Country profile

More from less — material resource efficiency in Europe

2015 overview of policies, instruments and targets in 32 countries

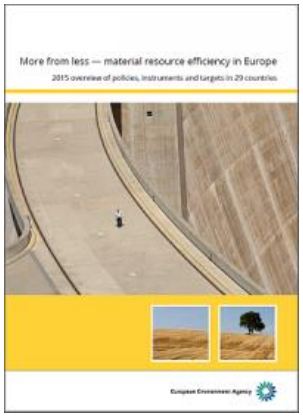
Austria

May 2016

European Environment Agency

This country profile is based on information collected by the Eionet network in Austria. This document should not be seen as an official list of government priorities and is not necessarily an exhaustive list of all national material resource efficiency policies, objectives, targets or activities in place. The information is current as of June 2015.

This country profile was prepared as part of the 2015 EEA review of material resource efficiency policies, that aimed to collect, analyse and disseminate information about the development and implementation of material resource efficiency policies in EEA member and cooperating countries. The work resulted in the following outcomes:



32 short country profiles (this document) – self assessments prepared by countries, describing the current status of material resource efficiency policies including key strategies and action plans, policy objectives, instruments, targets and indicators, and the institutional setup. Countries were also invited to share reflections on the future direction of resource efficiency policies.

EEA report *More From Less – material resource efficiency in Europe* – prepared by the EEA and ETC/WMGE, the report analyses trends, similarities and differences in policy responses, showcases selected policy initiatives from the countries, and offers some considerations for the development of future policies.

The EEA report *More from less – material resource efficiency in Europe* and the 32 country profiles are available at: http://www.eea.europa.eu/resource-efficiency

For information about trends and policies on municipal waste management in the participating countries, please visit: http://www.eea.europa.eu/publications/managing-municipal-solid-waste

Information about EU Member States' waste prevention programmes can be found at: http://www.eea.europa.eu/publications/waste-prevention-in-europe-2015

For information on climate- and energy-related policies, including those on energy efficiency, in the participating countries, please visit: http://www.eea.europa.eu/themes/climate/ghg-country-profiles

Austria, facts and figures

Source: Eurostat

GDP: EUR 329 billion (2.4 % of EU-28 total in 2014)

Per person GDP: EUR 35,500 (in purchasing power standard)
(130 % of EU-28 average per person in 2014)

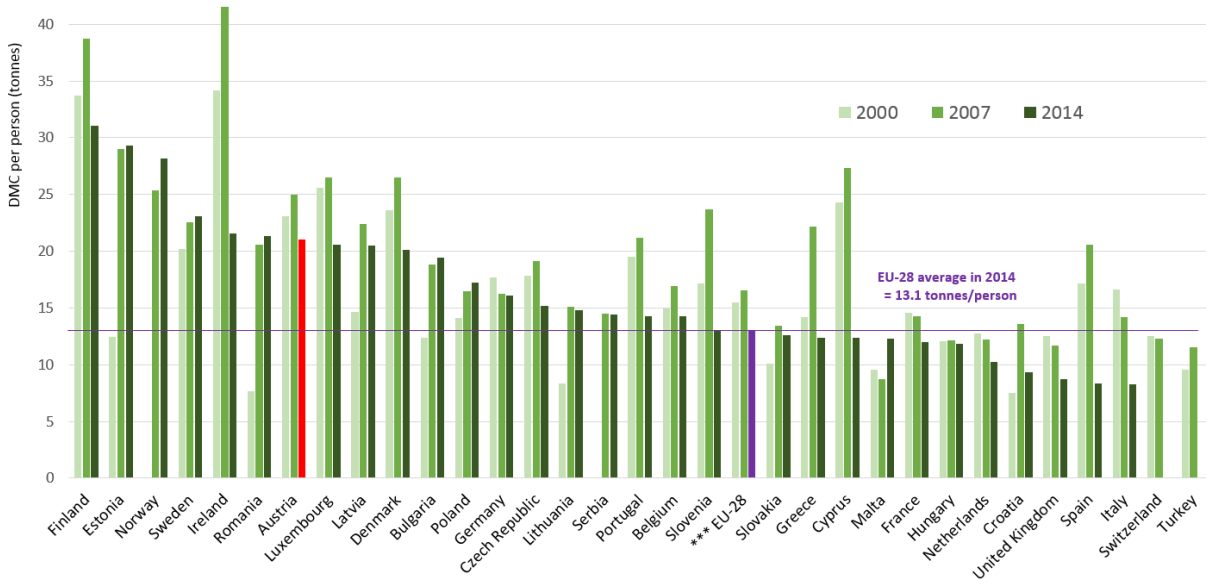
Use of materials:
180 million tonnes DMC (2.7 % of EU-28 total in 2014)
21.0 tonnes DMC/person (161 % of EU-28 average per person in 2014)
Resource productivity 1.71 EUR/kg (86 % of EU-28 average in 2014)

Structure of the economy:
agriculture: 1.3 %
industry: 28.4 %
services: 70.2 % (2014 est.)

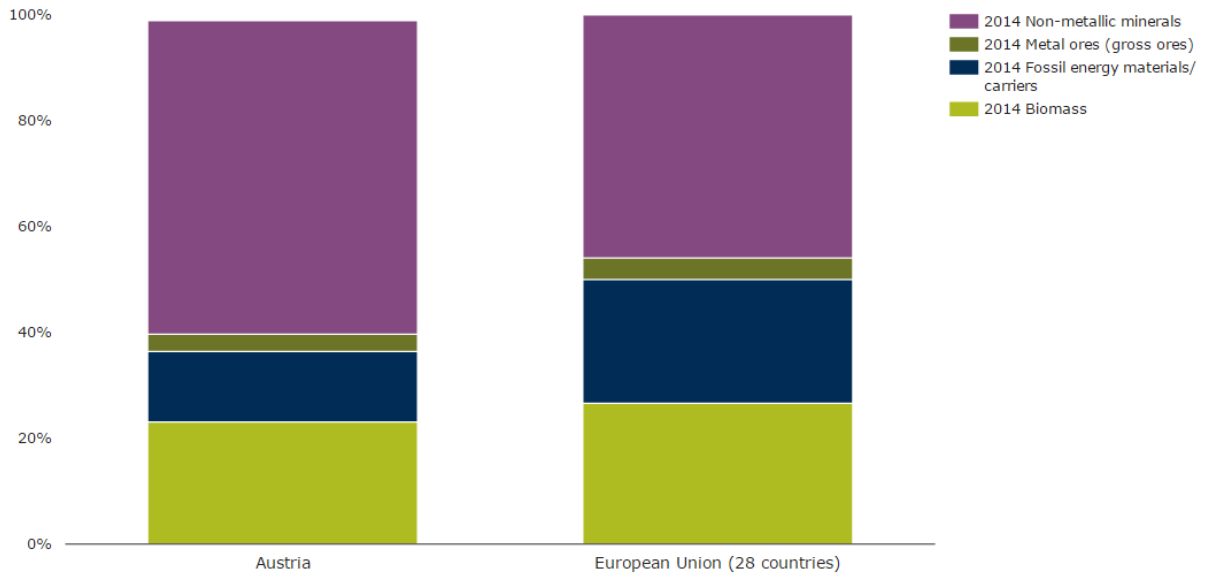
Surface area: 83,900 square kilometres (1.9 % of EU-28 total)

Population: 8.5 million (1.7 % of EU-28 total)

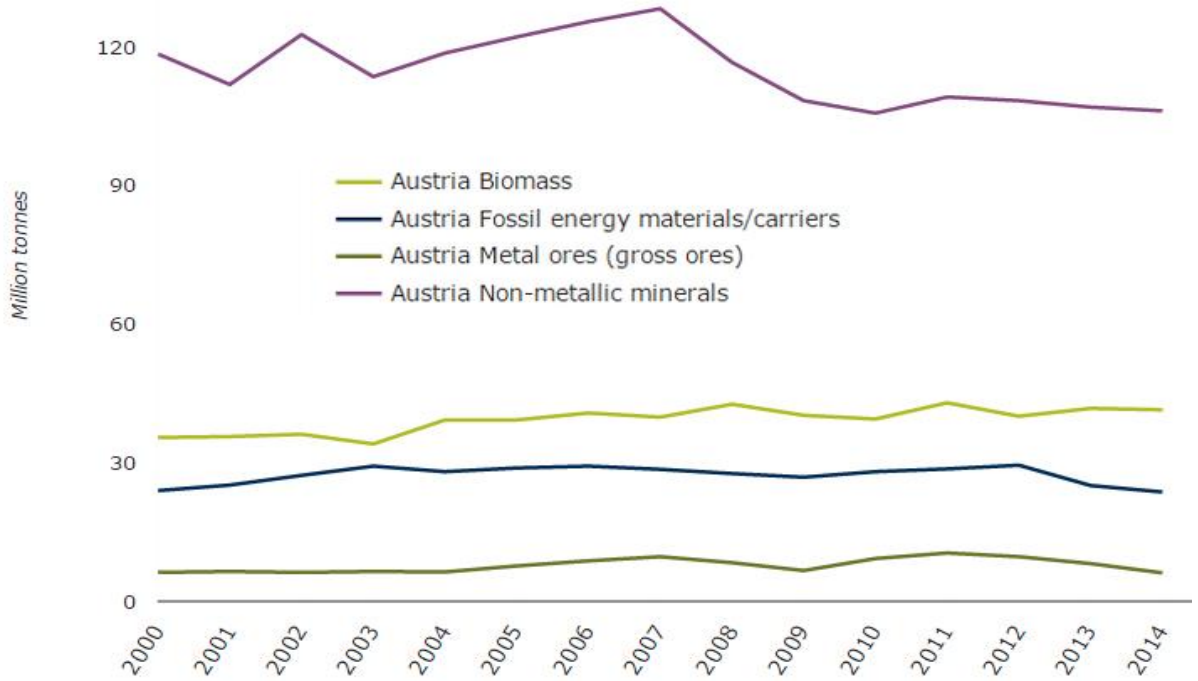
Use of materials (DMC) per person, participating countries and EU-28
(2000, 2007 and 2014)



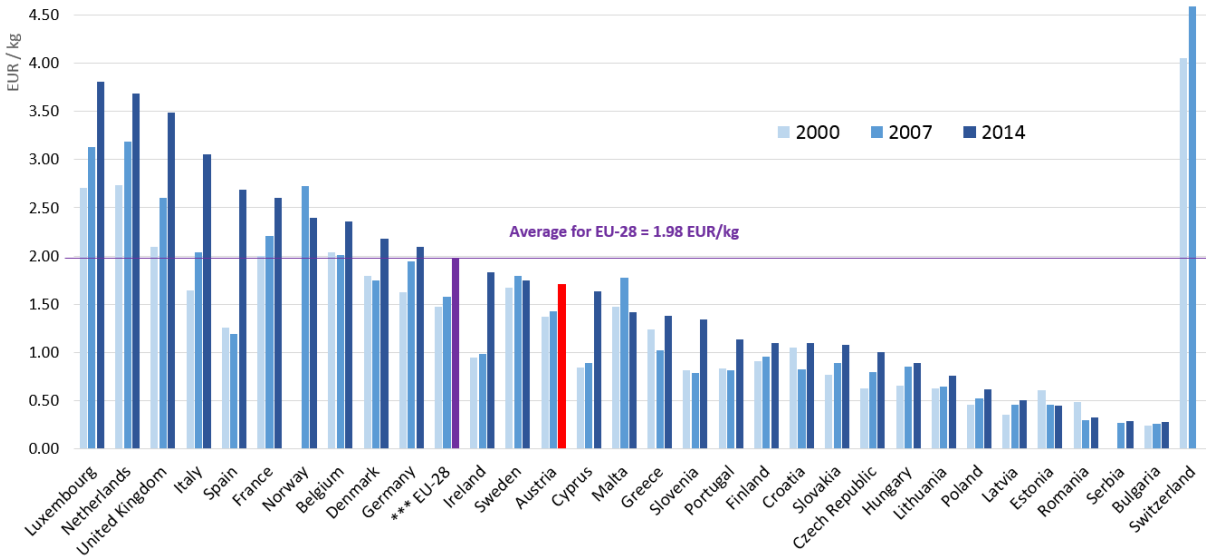
Domestic material consumption by category, EU-28 average and Austria (2014)



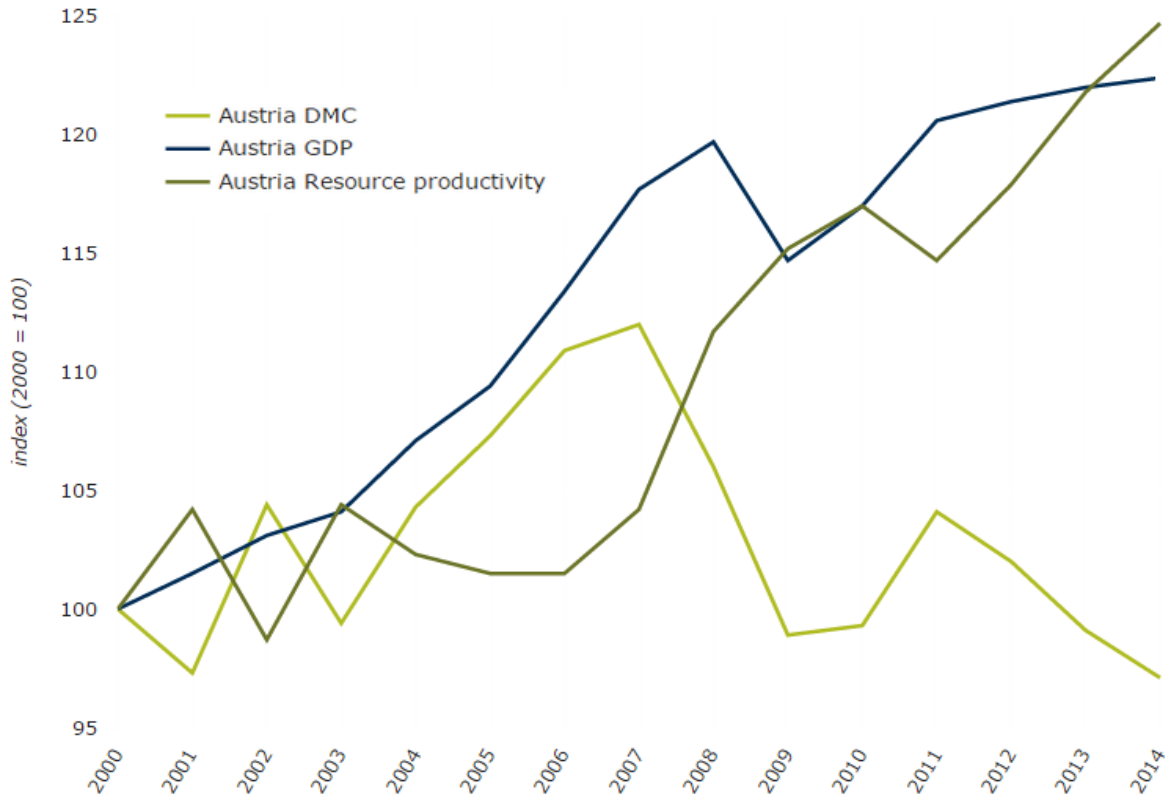
Trends in material consumption, Austria by category (2000–2014)



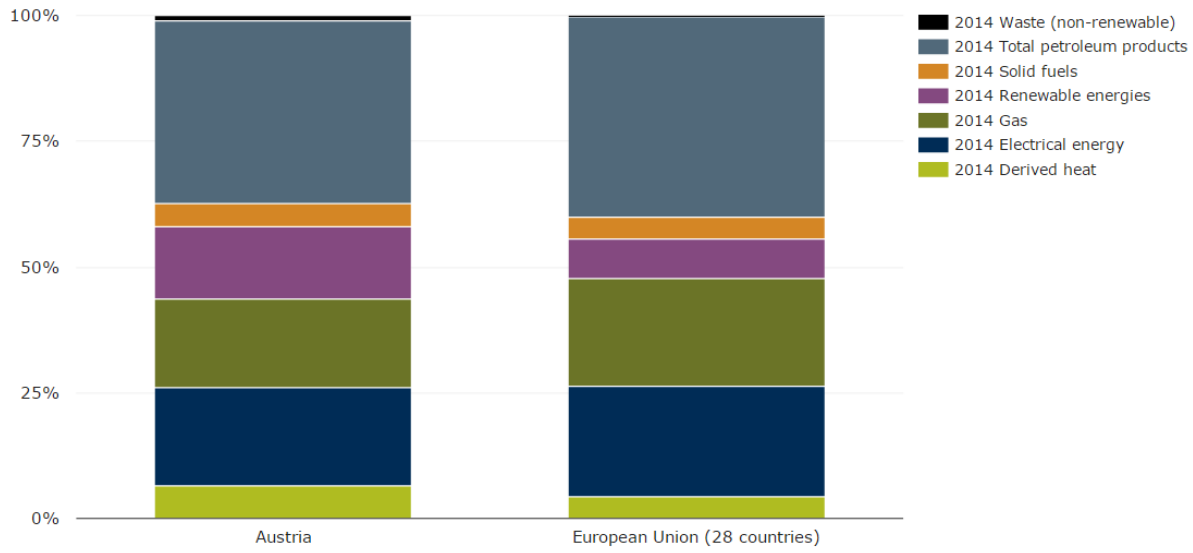
Resource productivity (GDP/DMC), participating countries and EU-28
(2000, 2007 and 2014)



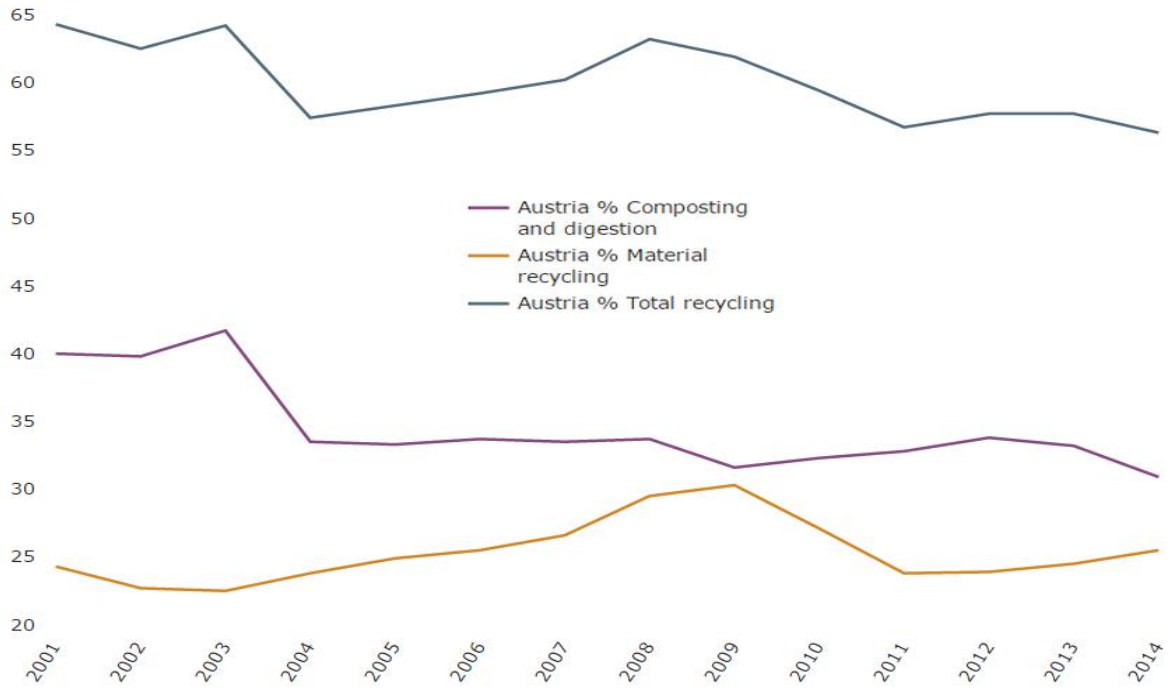
GDP, DMC and resource productivity trends, Austria (2000–2014)



Share of final energy consumption by fuel type, EU-28 and Austria (2014)



Recycling of municipal waste, Austria (2001–2014)



Introduction

Austria has a dedicated national resource efficiency strategy.

The **Austrian Resource Efficiency Action Plan** (REAP), published in 2012 by the Ministry of Agriculture, Forestry, Environment and Water Management, sets targets for increasing resource use efficiency. It identifies the major fields where action is required and it introduces instruments and measures for a concrete increase in resource efficiency in Austria.

Link to download of German version:
http://www.bmlfuw.gv.at/dms/lmat/umwelt/nachhaltigkeit/ressourceneffizienz/aktionsplan_ressourceneffizienz/aktionsplan/REAP-final-23-1-212/REAP%20final%2023.1.211.pdf

Link to a summary page in English:
http://www.bmlfuw.gv.at/en/fields/environment/Sustainabledeve/Resouefficactionplan.html

Building on the REAP the **Rest2020-Resources.Efficiency.Technologies** initiative was developed by the Austrian Ministry of Environment (BMLFUW), aiming to implement resource efficiency in the areas of environmental technologies, sustainable production and sustainable consumption.

Scope of material resource efficiency

The Austrian REAP defines resource efficiency as the ratio between monetary output and input of natural resource 'materials', comprising 'energy', 'water', 'air' and 'land'. While the Austrian REAP mainly focuses on increasing material efficiency, its scope also includes the efficiency of energy, water, air and land use.

As an indicator for the set targets, gross domestic product (GDP) generated per unit of domestic material consumption (GDP/DMC) is used. DMC is defined as the domestic material consumption of biomass, metals, minerals and fossils. Increasing material efficiency is the main focus of measures under REAP. However, increasing energy, water and land-use efficiency and reducing environmental impacts on air and other natural resources is always part of the activities.

Driving forces of material resource efficiency

Several factors drive resource efficiency policies in Austria. These include:

- a relatively high resource consumption which is caused by the relatively cold climate, low population density in some parts of the country, and a tradition in constructing well-insulated buildings, and so on;
- an industry which in critical areas – including green efficient technologies of the future – depends on raw material imports;

- the high price volatility experienced with raw materials in recent years and the market power of supplying countries;
- the potential for improvement;
- the benefits that can be gained such as increased competitiveness and green jobs.

Priority material resources, sectors and consumption categories

Priority materials

REAP's 2012–2013 action programme of includes measures on the recycling of **materials which are critical for the Austrian economy**, on urban mining from **construction materials** and on **wood**.

Further strategies/policies address different material types: one focus of the Waste Prevention Programme is on **food**, another is on **construction materials**.

Agricultural and energy efficiency plans focus on the efficient use of **biomass**, energy efficiency and climate activities and also on **fossil fuels**. The raw material plan primarily aims to secure primary non metal mineral resources.

The recycling system for **packaging material** and **mass metals** is well established. There is much interest in developing a policy on the **recycling of critical materials**. Due to their low concentration in products and wastes this has not yet succeeded.

Priority industries and economic sectors

REAP identifies as its major fields of action:

- resource efficient production;
- public procurement;
- the circular economy;
- awareness raising.

Target areas for the specified measures are the production industry as a whole, the construction industry, wood industry, industries that use critical materials (mainly the high-value metal industry, car industry, renewable energy industry and electronics industry) and the repair/reuse sector.

The Waste Prevention Programme also targets the production industry and the repair/reuse sector. In addition it targets households. Food and buildings (housing) are targeted along their whole life cycle.

Priority consumption categories

In REAP, except for public consumption, no specific consumption categories have been singled out for defining priority areas.

The Waste Prevention Programme targets food and housing along their whole life cycle.

Policy framework

National strategies or action plans for material resource efficiency

In addition to REAP, there are a number of other policies that include elements of material resource efficiency.

The Austrian **Waste Prevention Programme** 2011 and other parts of the **Federal Waste Management Plan** 2011 (www.bundesabfallwirtschaftplan.at) target a number of focus areas: construction waste prevention, waste prevention in industry, waste prevention in households, prevention of food waste, and reuse.

The initiative **Food is Precious** – Lebensmittel sind kostbar (http://www.bmlfuw.gv.at/land/lebensmittel/kostbare_lebensmittel.html).

The Austrian **Action Plan on Sustainable Public Procurement** – Aktionsplan Nachhaltige öffentliche Beschaffung (http://www.nachhaltigebeschaffung.at/nabe-aktionsplan). This plan includes public purchasing criteria on the use of recycled materials in building construction, recycled paper, ecologically produced products and the use of products/materials with low hazardous substance concentrations.

The Austrian **Masterplan Green Jobs**
The Masterplan Green Jobs aims at further developing the environmental protection industries and technologies (http://www.bmlfuw.gv.at/publikationen/umwelt/green_jobs_umwelttechnologien/oesterreichischer_masterplan_green_jobs.html). This includes:

- the promotion of resource-efficient products, techniques and services;
- the replacement of the consumption of primary non-renewable resources with renewable resources and recycled materials;
- the efficient management of energy resources;
- research in resource management;
- the promotion of low-resource consuming buildings and infrastructure in tourism.

The Austrian **Raw Material Plan** (Rohstoffplan) aims at setting aside certain territories for the future exploitation of mineral resources (http://www.bmwfw.gv.at/EnergieUndBergbau/Rohstoffplan/Seiten/default.aspx).

The Austrian **Strategy on Research, Technology and Innovation** – Strategie Forschung, Technologie und Innovation (http://www.bmvit.gv.at/bmvit/innovation/forschungspolitik/index.html).

The **Austrian Strategy for Education on Sustainable Development** – Österreichsiche Strategie zur Bildung für nachhaltige Entwicklung (http://www.bmlfuw.gv.at/umwelt/nachhaltigkeit/bildung_nachhaltige_entwicklung/).

The Austrian Energy Strategy (http://www.energiestrategie.at/).

The Austrian Low Carbon Strategy – Strategie zur CO2-armen Entwicklung http://www.bmlfuw.gv.at/umwelt/klimaschutz/klimapolitik_national/lowcarbon-strategy.html).

A programme funding investments in reducing environmental impacts – Umweltförderung im Inland (http://www.bmlfuw.gv.at/umwelt/klimaschutz/ufi/ufi.html).

The Austrian Eco-Label – das Österreichische Umweltzeichen (https://www.umweltzeichen.at/cms/de/home/content.html).

The Production of the Future initiative – Produktion der Zukunft (http://www.bmvit.gv.at/bmvit/innovation/produktion/index.html).

The Nanotechnology initiative (http://www.bmvit.gv.at/bmvit/innovation/nanotechnologie/index.html).

The circular economy and closing material loops

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

The 2012 REAP identifies resource efficient production, public procurement, the circular economy and awareness raising as its major fields of action. Current focus areas and measures for further improvements as defined by REAP comprise the following:

- a pilot project to investigate which materials are of high criticality for the Austrian economy, which will provide the basis for developing a corresponding strategy;
- the ordinance on recycling of construction materials (Recyclingbaustoffverordnung), under preparation, which will specify end-of-waste criteria for different materials as a precondition for their recycling;
- the ordinance on recycling wood (Recyclingholzverordnung BGBl. II Nr. 160/2012), which became effective in 2012, defining quality criteria for recycling wood.

General policy objectives for material resource efficiency

REAP follows the objective of considerably reducing the consumption of natural resources and realising the benefits for the environment, the economy and society that can be gained by resource efficiency improvements. These include:

- a national and international reduction in resource use and accompanying environmental impacts;
- increased competitiveness;
- greater social justice;
- securing the supply of natural resources;
- the development and market introduction of innovative, resource-efficient technologies and services;
- the creation of green jobs.

Institutional set-up and stakeholder involvement

Institutional set-up for material resource efficiency policies

The main responsibility for developing REAP lies with the Federal Ministry of Agriculture, Forestry, Environment and Water Management. However, the Ministry of Economy, the Ministry for Traffic, Innovation and Technology, the Federal Chancellery, the Environment Agency, selected consultants and stakeholders such as the Austrian Chamber of Commerce and the Industry Association, are also involved as part of a feedback group. In addition, regional governments may participate in defining material efficiency policies at the national level.

Process to ensure stakeholder participation

Development of the Waste Prevention Programme involved mainly the Federal Ministry of Agriculture, Forestry, Environment and Water Management, experts from the regional governments, the Environmental Agency, the Austrian Chambers of Commerce and Labour, the Federation of Municipalities, and leading scientific experts and consultants/non-governmental organisations (NGOs) in the field of environmental protection and resource conservation.

For the development of REAP see the previous section.

Suggestions for international support mechanisms to exchange experience

The European Resource Forum, the EEA and the European Topic Centre on Waste and Materials for a Green Economy are good existing platforms.

On the level of the European Commission a common platform for industrial and environmental concerns/policies would be helpful.

Policy instruments

Policy instruments commonly used for material resource efficiency

Both REAP and the Waste Prevention Programme are based on extensive stakeholder agreement processes.

During the stakeholder process which led to the Waste Prevention Programme it was stated that all options need to be considered in order to develop the best programme. In most cases the programme is a mix of regulatory, economic, financial and information-based instruments and voluntary agreements.

It was also agreed that strong regulatory instruments such as bans should mainly be applied when protection against hazardous substances is needed. In other cases, a combination of a carrot (financial, economic and market-based instruments as well as voluntary agreements) and a stick (regulations for limiting the effect of market participants who do not play by voluntary rules[1] and for making inefficient behaviour expensive) approach is preferred. Information and motivation/awareness raising are necessary under all circumstances.

[1] One example is when a recycling company sells recycled material that does not fulfil technical specifications or contains hazardous substances, which can destroy the credibility of the whole recycling market. In addition, when the hazardous substance concentration in recyclable materials is not limited, the hazardous substances increase with product reuse.

Examples of good practice

Among Austrian best practices are:

The Food is Precious initiative – Lebensmittel sind kostbar (http://www.bmlfuw.gv.at/land/lebensmittel/kostbare_lebensmittel.html), which started mainly as an information and education campaign for households and pupils but now targets the whole life cycle of food.

The initiative includes a stakeholder dialogue platform for the exchange of experience and for the identification of food waste prevention solutions along the whole food life cycle. In addition it serves as a platform for networking.

The Food is Precious initiative includes information and awareness campaigns for consumers as well as for co-workers in food processing industries and services. It supports the expansion of food sharing. It identifies and supports measures for a more efficient production and use of food along the whole chain. This includes improvements to better adapt supply to demand, to optimise logistics and to make better use of unsold food. Research to identify potential for food waste prevention is also supported. This comprises studies on the amount of food waste in municipal waste, on overcoming barriers to food-sharing, on making better use of food at events, on the prevention of food waste in restaurants and on food waste prevention potential at the agricultural phase.

A further focus of the Food is Precious initiative lies with the preparation of educational material for primary and secondary schools, as well as the implementation of information and sensitisation campaigns including working projects for the pupils.

Under the Food is Precious initiative, best-practice projects receive the so called VIKTUALIA-award. In addition, recipes have been collected for the use of left-over food.

The Eco-Business Plan Vienna initiative (http://www.wien.gv.at/umweltschutz/oekobusiness) and similar initiatives of other Austrian regions provide and co-finance consultancy for the production industries. While particularly targeting small industries, it is also open to bigger industries.

The Eco-Business Plan Vienna consists of eight steps which lead from application and a first resource efficiency check through the selection of an in-depth consultation programme, on-site consultation and the selection of implementation measures, to the monitoring and evaluation of achievements. If the achievements are in line with the objectives of the Eco-Business Plan Vienna the company receives an award (see Figure 1).

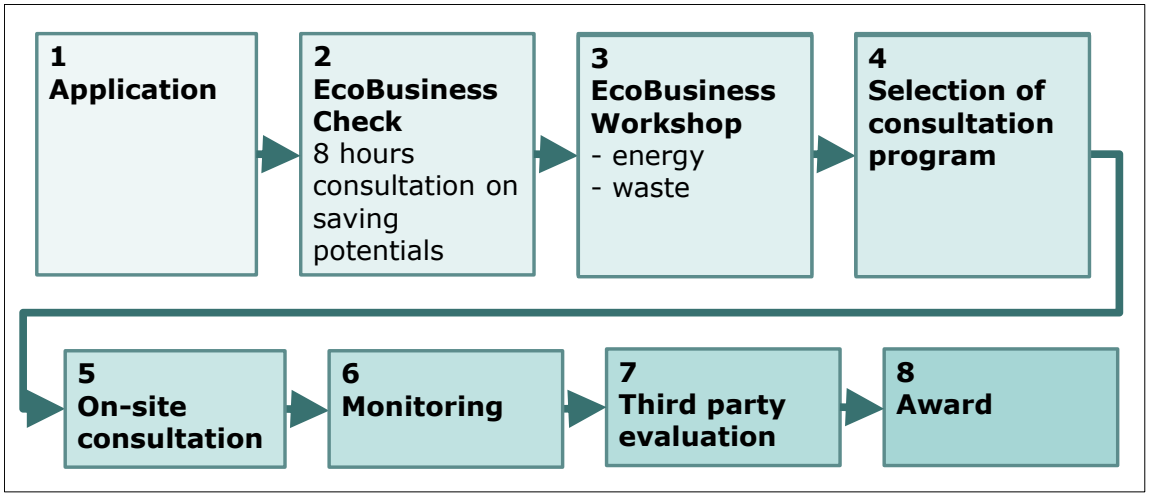


Figure 1: Implementation steps for a company that participates in the Eco-Business Plan Vienna

The in-depth consultation programme for small enterprises consists of two workshops and three days of on-site consultation on waste prevention, waste management, energy saving and climate protection.

The more extended in-depth consultation programme Ecoprofit consists of eight workshops and five days of on-site consultation focusing on the optimisation of production processes (http://www.umwelt.graz.at/cms/beitrag/10219418/4850182).

REPANET (http://www.repanet.at/) is an association of 26 reuse organisations which helps to establish an Austrian repair and reuse network through cooperation between waste management associations, repair companies and reuse shops which employ the disadvantaged, and supports the public administration in defining rules for the collection and quality assurance of used products.

REVITAL (http://www.revitalistgenial.at/) is a regional initiative to establish a province-wide network of collection points, refurbishment centres and reuse shops under a common logo and quality assurance system.

Targets and indicators

Targets for material resource efficiency

REAP's target (GDP/DMC) is to achieve an increase in resource efficiency:

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

This target refers to the consumption of all natural resources.

Indicators to monitor the use of materials and resource efficiency

Indicators to monitor the use of materials and resource efficiency include GDP as well as domestic material intensity (DMI), DMC and raw material consumption (RMC) of biomass, metals, minerals and fossil fuels. There are annual data for DMI and DMC for the period 1960–2012. Austria is also working on determining RMC on an annual basis.

Optional questions

Recent policy developments concerning natural resources in the broader sense of the term

The high raw material prices of 2008 and the high price volatilities thereafter have caused the European environmental community and the European industrial community to join forces to look at the primary sources of the materials we use, their long-term availability and their environmental impacts during mining and processing (also outside Europe). Interest has developed in how to design more material-efficient products and services, and in the potential to establish efficient use of domestically produced resources (including regulation).

In recent years, concerns over the long-term availability of materials seem to have lost importance. Recent policy documents on resource efficiency such as the Circular Economy Communication COM(2015) 614 of the European Commission again seem to be written mainly from the traditional waste management perspective or from the green job/green industry perspective and not so much from the perspective of optimising/minimising resource consumption over the whole life cycle.

Which way should resource efficiency go in the future?

Major challenges:

- Public and private institutions for environmental protection as well as industry/economy need to take the lead.
- Create markets for the recycling of new secondary raw materials need to be established by harmonised initiatives.
- Climate protection calls for low-energy buildings, requiring insulation materials and material compounds taking into account the challenges to reuse/rrecycle used products/materials.
- How can the capacity of all EU Member States to perform a timely calculation of RMC be ensured?
- What is the optimal recycling rate for different materials and waste?
- How can a material resource and life cycle environmental impact tax be introduced?
- How to deal with transfrontier shipments of secondary raw materials?

Reflections on the country's trends in the use of materials and resource efficiency

Per person DMC in Austria increased from 23.1 tonnes in 2000 to 25.0 tonnes in 2007, and then decreased to 21.0 tonnes in 2014. This development seems to be the consequence of several underlying trends:

- the economic growth which was strong in 2000–2007 and weak thereafter;
- a general trend towards increased efficiency (also seen in the increase of resource productivity in 2002–2014);
- a trend towards more imports of finished products instead of domestic extraction;
- less use of coal for electricity production.

The development of Austrian per person DMC follows the same pattern as the average EU per person DMC. The level in Austria is considerably above the EU average level, but very similar to the level in Nordic countries. This may be the consequence of a higher per person material demand for infrastructure to cope with the relatively cold climate and the relatively low population density.

While there are positive trends in Austria with respect to resource productivity there still seems to be considerable potential for reducing resource consumption. Such potential has already been identified for food. With respect to housing there is a trend towards single households, which increases demand. Here, solutions should be found which simultaneously enable high-energy and material efficiency as well as high recyclability and long-lasting buildings.