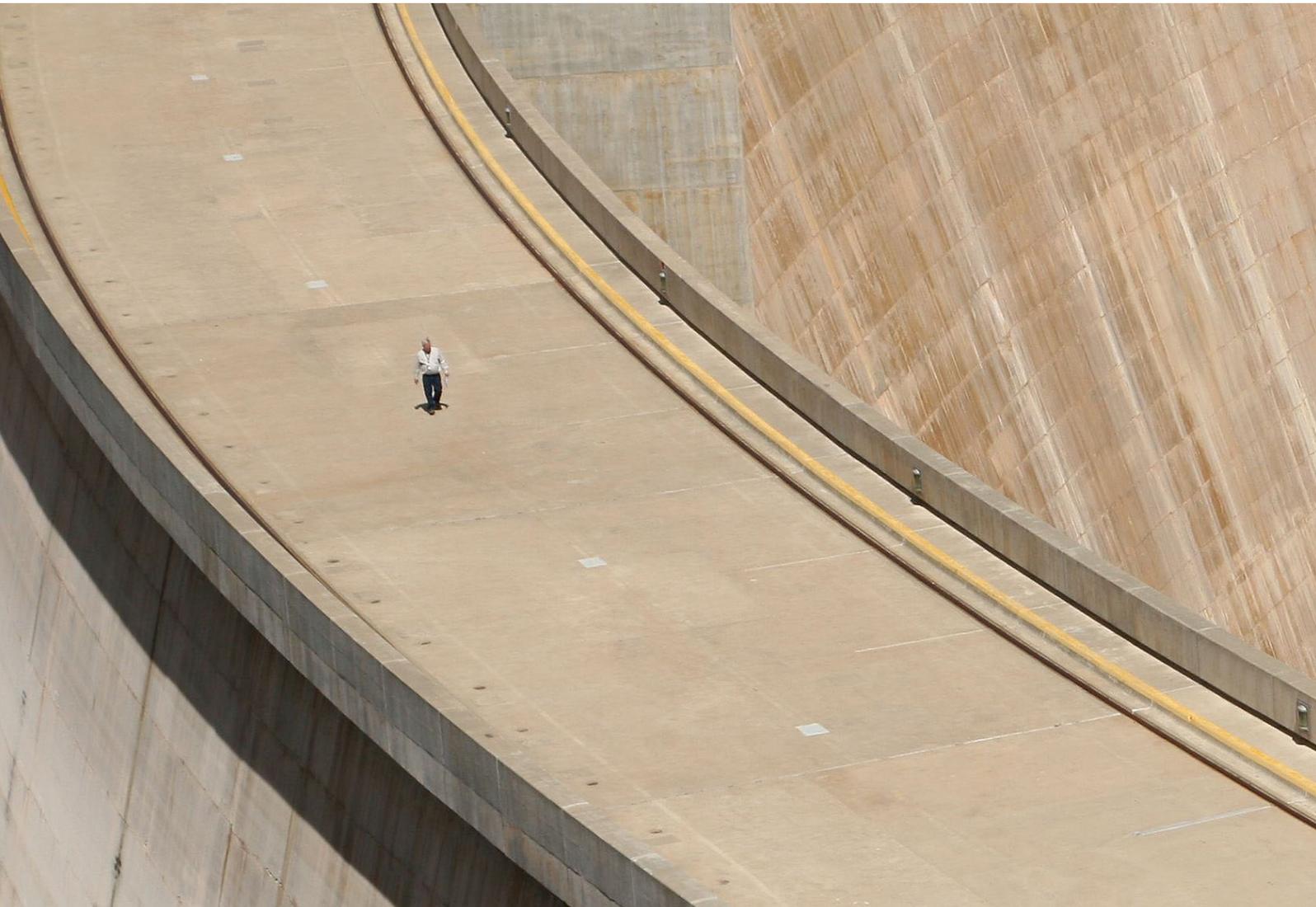


More from less — material resource efficiency in Europe

2015 overview of policies, instruments and targets in 32 countries

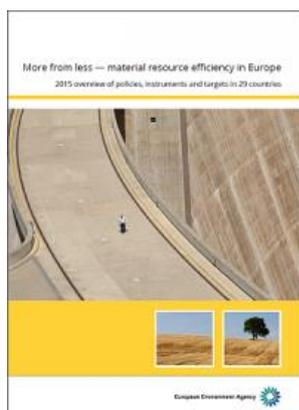


Germany 

May 2016

This country profile is based on information collected by Christian Löwe and Jens Günther from Federal Environment Agency. 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>

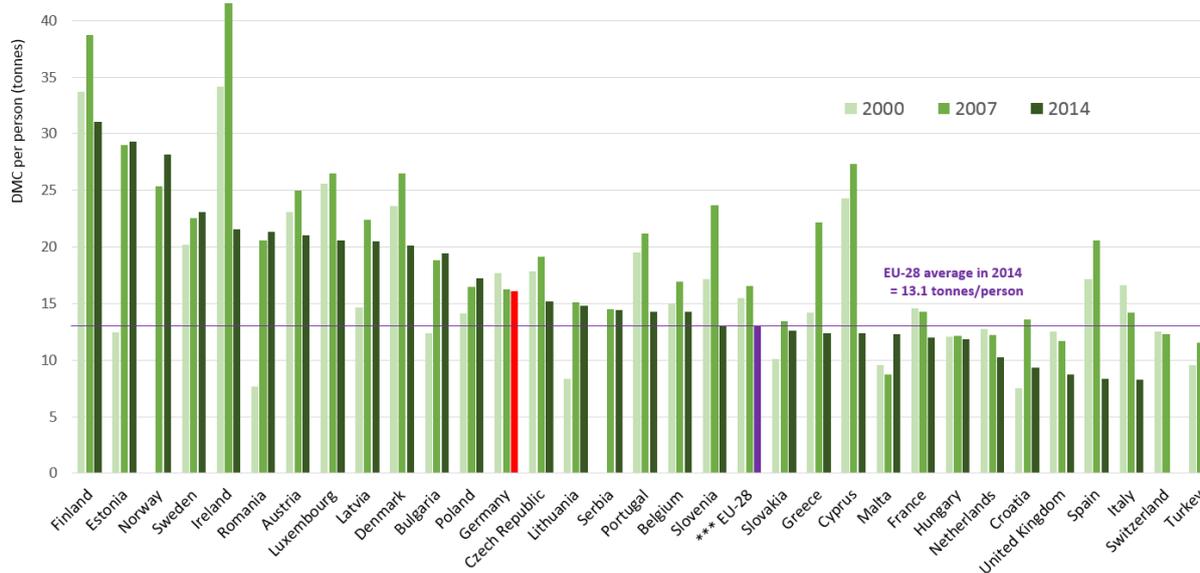
For information on climate- and energy-related policies, including those on energy efficiency, in the participating countries, please visit: <http://www.eea.europa.eu/themes/climate/ghg-country-profiles>

Germany, facts and figures

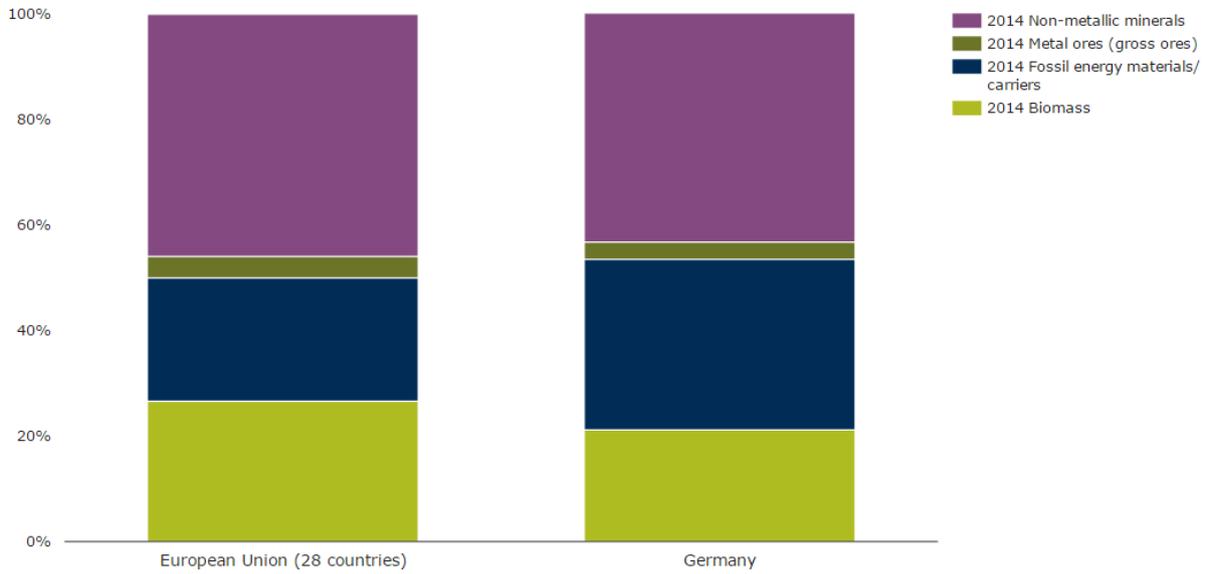
Source: Eurostat

	<p>GDP: EUR 2,916 billion (20.9 % of EU-28 total in 2014)</p>
	<p>Per person GDP: EUR 33,900 (in purchasing power standard) (124 % of EU-28 average per person in 2014)</p>
	<p>Use of materials:</p> <p>1,305 million tonnes DMC (19.6 % of EU-28 total in 2014) 16.1 tonnes DMC/person (123 % of EU-28 average per person in 2014) Resource productivity 2.10 EUR/kg (106 % of EU-28 average in 2014)</p>
	<p>Structure of the economy:</p> <p>agriculture: 0.9 % industry: 30.8 % services: 68.4 % (2014 est.)</p>
	<p>Surface area: 357,300 square kilometres (8.0 % of EU-28 total)</p> <p>Population: 81.0 million (15.9 % of EU-28 total)</p>

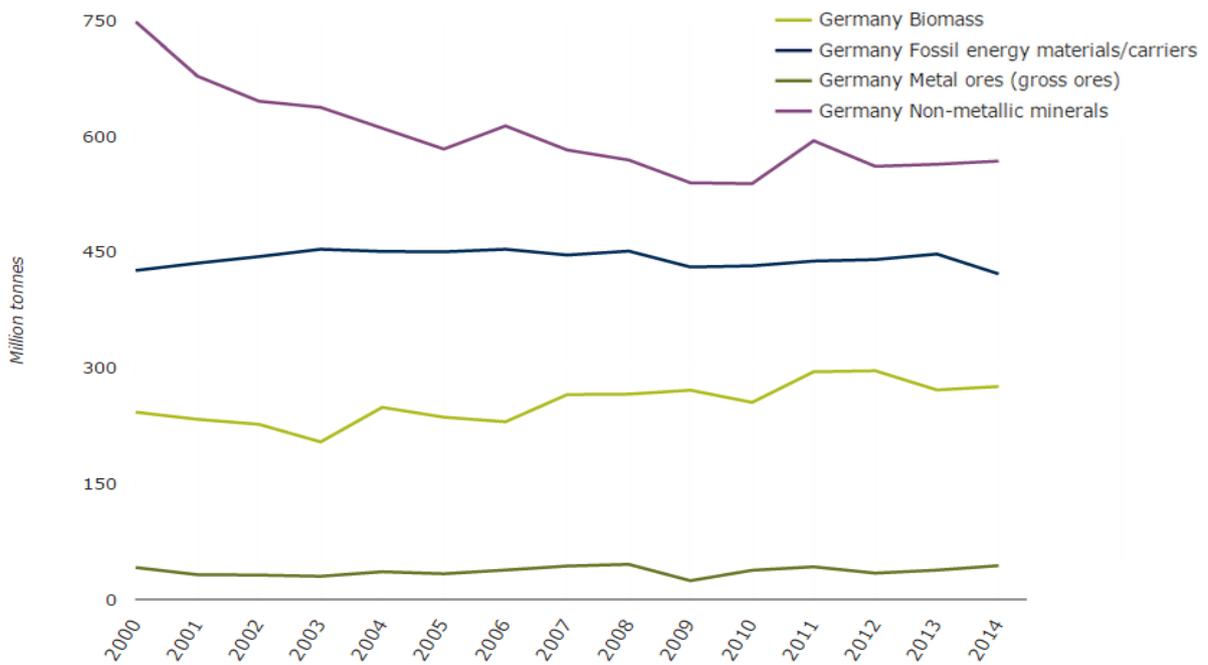
Use of materials (DMC) per person, participating countries and EU-28
(2000, 2007 and 2014)



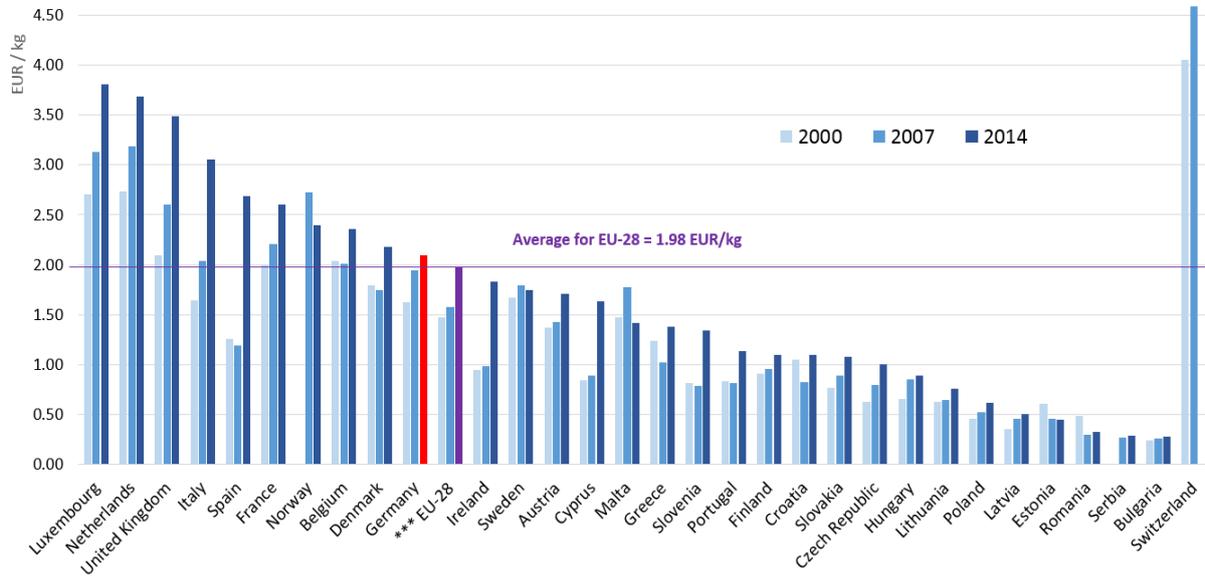
Domestic material consumption by category, EU-28 average and Germany (2014)



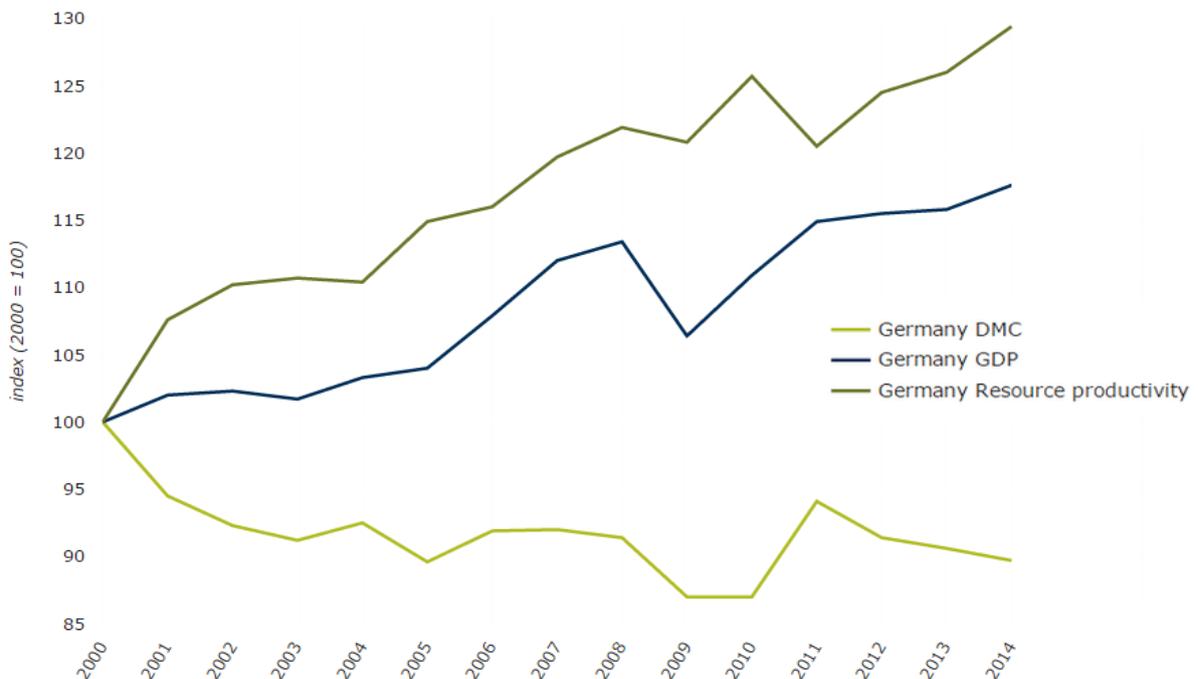
Trends in material consumption, Germany by category (2000–2014)



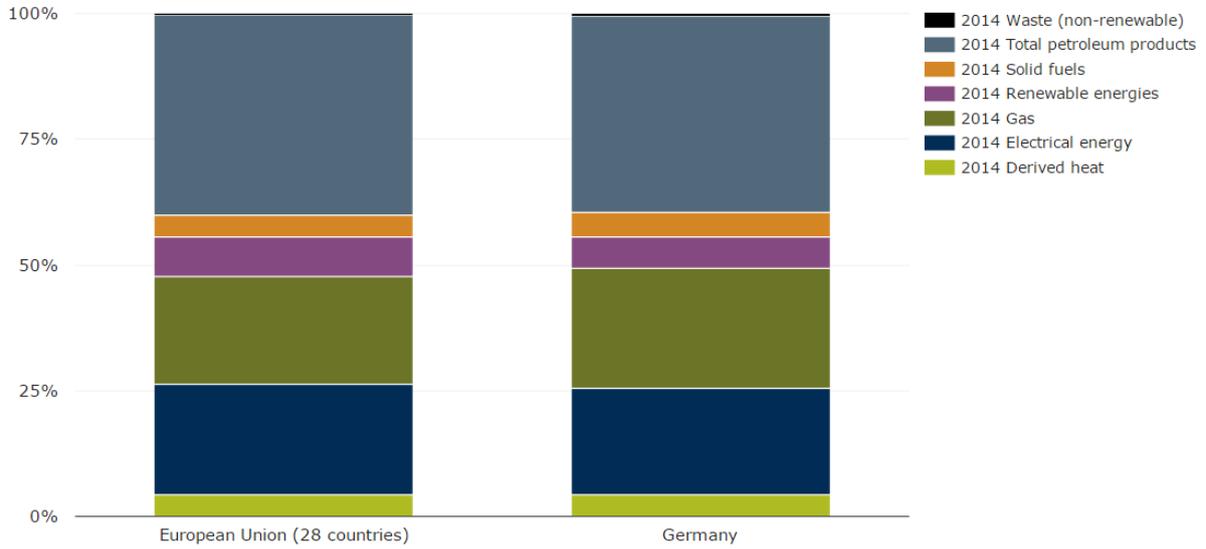
**Resource productivity (GDP/DMC), participating countries and EU-28
 (2000, 2007 and 2014)**



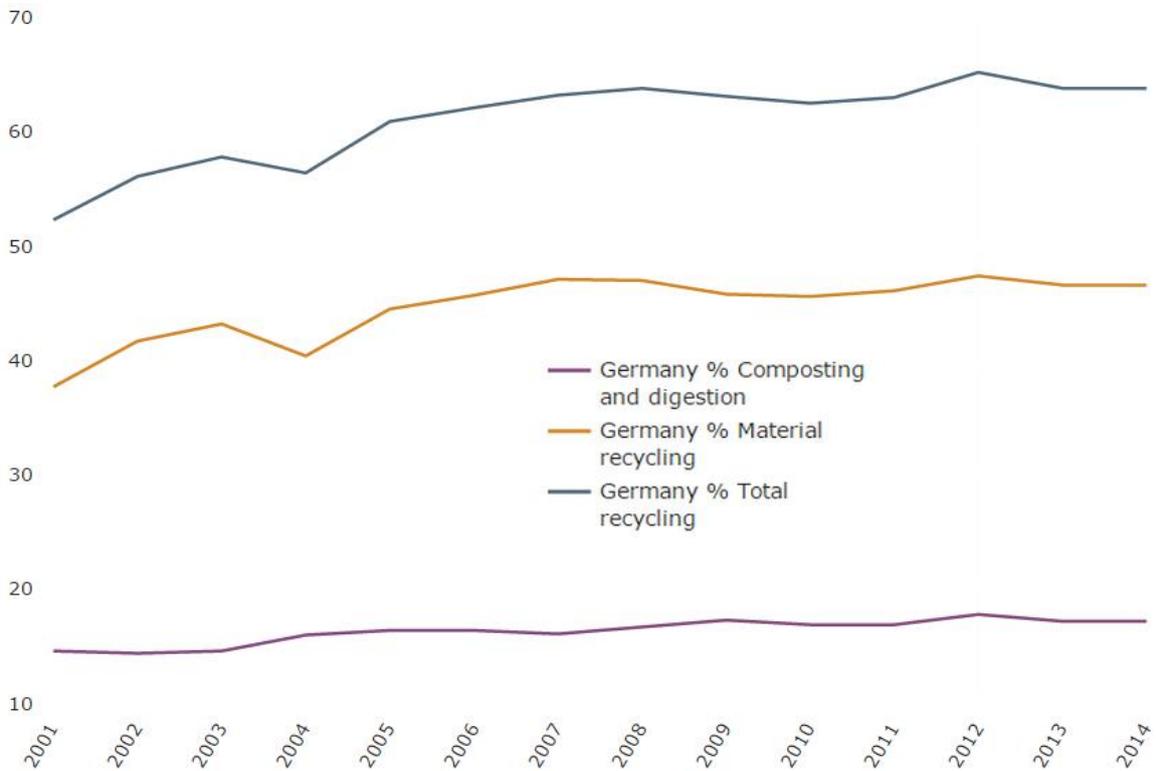
GDP, DMC and resource productivity trends, Germany (2000–2014)



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



Recycling of municipal waste, Germany (2001–2014)



Introduction

Germany has a dedicated strategy for material resource efficiency.

In February 2012 the German government adopted the **German Resource Efficiency Programme (ProgRess)** as a result of the government's decision in its Raw Materials Strategy of October 2010.

http://www.bmub.bund.de/fileadmin/Daten_BMU/Pool/Broschueren/progress_broschuere_en_bf.pdf

Scope of material resource efficiency

The term resource efficiency is not defined explicitly in **ProgRess**. But its current overarching aim is the double decoupling of raw material use. Through reduced and efficient use of raw materials, it should be decoupled from economic growth and from environmental impacts. So, the term may be interpreted as 'doing more with fewer raw materials'.

Driving forces for material resource efficiency

The four guiding principles of **ProgRess** reflect the major factors and concerns driving Germany's resource efficiency policy in a comprehensive way. These are 1) joining ecological necessities with economic opportunities, innovation support and social responsibility; 2) viewing global responsibility as a key focus of our national resource policy; 3) gradually making economic and production practices in Germany less dependent on primary resources, developing and expanding closed-cycle management; and 4) securing sustainable resource use for the long term by guiding society towards quality growth.

The major factor in Germany's resource efficiency policy is the understanding that resource efficiency is a strategic topic for innovation, growth and improving the competitiveness of the German economy. This is reflected as a main objective of all the above-mentioned policies and strategies, especially the **innovation strategies of the Federal States**.

Reducing the environmental and social impacts of our production and consumption is a major concern on which Germany's resource efficiency policy is based. Resource efficiency is seen as a major strategy to reduce environmental pollution, to tackle climate change and to perceive our global

responsibility for our resource consumption. This is reflected in nearly all policies and strategies dealing with resource efficiency, mainly by stating the decoupling of resource use from negative impacts as a main objective.

Securing raw material supply and making the German economy more independent of raw material imports is a second major concern that drives resource efficiency policies in Germany. The main strategy addressing this concern is the **National Raw Material Strategy**, but the **Policy Strategy Bio-Economy** and the **raw material strategies of the Federal States** also reflect this major topic.

Priority material resources and sectors

Priority materials

Germany's dedicated resource policies, including **ProgResS** and the **National Raw Material Strategy**, currently prioritise non-energetic raw materials. The first update of ProgResS, expected in early 2016, will also include the energetic use of raw materials.

The **National Biomass Action Plan** (2009) and the **Action Plan for the Industrial Use of Biomass** (2009) aim to increase the energetic and industrial use of biomass as a significant contribution to reducing the use of fossil raw materials and to combat climate change. In both action plans the efficient use of biomass is one of the main goals and the increase in resource efficiency is addressed in several spheres of activity.

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 the **coalition agreement of the 18th legislative period** from October 2013, the German government commissioned the German Raw Material Agency to implement a monitoring scheme on critical raw materials. Monitoring will include an evaluation of emerging supply risks for important raw materials and intermediate products that have to be imported to Germany for industrial production. Criteria for the declaration of a critical raw material are country concentration, company concentration and country risk.

Priority industries and economic sectors

With the current focus on raw materials, **ProGress** in conjunction with the **National Raw Materials Strategy** sets a priority on increasing resource efficiency in the manufacturing sector.

The **Closed Cycle Management Act** especially addresses resource efficiency in the waste management and recycling industry.

The **Policy Strategy Bio-Economy**, in conjunction with the National Research Strategy for Bio-Economy 2030 and the National Biomass Action Plan (2010), prioritises the chemicals industry as well as the agricultural and forestry sector.

The **Forest Strategy 2020**, launched in 2012, focused on sustainable forest management and the efficient use of wood in German forest-based industry.

Priority consumption categories

With its **Guideline for Resource Efficient Procurement** the Alliance for Sustainable Public Procurement, under the leadership of the Federal Ministry of Economic Affairs and Energy, identified public procurement as a priority consumption category for increasing resource efficiency. The Guideline is a 'helping hand' for procurement officers at the Federal and Federal State levels as well as for procurement offices in municipalities. The Guideline started with advice on the public procurement of recycled concrete and green information technology (IT).

To reduce significantly the amount of **food waste** in Germany, the Federal Ministry of Food and Agriculture (BMEL) runs the **Too good for the bin! initiative**, which was launched in spring 2012. It has the objective of reaching as many consumers as possible and reducing food waste through combined effort along the entire chain.

Policy framework

National strategies or action plans for (material) resource efficiency

The goal of the ProgRes is to structure the extraction and use of natural resources in a sustainable way and to reduce associated environmental pollution as far as possible. ProgRes focuses on abiotic, non-energy resources, supplemented by the material use of biotic resources. Other natural resource such as water, air, land, soil, biodiversity and ecosystems are already covered by other programmes, processes or legislation, and are not addressed in any detail by ProgRes. For example, in the project Naturkapital Deutschland – TEEB DE and the initiative Business and Biodiversity, the German government addresses biological diversity as a natural resource, which needs to be used sustainably (<http://www.naturkapital-teeb.de/en/news.html>, <http://www.business-and-biodiversity.de/en/>). The main overarching policy broaching the issue of sustainable use of natural resources is the National Sustainable Development Strategy (www.bmub.bund.de/P888-1/)

ProGress is shaped by a total of four guiding principles:

- 1) joining ecological necessities with economic opportunities, innovation support and social responsibility;
- 2) viewing global responsibility as a key focus of our national resource policy;
- 3) gradually making economic and production practices in Germany less dependent on primary resources, developing and expanding closed-cycle management; and
- 4) securing sustainable resource use for the long term by guiding society towards quality growth.

ProgRes covers the entire value chain. It is about securing a sustainable raw material supply, raising resource efficiency in production, making consumption more resource efficient, enhancing resource-efficient closed-cycle management and using overarching instruments. A total of 20 strategic approaches are identified and underpinned with measures. The programme attaches particular importance to market incentives, information, expert advice, education, research and innovation, and to strengthening voluntary measures and initiatives on the part of industry and society.

The German government has decided that it will report every four years on the development of resource efficiency in Germany, assess progress and proceed with and update ProgRes accordingly. Therefore, ProgRes does not signal an end; it is in fact the beginning of a process in policy making, science and society. Currently the German Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) is preparing the first update of ProgRes. It has been decided that the update will broaden its scope slightly and will also include the energetic use of raw materials. The update is expected to be published in early 2016.

Several Federal States, including Baden-Württemberg, Saxony, Hesse and Nord-Rhine Westphalia, are currently developing their own raw material strategies or resource efficiency programmes to secure raw material supply for their industries, to increase resource efficiency and recycling and to reduce the environmental impacts of their raw material use.

In 2010, the German government adopted the **National Raw Material Strategy**, which mainly focuses on securing the availability of mineral raw materials, at home and from abroad. It addresses resource efficiency as one major approach for securing raw material supply with guidance and information instruments. The strategy laid down the starting point for the development of ProgRes.

<http://www.bmwi.de/EN/Service/Publications/publications-archive,did=376156.html>

The renewed **Closed Cycle Management Act**, adapted in 2012, aims to improve the contribution of waste management to environmental and climate protection as well as to increase resource efficiency in waste management through strengthening waste prevention and recycling.

http://www.bmub.bund.de/fileadmin/Daten_BMU/Download_PDF/Abfallwirtschaft/kreislaufwirtschaftsgesetz_en_bf.pdf

The **Policy Strategy Bio-Economy**, published in July 2013, defines priorities on the way towards a knowledge-based bio-economy and plots the need for action. The transformation to a knowledge-based bio-economy is seen as a way forward to make Germany more independent of fossil and mineral raw materials, to secure the supply of raw materials for German industry and to increase the efficient use of biomass. Therefore it is directly linked to the German Sustainable Development Strategy, the National Raw Material Strategy and ProgRes. It is accompanied by the **National Research Strategy for BioEconomy 2030 – Our Path towards a Bio-based Economy**, adopted in November 2010. The overarching aim of the research strategy is to promote the sustainable use of biological resources through bio-innovation and its application in various industrial sectors to

improve material efficiency, climate protection and the use of materials from renewable sources.

<http://www.bmel.de/SharedDocs/Downloads/EN/Publications/NatPolicyStrategyBioeconomy.html>

http://www.bmbf.de/pub/Natinal_Research_Strategy_BioEconomy_2030.pdf

For the Rio+20 conference in 2012, the Federal Environment Ministry and the Federation of German Industries published a joint **Memorandum for a Green Economy** to tackle climate change, resource scarcity and biodiversity loss by making progress in greening the economy. The reduced use of non-renewable raw materials through resource efficiency is one key element in this memorandum.

http://www.bmub.bund.de/fileadmin/bmu-import/files/pdfs/allgemein/application/pdf/memorandum_green_economy_bf.pdf

Several Federal States address material resource efficiency in their innovation strategies. Saxony's innovation strategy looks at resource efficiency in the thematic areas of the environmental impact of resource use and securing raw material supply. Saxony-Anhalt looks at resource efficiency in the context of future markets in its innovation strategy. And North Rhine-Westphalia includes resource efficiency in the area of climate protection.

General policy objectives for material resource efficiency

The main objective of the **ProgRes** is to structure the extraction – home and abroad – and use of natural resources in a sustainable way and to reduce associated environmental pollution as much as possible.

The main objectives of the **National Raw Material Strategy** are to secure raw material supply for the national economy in a sustainable way and to make Germany more independent of raw material imports.

This aim is also expressed in **ProgRes** and the **Policy Strategy Bio-Economy**. The latter further sets the objective of making Germany more independent of fossil and mineral raw materials in general. Further it intends to create jobs and improve the competitive capacity of German industries selling in a global market.

Resource efficiency and the circular economy

The German government wants to develop waste and closed-cycle management into a sustainable resource-efficient materials flow management over the coming years. By strictly separating wastes through pretreatment, recycling and the recovery of energy, Germany aims to make full use of substances and materials bound in wastes and therefore make landfill disposal of wastes superfluous. Significant ecological progress was made with the entry into force of the **ban on landfill disposal of untreated household wastes or general waste from industry** on 1 June 2005.

The idea that waste avoidance is best achieved by holding the generator of waste responsible is reflected by putting product responsibility at the heart of waste management policy in Germany. This way, producers and distributors must design their products in such a way as to reduce waste occurrence and allow environmentally sound recovery and disposal of residual substances, both in the production of the goods and in their subsequent use. The legal bases for this are the **Act for Promoting Closed Substance Cycle Waste Management and Ensuring Environmentally Compatible Waste Disposal** and the **Federal Emission Control Act**.

The Closed Cycle Management Act of 1996 comprehensively extended these policies. According to the Act, producer responsibility can be implemented through legislation (laws, ordinances, administrative regulations) as well as through voluntary commitments on the part of producers and distributors. The **renewed Closed Cycle Management Act**, adapted in 2012, aims to improve the contribution of waste management to environmental and climate protection as well as to increase resource efficiency in waste management through strengthening waste prevention and recycling.

Targets and indicators

Targets for material resource efficiency policies

The two main targets on resource productivity set by the German Federal Sustainable Development Strategy in 2002 are still in place. The first is the doubling of abiotic material productivity by 2020 compared to 1994. The second main target is doubling the energy productivity by 2020 compared to 1990. This target is accompanied by a target to reduce primary energy consumption by 20 % from 2008 to 2020 and by 50 % from 2008 to 2050. The target of doubling abiotic raw material productivity is also the current main target in ProgRes.

Increasing the per person consumption of wood and wood products from sustainable forestry from 1.1 to 1.3 cubic metres is set as a target in the Charter on Wood (2004) and Action Plan for the Industrial use of Biomass (2009).

Indicators to monitor the use of materials and resource efficiency

The main indicators to measure improvements in resource efficiency are already defined in the National Sustainable Development Strategy (2002):

- raw material productivity – gross domestic product (GDP)/abiotic domestic material intensity (DMI);
- energy productivity – GDP/total primary energy use;
- proportion of renewable energy in total energy consumption.

Since 2010, the indicator report of the National Sustainable Development Strategy also includes the raw material productivity indicator for raw material input (abiotic RMI), in addition to GDP/abiotic DMI.

In addition, raw material consumption per person (RMC/person) is described as an indicator in ProgRes.

As stated in ProgRes, several indicators to measure improvements in resource efficiency are currently under development. These display the share of the circular economy and recycling in resource efficiency, and describe the sustainability of mining activities and urban mining. Still in the development phase, these indicators are not yet ready for reporting.

Other indicators included in the scoreboard and reported by the German government, but not explicitly measuring improvements in resource efficiency, include greenhouse gas emissions per person, recycling rates of municipal waste, recycling rates of electronic waste, and agricultural area under ecological/organic production.

Policy instruments

Most important policy instruments for material resource efficiency

Regulatory instruments

In the realm of ProgRes there is an ongoing (intensified scientific) debate on a more coherent regulatory framework for resource conservation and resource efficiency. Here, the Federal Environment Ministry with the Federal Environment Agency launched a study on the development of a regulatory framework concept for resource conservation at the federal level (<http://www.umweltbundesamt.de/en/publikationen/entwicklung-eines-regelungskonzepts-fuer-ein>). The results of the study were published at the end of 2012 and formed the baseline for a new project on Regulatory Instruments for Resource Conservation and Resource Efficiency, started in 2013. Final results and recommendations will be available by mid 2015.

To reflect the status of discussion, the Federal Environment Agency published a position paper on Resource Conservation Regulation at the end of 2013, which is available at:

http://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/ressourcenschutzrecht_07.01.2014.pdf.

Economic and financial instruments including taxes, charges and financial support schemes

The **Environmental Innovation Programme (UIP)** is a funding programme of Germany's BMUB. Within Germany the Ministry promotes investment projects that, for the first, time demonstrate ways of preventing or reducing environmental pollution by means of innovative technological processes or novel process combinations, and also ways of producing and using

environmentally sound products. A prerequisite is that funded projects represent an advanced state of technology and can be transferred to similar systems operated by other users.

Based on the introduction of ProgResS, in 2013 the Federal Environment Ministry launched a new **focal area on material-efficient production** within the Environmental Innovation Programme, to which companies of several sectors and branches could provide proposals for project funding.

<http://www.umweltinnovationsprogramm.de/englisch>

Eco-Efficient and Eco-Inno: improving material efficiency in small and medium-sized enterprises (SMEs)

Within the **Impulsprogramm Materialeffizienz** (Impulse programme on material efficiency) the Federal Ministry for Economy and Energy together with the German Agency for Material Efficiency (DEMEA) supports a programme for advising SMEs on how to improve material efficiency significantly. The funding scheme consists of two main components: Eco-Efficient and Eco-Inno. Eco-Efficient is a basic module of co-financed (up to 50 % or EUR 17 000) consultation to develop a systematic analysis of material efficiency potential within a company (limited to no more than 250 employees and an annual turn-over no higher than EUR 50 million), lasting not more than three months. Based on Eco-Efficient results, companies could apply for support for further deepening and implementation of material efficiency measurements within the Eco-Inno component, lasting not more than eight months with co-financing of up to EUR 80 000. Based on the first phase of the funding scheme, analysis of more than 1 000 Eco-Efficient companies showed potential savings through material efficiency measurements (management, technology) averaging approximately EUR 200 000 per company per year or 2 % of annual turnover. To improve the quality of consultation, the German Agency on Material Efficiency developed an Authorisation Scheme for consultants in the field of material efficiency and raw materials (Materialeffizienz- und Rohstoffberater).

<http://www.demea.de/foerderung>

Information-based instruments:

Award schemes for resource and material efficiency

In recent years the Federal Government initiated several competitions and award schemes to create more public visibility of the performance of business in the field of resource and material efficiency:

- **National Material Efficiency Award** (now National Raw Material Efficiency Award)

In 2004 the Federal Ministry for Economy and Energy established the German Material Efficiency Prize which is awarded to innovative solutions on a yearly base. <http://www.materialeffizienz.de/>

- **National Efficient and Innovative Regions Award.**

In 2013, the Ministry for Economy and Energy launched the national award on Efficient and Innovative Regions to promote innovation of resource and material efficiency within regional economic/business networks.

<http://www.demea.de/materialeffizienz/artikel-zum-thema/go-inno-zeichnet-die-top-5-regionen-deutschlands-aus>

- **National Ecodesign Award**

In 2012, the Federal Environment Ministry and the Federal Environment Agency initiated the national Ecodesign Award to promote eco-efficient product and service design solutions. In 2012 and 2013, more than 600 applications for three award categories (product, concept, young professional) were received, which showed a broad spectrum of integrated (eco-efficient and functional/aesthetic) design performance and potential. The award winners are presented in a mobile exhibition to be used by design and art museums, universities, public institutions and business associations, amongst others, to stimulate the public debate on the necessity and benefits of ecodesign in Germany. <http://www.bundespreis-ecodesign.de/>

Established in 1978, the national **Blue Angel eco-label scheme** was among the first labels worldwide enabling recognition of eco-friendly products. The Blue Angel is the core instrument of Germany's environmental product policy, addressing important product-related environmental issues including climate protection and energy efficiency, resource conservation and health concerns, based on a life-cycle assessment approach. It has set the standard for eco-friendly products and services selected by an independent jury (Eco-labelling Board) in line with defined criteria. The Blue Angel is awarded to companies in recognition of their commitment to environmental protection. Within the strategic framework of the national eco-label scheme, the field of material efficiency and resource conservation has grown in importance in recent years. <http://www.blauer-engel.de/en>

In 2009, the Federal Environment Ministry and the Association of German Engineers jointly founded the **Centre for Resource Efficiency (VDI ZRE)** project. The aim of the Centre is to promote integrated use of technologies to protect the environment, natural resources and the climate. Mostly through awareness raising, case studies and best-practice databases, the Centre aims to reduce resource consumption in German industry. <http://www.vdi-zre.de/>

Voluntary agreements

Alliance for Sustainable Procurement – Fostering Innovation through Public Procurement

To promote more innovation-friendly procurement systems in government ministries and their associated agencies and research establishments, an initial group of six federal ministries (Economic Affairs, Research, Transport, Defence, Interior and Environment) has decided to make greater use of the potential offered by innovation-friendly procurement. For example, the Federal Ministry of Economic Affairs and Energy in co-operation with the Federal Association for Materials Management, Purchasing and Logistics (BME), holds an annual Contracting Authorities Day, at which public-sector contracting authorities can discuss current procurement issues. At the event, the Innovation schafft Vorsprung prize (Innovation creates leadership) is awarded for an innovative procurement procedure and/or the procurement of an innovative product.

<http://www.bmwi.de/EN/Topics/Technology/Strong-policy-framework/fostering-innovation-through-public-procurement.html>

Based on the establishment of an **expert group on resource efficiency within the national Alliance of Sustainable Procurement**, the national Competence Centre on Sustainable Procurement (associated with the Federal Ministry of the Interior) published reference guidelines to better implement resource efficiency standards within the public construction and building sector in March 2014. The first reference guidelines with minimum standards refer to the following areas:

- exploitation and refurbishment of used mineral-based construction materials;
- use of cement with recycled content in buildings;
- road construction without binding agents;
- earthwork construction;
- high-rated reuse of pavement materials (asphalt) in road construction and other mobility infrastructure.

<http://www.vergabe24.de/aktuelles/news/leitfaden-ressourceneffiziente-beschaffung-1395904706.html>

Examples of good practice

Resource efficiency in public procurement

The issue of resource efficiency in public procurement in Germany has had more and more attention in recent years. Based on a Federal Government decision in 2010 to establish a 'sustainable Federal Government', resource efficiency became a prominent strategic area of sustainable procurement measures at the federal, state and local levels. In conjunction with the implementation of ProgRes, the role of public procurement to promote the sustainable use of resources is further strengthened by various measures and activities, including the Guideline for Sustainable Building and mandatory rules for the use of the Assessment System for Sustainable Building (BNB).

In 2011, the Federal Government introduced the revised Guideline for Sustainable Building as a set of binding rules for using of the BNB. The Guideline is a practical aid for the planning, construction, structural maintenance, operation and utilisation of federally owned properties. This Guideline was made obligatory for the Federal Government by means of a decree. The goals and requirements formulated in the Guideline are having an impact far beyond the field of regulation. It describes methods and processes for implementing sustainability in civil engineering and the targets that must be adhered to in the regulations of the Federal Building Authority – the Guidelines for the Realisation of Federal Building Measures (RBBau) – when planning new building projects and building extensions. The Guideline for Sustainable Building considers the entire life cycle of a building in the sense of DIN EN 15643-2 (Sustainability of Buildings – Evaluation of the Sustainability of Buildings: general conditions for the evaluation of environmental qualities) systematically, including all sustainability dimensions. In this respect, the BNB is a 'second-generation' assessment, certification and verification system for sustainable buildings, jointly developed by the Federal Construction Ministry (now the Federal Environment and Building Ministry) and the German Council for Sustainable Building (DGNB), within a broad stakeholder consultation process.

The BNB considers not just ecological, economic, socio-cultural and functional qualities, but also technical quality and procedural standards. The previous three pillars of sustainability were extended to five quantifiable sustainability qualities that now represent the five main criteria groups of the BNB. This ensures that the BNB is as standard-compliant as possible, forming the baseline for better comparability between different building designs, geographics and locations. A further advantage is that the BNB can be used as a quality management system for designing, planning, constructing, using and operating buildings. The BNB, including the

description of criteria and procedures, is published on the Sustainable Building Portal in addition to the Guideline for Sustainable Building. It also provides additional information and functionalities, including rules for the assessment process, conformity testing, certification documentation requirements, and co-ordinated training procedures. It provides complementary tools, including a life-cycle cost calculator for buildings, and data sources such as eco-balance data sheets. Within the BNB system, the protection of natural resources is a 'protected good' and a 'protected target', each operationalised in building-specific and general criteria.
<http://www.nachhaltigesbauen.de/sustainable-building-english-speaking-information/sustainable-building.html>

Institutional set-up and stakeholder involvement

Institutional set-up for material resource efficiency policies

Promoting resource efficiency is an overall policy objective of the Federal Government of Germany, but also of the Federal States (Bundesländer), with many cross-cutting links to various policy fields. Resource efficiency policies are therefore formulated and introduced by various Federal Ministries, covering different issues and aspects of the resource efficiency agenda, including:

- The Federal Ministry of Economy and Energy (BMWi), responsible e.g. for raw material policy and support of SMEs;
- The BMUB, responsible e.g. for ProgRess and closed-cycle management;
- The Federal Ministry of Education and Research (BMBF), responsible e.g. for research and innovation;
- The BMEL, responsible e.g. for sustainable biomass production, biomass use and bio-economy;
- The Federal Ministry of Economic Development and Cooperation (BMZ), responsible e.g. for promoting resource efficiency and sustainable raw material extraction in development co-operation.

Process to ensure stakeholder participation

During the preparation of ProgRess, detailed discussions were held with relevant experts and representatives of civil society, associations and the Federal States. Public participation was ensured through internet consultation. Numerous opinions and contributions from associations, civil

society and the scientific sector have been incorporated into the programme. The Federal Environment Ministry carried out a broad consultation process in the first half of 2011, involving meetings, talks and events. Around 100 written opinions were evaluated. The periodic update of ProgRes can currently be discussed in an online debate (www.bmub.bund.de/N51936-1/).

Baden-Württemberg is currently preparing its own resource efficiency strategy. For this, the Ministry of the Environment, Climate Protection and the Energy Sector launched the **Stakeholder Platform Resource Efficiency Baden-Württemberg**. With this platform, all relevant stakeholders will have the opportunity to discuss their views on the need to improve resource efficiency and develop recommendations for the principle fields of activity in the resource efficiency strategy.

During the first workshop of the Stakeholder Platform Resource Efficiency Baden-Württemberg, the Ministry of the Environment, Climate Protection and the Energy Sector, together with several industry associations, founded the **Alliance for Resource Efficiency Baden-Württemberg**. The Alliance aims to demonstrate potential savings on resources and energy by highlighting good practices from 100 SMEs in Baden-Württemberg (100 Enterprises for Resource Efficiency) and to support knowledge transfer by building regional networks and regularly hosting a Congress on Resource Efficiency and Circular Economy.

In the coalition agreement of the 18th legislative period from October 2013, the German government decided to implement a **National Platform on Resource Efficiency**. This platform was established under the co-ordination of BMUB. It should function as the central platform of the Federal Government to share and discuss relevant information on resource efficiency with industrial and environmental associations and trade unions. Around 40 institutions are currently members of the Platform.

Suggestions for international support mechanisms to exchange experience and share lessons from the implementation of material resource efficiency policies

Periodic international science-policy conferences

Regular conferences bringing together policy makers, scientists and key industrial players can foster an effective international knowledge exchange on resource efficiency policies. Germany, represented by the Federal Environment Agency, is organising the bi-annual European Resources Forum bringing together several stakeholders to advance knowledge exchange on resource efficiency in Europe (www.resourcesforum.eu). Further, the Federal Environment Agency is supporting the World Resource Forum (www.wrforum.org), which aims to promote the exchange experience globally.