GPP
- Develop more demanding green and durability design criteria for new buildings
- Make waste sorting on-site compulsory
- Make it compulsory for pre-demolition audits, selective demolition, and post-demolition reporting
- Develop EU-wide data to highlight products with high wastage rates
- Promote waste exchanges for reuse of building components
- Improve data collection on C&D waste

Waste shipment legislation

There is an ongoing external review study under way for the Waste Shipments Regulation (EC No 1013/2006), to be completed by the end of 2018. The Commission is to hold review discussions with Member States' experts in September 2017. In addition, a public consultation will be opening in January 2018 for evaluation of the legislation. In particular the review will look at the effectiveness of national inspection plans in combating illegal shipments. The Commission is then expected to adopt a delegated regulation on shipments of waste by the end of 2018.

A report on an electronic data exchange study for the registration of waste shipments was published in February 2017. The recommendations are to have a single solution for all waste shipment-related processes; a single format for all countries covering the whole waste shipment sequence, an associated EU-wide protocol, and minimum implementation standards required for Member States that use their own tools.

Based on this study, the Commission plans to draft a measure establishing an electronic data interchange system for the registration of shipments of waste. The implementation report for waste shipment legislation for the period 2013-2015 to expected to be presented by the Commission.

Batteries and accumulators – evaluation of the existing directive; a possible regulation on export to third countries

Public consultation for the evaluation of the Directive on Batteries and Accumulators (2006/66/EC) is under way in Autumn 2017. This evaluation of the Directive by the Commission will be ready late 2017/early 2018. It is looking at the current relevance of the main issues, the main flows of materials for battery manufacture, the recycling and treatment of waste batteries including Member States' performance, design features like removability, etc., and the cost and benefits of the directive.

Based on the outcome of the evaluation, the Commission might present a proposal revising or amending the Batteries Directive, and if needed, a draft proposal amending the European List of Waste (ELW).

The Commission is considering drafting a regulation on the export of waste batteries out of the EU. This would assess equivalent conditions that recycling operations should meet when waste batteries are exported to third countries.

End-of-life vehicles – possible revision of monitoring requirements

A report assessing the implementation of the ELV Directive suggests the revision of monitoring requirements under the directive. The assessment focussed on the issue of missing ELVs. The suggested changes include simplifying reported import/export ELV data and to define the data needed for national vehicle market and imports/exports of used vehicles.

Such a revision of monitoring requirements was supported by stakeholders at a late 2016 workshop. Any change would be an amendment to the Decision on ELV Directive Monitoring and Reporting (2005/293/EC). Likely adopted in the first half of 2018.

Waste electrical and electronic equipment

In Spring 2017, the Commission and Member State's experts discussed the development of EU standards for treatment of WEEE. Standards are under development by CENELEC and are expected before the end of 2017. A Commission Decision for these standards would then be drafted and adopted before the end of 2018, including criteria for equivalent conditions for exports outside the EU. The standards would cover collection, preparing for reuse, recovery, and recycling of the various WEEE types.

Also discussed at the Spring 2017 was an expected draft measure on WEEE producers' registration information format and data reporting format. This is expected to be adopted before the end of 2017. It will likely be based on the outcomes from an external study. This study recommends an EU-wide harmonised e-waste categorisation system, aligning the frequency and reporting periods among Member States, improving national monitoring, and developing a more accurate and compatible waste codification system (crucial for traceability). This measure is expected to be adopted in 2018.

Mining facilities and mining waste – development of guidelines on management and inspections

The Commission is planning to develop guidelines for inspections and management of mining waste facilities. Following on from a workshop for Member States in Spring 2017, the Commission launched a call for input to the development of guidance documents for mining waste management. This is open until the end of September 2017. These guidelines are expected mid-2018.

A report finalised in July 2017 also outlines Member States' performance regarding the implementation of the Extractive Waste Directive (2006/21/EC). This report makes some suggestions for potential solutions to a number of problems identified in the implementation of the directive in terms of enforcement, permitting, financial guarantees, closure, and waste management plans for such sites.

Plastics and plastic waste

Aside from the expected Strategy on Plastics due at the end of 2017, the following specific measures are in development by the Commission.

Discussions are ongoing within the Commission on whether to launch a proposal for end-of-waste criteria for plastic waste. The JRC already has a technical proposal from 2014 setting out these criteria (covering specification, limits on contaminants, limits on input materials, etc.).

The Commission is expected to publish a report during 2017 assessing the environmental impact of oxo-degradable plastic carrier bags on the environment, as set out under the Plastic Bags Directive (2015/720/EU). The report could lead to the adoption of a Commission legislative proposal.

The Commission is also expected to publish a report assessing the effectiveness of Member States' measures under the Plastic Bags Directive to reduce consumption of lightweight plastic bags, to combat litter, and to change consumer behaviour. If measures have not been effective, it could lead to the adoption of a Commission legislative proposal.

The Commission is expected to set out the specifications of labels or marks to ensure EU-wide recognition of biodegradable and compostable plastic carrier bags, as allowed for under the Plastic Bags Directive. This is to provide consumers with correct information on the composting properties of such bags.

The Commission is also expected to draft a Decision for European Standards for home-compostable plastic packaging, also setting out criteria for the definitions of biodegradability (including in the marine environment) and compostability. These standards would be developed by CEN by the end of 2018.

The Commission is expected to set out a methodology for the calculation of the annual consumption of lightweight plastic carrier bags per person, as per the requirement under the Plastic Bags Directive.

In July 2017, the Commission indicated it will not yet propose new provisions on very lightweight plastic carrier bags (those typically used as primary packaging for loose food). An external study is currently ongoing to identify which products are viable alternatives with a lower impact on the environment (using a life-cycle assessment methodology under the product environmental footprint (PEF) framework). This report is expected within the second half of 2017. Member States are required to report on the consumption of lightweight plastic carrier bags, including very lightweight plastic carrier bags, by 27 May 2018.

The Commission launched a public consultation on micro-plastics in the environment, which is open until later in the Autumn of 2017. This gathers input in relation to sources (like tyre wear, raw plastic pellets, synthetic textiles, paints, cosmetics) and possible measures on their prevention/control from getting into the marine environment (e.g. treatment capacity at municipal plants, measures by manufacturers, bans/taxes for micro-plastics in products).

The Commission has indicated that it will not come forward with a measure granting a derogation to specific types of plastics and rubber waste in the EU waste list. This measure was going to exempt plastics and rubber waste from being considered as hazardous waste. However, based on feedback, this was abandoned.

An expected initiative on chemicals, products, and waste legislation

The initiative addressing the interface between chemicals, products and waste legislation will address the traceability of substances of concern in products and their traceability in recycled materials and difficulties in the application of EU waste classification methodologies. In particular the Commission will consider options to improve information about substances of concern in products and waste, and options to facilitate the management of substances of concern found in recycled materials. The objective is not only to promote non-toxic material cycles, but also to enhance the uptake of secondary raw materials.

Circular economy – an expected measure on a monitoring framework

The Commission had a public consultation in the Spring of 2017 on a roadmap on establishing a monitoring framework for the circular economy. Indicators would be chosen at EU and national levels based on existing data from Eurostat.

The monitoring framework is proposed to encompass food waste, security of supply of key raw materials, repair and reuse, waste generation, waste management, EU and non-EU trade in secondary raw materials, and the use of recycled materials in products.

The measure implementing this monitoring framework is expected before the end of 2017.

Ship-generated waste – expected legislative proposal revising EU rules

The Commission is to come forward with a legislative proposal revising EU rules for ship-generated waste in the Autumn of 2017, and final adoption expected by the end of 2018. The aim is to reduce disposal at sea, and collect more waste and cargo residues at ports. This will revise the existing Ports Reception Facilities Directive (2000/59/EC). A report on the implementation of the existing directive is being used to draft the revision.

Secondary raw materials – development of quality standards

The Commission is expected to propose a draft decision for the development of quality standards in relation to secondary raw materials. These will likely cover biomass and bio-nutrient recycling, plastic recycling, and the re-use of gaseous emissions. The standards would be developed by CEN by 2020.

Waste markets

A July 2016 report on waste markets was prepared for the Commission. The term "waste markets' covers waste that is meant to be recycled or recovered and that can move freely within the EU. The report made the following recommendations (these are the opinion of the authors rather than the Commission, although some recommendations have been adopted in draft legislation discussed throughout this document):

- To develop a "Schengen area" for waste for recycling and recovery in the EU
- To harmonise and strengthen the system of pre-consented facilities
- To ensure a more harmonised classification system for waste shipments across individual Member States
- To facilitate compliance with export of waste administration through, for example, electronic means

In order to improve the functioning of waste markets within the EU, the Commission was originally planning to propose a measure which would act to reduce distortions or obstacles hindering the efficient functioning of the markets. The Commission now plans instead to address this issue through the new waste targets under the proposed amending directive to the Waste Framework Directive.

European standards on material efficiency

As part of the Circular Economy Action Plan, the Commission asked the European standardisation organisations to develop generic standards on the durability, reusability and recyclability of certain products. A joint working plan has been set out and a joint working group will be developing approximately 20 generic standards.

Environmental footprinting – development of sector rules for products and organisations

PEFs and organisation environmental footprints (OEFs) will consist of sets of sectoral rules on how to measure the life-cycle environmental performance of the product/sector concerned. The pilot phase for the development of specific product and sector rules will be completed by the end of 2017. There will likely be 24 PEF and OEF guidance documents. These are on a range of products and include a number of food products/sectors (e.g. meat, dairy, beer, pet food, animal feed, packaged water,) and various consumer goods (e.g. decorative paints, information technology equipment, insulation, metal sheets, paper products, photovoltaic). The two sectoral OEF rules in the pilot are "retail" and "copper production".

After the end of the pilot phase, the Commission is expected to complete work on the two sets of rules and identify policy options for their implementation. Based on the results of an impact assessment, the Commission would present an initiative, likely by 2020. This would aim to overcome the fragmentation of the internal market as regards different available methods for measuring environmental performance of products and organisations.

Conclusions

A thorough examination has been made of policies and programmes on waste and related issues for both the Commission and eight selected Member States – the latter chosen for maturity in environmental terms, innovativeness, and relevance to the sizes and situations in Ireland.

A number of conclusions are drawn.

Current priorities and emerging issues in selected Member States

From an overall examination of a variety of documents pertaining to the selected States, it is clear that it is neither advisable, nor even possible in many instances, to solely research "waste" as a topic. The emphasis in most cases is on the circular economy, and a move from waste to materials. Thus, many of the policies pertain to these areas and are not specific to "waste".

The Member States examined were Austria, Belgium, (Flanders), Denmark, Finland, France, Germany, the Netherlands, and Sweden. Each is described in terms of a number of headings, and the descriptions can be found in the annex to this report.

This analysis of the countries yielded 11 factsheets, as follows:

Priority streams
C&D waste
Food waste
Circular economy and resource efficiency
Materials policies and programmes
Regulation measures
Taxes, levies, and fiscal measures
Extended producer responsibility
Recycling and reuse
Hazardous waste
Emerging issues

The main over-riding conclusions are:

- Countries are moving away from a waste focus towards a materials focus, and are embracing the circular economy.
- As a result of this, there are very many initiatives aimed at increasing recycling and reuse. These include legislative instruments and targets (all countries), EPR initiatives (particularly the case in France), and fiscal instruments (such as the reduced VAT rate for repair in Sweden).
- It is essential, however, to move further up the waste hierarchy, and to this end many waste prevention programmes have been formulated. It is not clear, at this point, how these relate to the circular economy (whereas the connection between recycling/reuse and the circular economy has been made clear in many programmes).

Priority streams

The selected Member States prioritised a number of streams, in particular:

- Food/biomass
- C&D
- Textiles also appear to be an important stream for several countries

Other conclusions of note are the move in several countries to:

- Ban the landfilling of combustible waste
- Ban the incineration of recyclable waste
- Levy a tax on incineration, as well as on landfill

A very interesting concept is presented by Germany. This is the definition of a parameter called "Commodity (or raw material) Productivity", which is used along with "Resource Productivity". It measures (in euros per tonne) the full biotic and abiotic resource consumption for good and processes, including imported goods. The aim is to prevent "false" outcomes of increased resource productivity due to economic changes only.

Another exciting project (this time from the Netherlands). is a green deal (voluntary agreement) that facilitates the take-back of chemicals. In TaBaChem the supplier is not paid to purchase the chemicals per unit volume, but for the function performed by the chemicals; for example, payment per square metre of surface cleaned. The chemicals remain the property of the supplier and are taken back after use for recycling or (re)processing so they can re-enter the value chain. This encourages the customer and the supplier to use the product as efficiently as possible and to build a strategic relationship for cooperation. The model creates a continuous driving force for preventing hazardous waste by optimising the chemicals used and the process of applying them.

This idea (service vs product) is gaining traction in many European countries.

Current priorities and emerging issues in the European Commission's waste policy

Without doubt, the main priority in waste policy for the European Commission is the various implementing actions to roll out the Circular Economy Strategy.

Several other issues, waste streams and targets are also emerging and are under consideration/development. These include measures in relation to WEEE, hazardous waste classification guidance, ELVs, environmental liability, and critical raw materials.

In the longer term, there are plans in the areas of C&D waste, waste shipment legislation, waste batteries and accumulators, ELVs, WEEE, mining waste, plastics and plastic waste, the intersection of chemicals, products and waste legislation, a monitoring framework for the circular economy, ship-generated waste, standards on secondary raw materials and on material efficiency, and on environmental footprinting.

The increasingly closer interface of policies on products, materials, and procurement with policies on waste is apparent in many of the above.

Another observation is the Commission wanting increasing harmonisation as to how Member State's implement EU legislative requirements, and taking a number of measures in that regard, e.g. a planned measure on common data formats for shipment of waste.

In addition, the continuation of implementation and enforcement of existing EU legislation is of priority for the Commission, with some measures being taken to assist Member States in this regard.

List of Abbreviations

AD	Anaerobic digestion
BBD	Best before date (on food packaging)
C&D	Construction and demolition
CE	Conformité Européenne (Certification mark indicating conformity with health, safety, and environmental protection standards for products sold in the European Economic Area (EEA))
CLP	EU Regulation on Classification, Labeling and Packaging of Substances and Mixtures, 2009
CTC	Clean Technology Centre
DMC	Domestic material consumption
EEE	Electrical and electronic equipment
EIB	European Investment Bank
ELV	End-of-life vehicle
EPA	Environmental Protection Agency
EPR	Extended producer responsibility
ERDF	European Regional Development Fund
EU	European Union
GDP	Gross domestic product
GPP	Green Public Procurement
HFC	Hydrofluorocarbon
ICT	Information and communications technology
JRC	Joint Research Centre
LAP	Landelijk Afvalbeheerplan – Dutch National Waste Management Plan
NGO	Non-governmental organisation
NP	Nonylphenol
NPE	Nonylphenol ethoxylates
NWPP	National Waste Prevention Programme
OEF	Organisation environmental footprint
OVAM	Openbare Afvalstoffenmaatschappij voor het Vlaams Gewest (Public Waste Agency of Flanders)
PEF	Product environmental footprint
PFC	A Perfluorinated compound
PCP	Pentachlorophenol
PET	Polyethylene terephthalate
PIA	French Investment for the Future Programme
PVC	Polyvinyl chloride
QMS	Quality management system
REACH	EU Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals, 2006
REAP	Austrian Resource Efficiency Plan
RDI	Research Development Innovation
REAP	Austrian National Resource Efficiency Programme
RoHS	Restriction of Hazardous Substances
SEK	Swedish Krona
SF6	Sulphur hexafluoride
SITRA	Finnish innovation fund
SME	Small or medium-sized enterprise
TOC	Total organic carbon
UBA	Umweltbundesamt (German Environment Agency)
WEEE	Waste electrical and electronic equipment
VAT	Value added tax
VOC	Volatile organic compound

AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL

Tá an Ghníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaol a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialú: Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.

Eolas: Soláthraímid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírithe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.

Tacaíocht: Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaol atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaol inbhuanaithe.

Ár bhFreagrachtaí

Ceadúnú

Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaol:

- saoráidí dramhaíola (m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola);
- gníomhaíochtaí tionsclaíocha ar scála mór (m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta);
- an diantalmhaíocht (m.sh. muca, éanlaith);
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe (OGM);
- foinsí radaíochta ianúcháin (m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíocha);
- áiseanna móra stórála peitril;
- scardadh dramhuisce;
- gníomhaíochtaí dumpála ar farraige.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdaráis áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhíriú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúchán.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a ídíonn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

Bainistíocht Uisce

- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchriosacha agus cósta na hÉireann, agus screamhuiscí; leibhéil uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaol

- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil (m.sh. tuairisciú tréimhsiúil ar staid Chomhshaol na hÉireann agus Tuarascálacha ar Tháscairí).

Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn

- Fardail agus réamh-mheastacháin na hÉireann maidir le gáis cheaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

Taighde agus Forbairt Comhshaoil

- Taighde comhshaoil a chistiú chun brúnna a shainaithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

Measúnacht Straitéiseach Timpeallachta

- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaol in Éirinn (m.sh. mórphleananna forbartha).

Cosaint Raideolaíoch

- Monatóireacht a dhéanamh ar leibhéil radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Faisnéis Inrochtana agus Oideachas

- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaol ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaol (m.sh. Timpeall an Tí, léarscáileanna radóin).
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt

Múscailt Feasachta agus Athrú Iompraíochta

- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil

Tá an ghníomhaíocht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:

- An Oifig um Inmharthanacht Comhshaoil
- An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
- An Oifig um Fianaise is Measúnú
- Oifig um Chosaint Radaíochta agus Monatóireachta Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

A Review of Current Priorities and Emerging Issues in European Waste Policy

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