

COMMISSION FOR SUSTAINABLE DEVELOPMENT

**GERMAN NATIONAL REPORT
FOR CSD 18 ON THE ISSUES “CHEMICALS, MINING, THE TEN YEAR
FRAMEWORK OF PROGRAMMES ON SUSTAINABLE CONSUMPTION
AND PRODUCTION PATTERNS, TRANSPORT, AND WASTE
MANAGEMENT**

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PART I: THEME-SPECIFIC ISSUES

A. CHEMICALS

A.1. INTRODUCTION

The following report provides information on the implementation of chemicals policy in the Federal Republic of Germany. The report takes into account the programme areas laid down in Chapter 19 of Agenda 21 of the United Nations Conference on Environment and Development (UNCED, Rio de Janeiro, 1992). It also refers to the World Summit on Sustainable Development (WSSD, Johannesburg, 2002) and the Johannesburg Plan of Implementation (JPOI), which specifies in para. 23 further actions for improving the sound management of chemicals throughout their whole life-cycle as a contribution to sustainable development. The WSSD Conference also committed to the important “2020” objective “to achieve, by 2020, that chemicals are used and produced in ways that lead to the minimisation of significant adverse effects on human health and the environment”.

The “National Profile of Chemicals Management in Germany” (see <http://www.baua.de/en/Publications/Expert-Papers/Expert-papers.html?nnn=true>) provides an overview of the national structures for chemicals management in Germany.

The chemical industry is Germany's largest industrial sector (measured by sales volumes; it accounts for 13% of total German exports and 11% of all imported goods). The chemicals sector is therefore one of the most important cornerstones of German industry (data of 2007, source: Verband der Chemischen Industrie, VCI, see <http://www.vci.de/>).

The chemicals sector is mainly regulated by European legislation, which is implemented by Germany as one of the 27 Member States of the European Union. Therefore, this report should be read together with the planned report from the European Community. It endeavours to provide an overview of the main legislative projects and national initiatives in Germany since 2002.

Germany strives for a sound chemicals policy at the national level providing a high degree of protection. The objective is a systematic prevention policy to identify and reduce risks deriving from chemicals and industrial installations. It is based on a scientific assessment of substances for enhanced chemicals safety, high safety standards in the area of installations and related risk management, and monitoring mechanisms taking into account the whole life-cycle of chemicals. In this way, Germany wants to help improve chemicals management at both the national and the global level and thus also contribute to sustainable development.

“Chemicals” in this report is used to refer to industrial chemicals, pesticides (biocides and plant protection products), heavy metals and nanomaterials.

A.2. CHEMICALS LEGISLATION IN GERMANY

The field of chemicals is concerned with substances and products. That is why this policy area is already mainly regulated by European Community law. In the past, European chemicals law was mainly based on Directives, which the EU Member States had to implement into national legislation. More recently, the EU has agreed on instruments (mainly Regulations) which have a direct binding effect on the 27 Member States (e.g. the REACH Regulation).

The national implementation and application of Community law in Germany is mainly based on the Chemicals Act of 1980 (“Gesetz zum Schutz vor gefährlichen Chemikalien – ChemG”), which was last updated in 2008. The ChemG also combines aspects of environmental, consumer and labour protection. Since 2002, the ChemG has also covered biocides. As far as detergents and cleaning supplies and the related existing Community law are concerned, Germany has an additional national detergent and cleaning supplies law, which was last updated in 2007 (“Gesetz über die Umweltverträglichkeit von Wasch- und Reinigungsmitteln – WRMG”).

Based on the ChemG and the WRMG, there are specialised legislative acts with independent national rules which complement Community law. The following deserve particular mention:

- rules relating to modalities for certain hazardous substances and preparations
- bans on some substances that are either not or only partly (sector-wide) regulated by Community law (e.g. formaldehyde, artificial mineral fibres)
- rules for the (bio)degradability of tensides in detergent and cleaning supplies going beyond the EC Regulation on detergents
- maximum limits for phosphates in detergent and cleaning supplies
- further regulations in the area of ozone depleting substances and fluorinated greenhouse gases (see below).

A.3. GLOBALLY HARMONISED SYSTEM OF CLASSIFICATION, LABELLING AND PACKAGING (GHS)

The WSSD (2002) requested the UN to implement by 2008 the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) to provide a harmonised basis for globally uniform physical, environmental and health and safety information on hazardous chemical substances and mixtures (preparations) as well as a harmonised scheme for a safety data sheet. Over the years the OECD has also made a substantial contribution to progress in this regard.

The EU implemented GHS-CLP (classification, labelling and packaging) via Regulation (EC) No 1272/2008 (with a few transitional periods) as a directly binding act for its Member States, including Germany, with effect from 20 January 2009. By using internationally agreed classification and labelling elements and safety data sheets, together with the new European Chemicals legislation REACH, Germany intends to better assess and transparently control chemical risks while facilitating trade with chemicals on the one hand and protecting worldwide human health and the environment on the other (see <http://www.reach-clp-helpdesk.de/en/CLP-en/CLP-en.html?nnn=true>).

A.4. NANOTECHNOLOGIES AND NANOMATERIALS

Nanotechnologies and nanomaterials are developing rapidly because the nanometre scale of substances allows new functions and properties. However, there are many unanswered questions about the opportunities and risks of nanomaterials. The German government, together with stakeholders from all civil society groups, is addressing these questions and has combined its various activities within the “NanoInitiative 2010” to provide a uniform framework of objectives and activities (see http://www.bmbf.de/pub/nano_initiative_action_plan_2010.pdf).

In autumn 2006, the German Minister for the Environment, Nature Conservation and Nuclear Safety initiated the multi-stakeholder “NanoDialogue 2006 to 2008” to further consider the

opportunities and risks presented by nanotechnologies and nanomaterials and prepare recommendations by the end of 2008. The results of this NanoDialogue can be found at http://ec.europa.eu/health/ph_risk/documents/nanokommission.pdf. The NanoDialogue has now entered Phase 2 (2009-2010), and also comprises a NanoCommission and four Working Groups.

The joint German research strategy, developed by the Federal Institute for Occupational Safety and Health (BAUA) together with the Federal Institute for Risk Assessment (BfR) and the Federal Environment Agency (UBA), focuses on worker and consumer health and environmental issues (see http://www.umweltbundesamt.de/technik-verfahren-sicherheit-e/dokumente/research_strategy_final.pdf). A study on a nano-product register is under development (lead agency the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, BMU). In addition, the Federal Environment Agency (UBA) has developed a legal appraisal of nanotechnologies in cooperation with the Öko Institut e.V. and the Society for Institutional Analysis SoFiA e.V (see www.umweltdaten.de/publikationen/fpdf-l/3198.pdf).

Germany actively participates in relevant international activities such as the OECD Sponsorship Programme of the Working Party on Manufactured Nanomaterials (WPMN). Here, Germany is lead sponsor for the testing of titanium dioxide, a co-sponsor for nano-silver and a contributor to further nanomaterials (see www.oecd.org/env/nanosafety).

Germany has also initiated a number of projects to identify the risks of nanomaterials, e.g. NanoCare which starts in a second Phase in 2009. The result of NanoCare1 is available under http://www.nanopartikel.info/fileadmin/user_upload/Publikationen/NanoCareFinalReport.pdf

A.5. REACH

The REACH Regulation for the **R**egistration, **E**valuation and **A**uthorisation of **C**hemicals in Europe (Regulation (EC) No 1907/2006) is at the heart of a new approach to European chemicals policy. REACH entered into force on 1 June 2007; it is the most innovative regional chemicals law and is legally directly binding for the EU Member States, including Germany.

Germany is in the process of implementing REACH effectively and is gaining initial experience from its application. Current aspects for further consideration include, for example, the quality control of data, the identification of candidate substances of very high concern and the promotion of substitution of substances of very high concern. In Germany, the Federal Institute for Occupational Safety and Health (BAUA) is the national helpdesk, see www.reach-helpdesk.de.

A.6. PESTICIDES (PLANT PROTECTION PRODUCTS AND BIOCIDES)

The term “pesticides” refers to plant protection products and pesticides for non-agricultural uses; the latter are referred to as “biocidal products” as defined by the relevant European legislation. The placing on the market of plant protection products and biocidal products is regulated by Community legislation (see report of the Commission of the European Community), which has been implemented into German law. Both legislative acts stipulate that products within their scope must not be placed on the market unless they have been authorised by the relevant national competent authority.

Directive 98/8/EC concerning the placing of biocidal products on the market was implemented in 2002 by the Chemicals Act (see above), accompanied by provisions of a technical and administrative nature which are laid down within ordinances. The German Ordinance on the notification of biocidal products introduced a very simple notification scheme in order to obtain an overview of biocidal products on the German market that were placed there before the relevant provisions on authorisation came into force in Germany. Currently, notification has been given of 23,000 individual biocidal products on the German market – a huge number, which is due to the fact that biocidal products had been unregulated in Germany before 2002 (also see <http://www.baua.de/>).

Germany introduced the authorisation of plant protection products as early as 1968, with the plant protection act ("Pflanzenschutzgesetz - PflSchG"). Directive 91/414/EEC concerning the placing of plant protection products (PPP) on the market was implemented by means of the revision of the German plant protection act as a legislative instrument, accompanied by specifying ordinances on technical and administrative details. The relevant German legislation on plant protection products will soon be adapted to the new EC legislation on plant protection products that was adopted on 24 September 2009. For an overview of key legal provisions on plant protection, see also Federal Ministry of Food, Agriculture and Consumer Protection (www.bmelv.bund.de) and Federal Office of Consumer Protection and Food (Bundesamt für Verbraucherschutz und Lebensmittelsicherheit, BVL) at www.bvl.bund.de. Whereas the EC Regulation on the placing of plant protection products on the market will provide for executing laws in each EU Member State, the EC Directive establishing a framework for Community action to achieve the sustainable use of pesticides needs a legislative act for implementation. The core element of such an implementing act will be a legally binding obligation to set up a National Action Plan with quantitative objectives, targets, measures and timetables to reduce the risks and impacts of pesticide use on human health and the environment and to encourage the development and introduction of integrated pest management and of alternative approaches or techniques in order to reduce dependency on the use of pesticides.

A.7. SAICM

Germany contributed to the activities and initiatives of the voluntary UN Strategic Approach to International Chemicals Management (SAICM) as the overarching chemicals strategy to reach the "2020" objective right from its beginning in February 2006 (International Conference on Chemicals Management, ICCM1). Germany provides financial support to the SAICM Secretariat and its current financial mechanism, the Quick Start Programme (QSP), which is aimed in particular at facilitating the activities of eligible developing countries and countries with economies in transition. The German government backs initiatives that help to create effective synergies for the benefit of foundational capacity building in the chemicals area within available resources and in kind. As far as the German implementation of the SAICM Global Plan of Action (GPA) is concerned, many of the activities contained therein have already been put in place by European and national legislative and other acts, as described in this report.

On 6 June 2008, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the SAICM National Focal Point, the Federal Environment Agency (UBA), invited stakeholders to a conference on the "National Implementation of the Strategic Approach on International Chemicals Management – SAICM". With regard to the manifold chemicals-related activities in Germany, the conference assessed the objectives of the Overarching Political Strategy (OPS) as well as the 36 work areas of the Global Plan of Action (GPA) to assess the current state of the national SAICM implementation (see website

<http://www.umweltbundesamt.de/chemikalien-e/saicm.htm>). Further implementation activities are continuing in line with the results of the ICCM2 Conference (May 2009, Geneva) in close cooperation with relevant stakeholders.

A.8. THE STOCKHOLM CONVENTION (POPs), THE UNECE POPs PROTOCOL AND REGULATION (EC) No 850/2004

Germany is a Contracting Party to both the Stockholm Convention on Persistent Organic Pollutants (POPs, in force since 17 May 2004) and to the POPs Protocol to the UNECE Convention on Long-range Transport of Air Pollution (CLRTAP) (in force since 23 October 2003). The contents of both legally binding instruments were transposed into a national act in April 2002. The Federal Environment Agency (UBA) acts as the POPs Focal Point (see <http://www.umweltbundesamt.de/chemikalien-e/pops.htm>). The Agency cooperates closely with the Federal Institute for Occupational Safety and Health (<http://www.baua.de/>), which is the Designated National Authority (DNA).

The POPs Convention and the POPs Protocol were transposed into European Community law by Regulation (EC) No 850/2004 and are therefore directly legally binding for Germany. In some respects, the regulation goes beyond the commitments of the Stockholm Convention, e.g. in the area of management of waste containing POPs.

Since the production and use of the POPs listed in the Stockholm Convention and the POPs Protocol have been already banned in Germany, the national focus is on identifying POPs emission sources, quantifying annual releases in an emission inventory, and identifying new POPs and integrating them into internationally coordinated action. Germany has compiled extensive data for a national emission inventory for unintentionally released POPs and information on the state of the environment with respect to PCDD/Fs and PCBs (see also the dioxin data bank of Germany and its federal states, <http://www.pop-dioxindb.de/>).

In May 2006, Germany tabled in Geneva a National Implementation Plan (NIP, see <http://chm.pops.int/Countries/NationalImplementation/>). As a follow-up activity to the Fourth Contracting Parties' Conference of the Stockholm Convention (POP COP4, May 2009, Geneva), at which, amongst other things, nine new POPs were listed, Germany will update this NIP.

Furthermore, the German government regards a functioning compliance system and the evaluation of the effectiveness of the Stockholm Convention as important issues with a view to further reducing pollution levels in the medium and long term. Germany also supports the pilot activities to enhance coordination and cooperation ("synergies") among the Basel, Rotterdam and Stockholm Conventions, which are to be followed up at the exCOP of the three conventions in February 2010 on Bali (Indonesia). This process also contributes to foundational capacity building in developing countries/countries in transition and to UN reform in the environment area.

A.9. ROTTERDAM CONVENTION (PIC) AND PIC REGULATION 689/2008/EC

Germany is also a Contracting Party to the Rotterdam Convention on the Prior Informed Consent Procedure (PIC) for Certain Hazardous Chemicals and Pesticides in International Trade which has been in force since 24 February 2004. Germany was one of the first Parties to ratify the PIC Convention in January 2001. The Federal Institute for Occupational Safety and

Health (BAUA) in Dortmund acts as the designated national authority (DNA) along with the Federal Office for Consumer Protection and Food Safety, which is responsible for the authorisation of plant protection products (see also website http://www.baua.de/en/Chemicals-Act-biocide-procedure/Export-Import-Regulation/Special-Conventions.html?_nnn=true&_nnn=true and http://www.bvl.bund.de/cIn_007/nn_492270/DE/04_Pflanzenschutzmittel/10_RechtlicheRahm-enbedingungen/03_intern_abk/pic.html). The DNAs have a well-established cooperation with the national customs authorities.

The PIC Convention has been transposed into European Community law by Regulation (EC) No 689/2008, which is directly legally binding for Germany.

At the international level, Germany pro-actively supports PIC objectives. Germany does not only provide funding for the Rotterdam Convention through its assessed contributions to the Convention but also helps with additional travel and training support for developing countries/countries with economies in transition (developing countries/countries in transition). This contribution is aimed at enhancing foundational capacity to better address the risks involved with certain products in trade. Germany also co-sponsored and co-organised in April 2009 an International Expert Conference on Asbestos and POPs held in Kazakhstan to highlight the health risks associated with crysothile-asbestos and provide information about legislative measures for crysothile-asbestos in other countries.

Germany considers it vital to improve the effectiveness of the Convention with regard to the inclusion of new substances to be subject to the PIC procedure, such as crysothile-asbestos.

A.10. OTHER HAZARDOUS SUBSTANCES, ESPECIALLY HEAVY METALS SUCH AS MERCURY, LEAD AND CADMIUM, IN THE UNEP AND LRTAP CONTEXT

A.10.1.MERCURY

Germany is a Contracting Party to the UNECE Heavy Metals Protocol of 29 December 2003 to the Convention on Long-range Transport of Air Pollution (CLRTAP).

After eight years of discussions, the international community agreed at the 25th UNEP Governing Council (UNEP/GC/25-5) in February 2009 to take joint action to counter the proven global threat of mercury to the environment and human health, to start negotiations on a multilateral treaty in 2010 and to undertake additional voluntary measures complementing these efforts. Germany agrees to a multilateral legally binding agreement for long-lasting worldwide policy development, coordination and effective implementation covering the whole life cycle of mercury (see also decision UNEP/GC/24-3). It is hoped that the much stricter German and European environment standards and related best available techniques and best available practices will also be applied on a global scale so as to help improve the situation regarding the environment and health worldwide.

In the European Union, considerable progress has been made towards addressing the global challenges of mercury since the second half of the 1970s in more than 30 legal acts including recent restrictions on the sale of measuring devices containing mercury, the ban of exports of mercury from the EU and new rules on safe storage (see <http://ec.europa.eu/environment/chemicals/mercury/>).

A.10.2. LEAD AND CADMIUM

At the global scale, UNEP is also considering further internationally coordinated action (closing of data gaps, finalisation of scientific review and assessment including trade-related challenges) on the hazardous heavy metals lead and cadmium covering their whole life-cycle (UNEP/GC/25-5) for reporting and further decision-making at GC26 (2011). These efforts were backed by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) as lead sponsor of the agenda item "International transport of lead and cadmium via trade: an international concern?" at the Sixth Forum of the UN Conference on International Chemicals (IFCS) in September 2008 in Dakar (Senegal).

On 20 March 2009, the European Food Safety Authority's Panel on contaminants in the food chain set a reduced tolerable weekly intake (TWI) for cadmium from all sources of 2.5 micrograms per kilogram of body weight ($\mu\text{g/kg bw}$), based on an analysis of new data. The TWI is the level at which no adverse effects are expected. Average dietary exposure to cadmium for adults across Europe is around this level. Some population groups – vegetarians, children, smokers and people living in highly contaminated areas – can have a level of exposure up to twice the TWI. The Panel concluded that current exposure to cadmium should be reduced. The German government is currently considering measures in addition to those already existing at national, European and international level to reduce cadmium emissions into the environment and therefore in the food chain.

A.10.3. ENVIRONMENT-RELATED FOOD SAFETY

Environmental protection is also a fundamental aspect of food safety. Numerous regulations on lead and cadmium also exist at EU level to which Germany is bound. One example is food safety. This also backs efforts to amend consumer protection in Germany. Regarding environment-related contaminants in food, the German aim is to protect human health at the source, notably by hindering any release of contaminants into the environment. It is, therefore, necessary to integrate compartment- and product-related regulations, together with flanking measures to replace polluted food. Since 1993, there have been EU maximum levels for mercury in fish and fish products. These were complemented in 2002 by maximum levels for lead, cadmium and dioxins in various foods (such as cereals, vegetable, fruits and fish and fish products). Since 2006, EU limit values have existed for the sum of dioxins and dioxin-like PCBs for food made of animals. This means that those polluted products have to be taken off the market (for further information, see http://www.bmu.de/english/food_safety/general_information/doc/5720.php and Leitfaden "Dioxin- und PCB-Einträge in Lebensmittel vermeiden", http://www.bmu.de/gesundheit_und_umwelt/downloads/doc/40840.php)

A.11. CONSUMPTION OF OZONE-DEPLETING SUBSTANCES

Production and consumption of ozone-depleting substances is regulated internationally by the Vienna Convention on the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer, to which Germany is a contracting Party. EU

Member States meet their obligations under the Montreal Protocol via an EU Regulation with phase-out targets going beyond the requirements of the Montreal Protocol for the production and consumption of substances including CFCs, halons, HCFCs and methyl bromide. The most recent recast of the current Ozone Regulation (EC) No 2037/2000 will enter into force in January 2010. Additional national legislation based on the Chemicals Act provides for the necessary implementation measures for the EU regulation and adds even stricter national phase-out provisions for a range of applications, as well as additional measures including labelling, book-keeping and redemption obligations for producers and traders (see <http://bundesrecht.juris.de/bundesrecht/chemozonschichtv/gesamt.pdf>).

Following a self-commitment on the part of the aerosol industry to terminate the use of CFCs in aerosol cans in Germany in 1988, CFC production was completely phased out by Germany in 1994. In addition, the production of products containing CFCs for export purposes is prohibited. Since January 2006 CFCs have no longer been allowed in medical applications. Methyl chloroform and CFCs have been prohibited in solvents since 1992. Halons have generally been prohibited in Germany since 1992, with restricted exemptions for fire extinguishing applications where these substances are vital to the protection of human lives (military, civil aviation). HCFCs have been prohibited in aerosols and rubber foams since 1991, in construction foam since 1993 and as refrigerants in new applications since 2000. Production of methyl bromide in Germany ended in the second half of the 1990s and as of 1 September 2006 the use of methyl bromide for fumigation has been prohibited.

A.12. EMISSIONS OF FLUORINATED GREENHOUSE GASES (F-GASES)

Fluorinated greenhouse gases are covered by the UNFCCC and controlled by the Kyoto Protocol. Regulation (EC) No 842/2006 and Directive 2006/40/EC target the reduction of stocks and emission factors of F-Gases. Key objectives of these legal acts are therefore the prohibition of certain products and equipment containing F-Gases, containment provisions and the training and certification of personnel.

In July 2008, a German supplementary ordinance entered into force which not only establishes the required certification system for the personnel and businesses involved but also introduces additional obligations such as emission thresholds, containment provisions for refrigerated transports and redemption of used gases by producers and traders (see <http://bundesrecht.juris.de/chemklimaschutzv/index.html>).

Beyond that, Germany is following a concerted policy to achieve its ambitious national emission reduction targets, including financial assistance for investors (see http://www.bmu.de/klimaschutzinitiative/nationale_klimaschutzinitiative/impulsprogramm_kaelte_anlagen/doc/41744.php) to stimulate the use of natural refrigerants as a substitute for CFCs and F-Gases.

A.13. POLICIES AND PREVENTION OF MAJOR ACCIDENTS

As far as the safety of installations is concerned, the German statutory order on hazardous incidents ("Störfall-Verordnung") transposes the requirements of the European Seveso II Directive (Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances, amended in 2003) into national legislation (last amendment in 2005). The objective is to prevent major accident hazards involving dangerous substances. As accidents do continue to occur, the regulations also aim to limit the consequences of such

accidents not only for human beings (safety and health aspects) but also for the environment (environmental aspect). The main instruments cover safety management systems, safety reports and emergency plans.

The last amendment to the statutory order on hazardous incidents introduced stricter threshold levels, e.g. for hazardous and explosive substances to enhance the prevention of major accidents in industry. At the same time, the possible impacts of industrial accidents were further limited. For instance, an appropriate distance has to be maintained between industrial installations and sensitive areas such as important transport routes or areas for recreation. Moreover, tailing ponds and dams (like the one in Baia Mare, Romania, that broke in 2000 and led to a cyanide contamination of the river Danube) also became part of the scope of the statutory order on hazardous incidents.

Since 2006, Germany has been engaged in bilateral cooperation with China in the area of risk assessment of installations that may constitute a potential hazard to the environment. The aim is to achieve sustainable improvements in protection of water bodies against impermissible releases from hazardous installations.

A.14. OTHER GERMAN ENGAGEMENT IN INTERNATIONAL CHEMICALS PROGRAMMES

For many years, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), the Federal Environment Agency (UBA) and the Federal Institute for Risk Assessment (BfR) have been actively contributing to projects in various ways (financially and in kind). In the context of the OECD Chemicals Programme and the WHO International Programme on Chemical Safety (IPCS) they further contribute to enhanced risk assessment, including of a toxicological nature, and other research on chemicals substances. The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) has also contributed within the context of the International Forum on Chemicals Safety (IFCS), founded as a UN entity in 1994 on the basis of Chapter 19 of Agenda 21 to inform and communicate the results of the EU, OECD and other international chemicals-related working groups to developing countries/countries in transition. This is done in close cooperation with the other international organisations on chemicals management (IOMC) as well as civil society representatives from science, trade unions, industry, environment, health and consumer protection.

A.15. BILATERAL COOPERATION IN THE CHEMICALS POLICY AREA

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) is also bilaterally active in the chemicals area, e.g. with China on REACH or with the Democratic People's Republic of Korea on POPs. In line with the multilateral chemicals conventions, the Federal Ministry for Economic Cooperation and Development (BMZ) supports partners in selected developing countries and emerging economies in implementing international chemical conventions through various bilateral initiatives under the Convention Project "Chemical Safety (CHS)", implemented by the German Gesellschaft für Technische Zusammenarbeit (GTZ). Further details on the various initiatives are can be found in the case studies attached to this report.

B. MINING

B.1. POLICY AND REGULATIONS

B.1.1. FEATURES OF NATIONAL MINING CODES OR MINERAL INDUSTRY CODE

The main feature of German mining legislation is its comprehensive structure, implementing integrated risk prevention through an intermedia approach with strict requirements on concessions, health and safety, environment and other issues as well as differentiated mechanisms for compliance and monitoring. This approach directly implements the challenges of the concept of sustainable development, taking into consideration the three pillars of environmental protection, social development and economic development, with each of these three policy areas being mutually supportive of the others.

Mining legislation in Germany consists of the Federal Mining Act of 1980 and a number of Mining Ordinances on technical and procedural issues, e.g. the Federal General Mining Ordinance of 1995, the Health and Safety Mining Ordinance of 1991, the Ordinance on the Environmental Impact Assessment of Mining Projects of 1990. These provisions set up a uniform mining law for all important mineral resources in the form of a comprehensive law covering all aspects of mining, including health and safety and environment, supervised by one single administration (one-stop shop).

This comprehensive system has been strengthened in the past 30 years several times with the transferring into national German legislation of new European legislation on concessions, environment and health and safety in the extractive industries, e.g. the transposition of the EU Environmental Impact Assessment Directive 85/337/EEC and the EU Mining Waste Directive 2006/21/EC for the mining sector within the procedures of mining law, rather than in general environmental law through an amendment of the Federal Mining Act and an additional Ordinance.

B.1.2. FISCAL POLICIES FOR INVESTMENTS AND COUNTERACTING MARKET FLUCTUATIONS

As regards fiscal provisions, the German Federal Mining Act contains detailed rules on royalties for the extraction of mineral resources, setting them at a standard percentage of 10% of the market value. This percentage can be reduced or raised by Ordinance if so required in order to achieve any of the following aims as set out in the Act: preventing an overall economic imbalance, preventing the risk of a distortion of competition among the companies engaged in exploration and exploitation, assuring the adequate supply of the market in raw materials, improving the exploitation of deposits or protecting other interests of the national economy. Apart from this specific levy, taxes for the mining industry are, in principle, subject to the general provisions of the tax and revenue law.

B.1.3. REGULATIONS AND MECHANISMS FOR COMPLIANCE AND MONITORING

As regards regulations and mechanisms for compliance and monitoring, German mining law contains a very dense system of health and safety and environmental requirements implemented and enforced through a system of administrative acts and a whole set of mechanisms for compliance and monitoring. Mining activities are subject to a two-step authorisation procedure:

- the granting of an exploration or exploitation licence that confers the exclusive right to explore for or exploit the mineral resources specified in the licence and
- the approval of an operations plan for concrete mining operations ranging from the beginning of exploration to the reclamation of land surfaces used by mining, e.g. shaft sinking, waste tips and so on.

In the operations plan, the operator must describe the scope, the technical execution and the duration of the project. Based on this description, the mining authority will study the project with respect to operational safety and protection of workers, surface protection, prevention of public damage and other issues. There are four kinds of operations plans:

- the skeleton operations plan (Rahmenbetriebsplan)
- the main operations plan, valid for two-year terms (Hauptbetriebsplan)
- the special operations plan (Sonderbetriebsplan)
- the mine closure operations plan (Abschlussbetriebsplan).

As regards mine inspection, the mining authority monitors compliance with the provisions of mining law. It can order implementation of the measures needed to implement mining law and counter risks. Other means of enforcing the provisions of the law, regulations and attached conditions on a licence holder or other relevant person are fines and penalties as specified in the Federal Mining Act.

The Federal Mining Act and the Federal General Mining Ordinance also provide for the possibility of a financial guarantee to ensure the fulfilment of the obligations under mining law, especially restoration. As accurate surveying and reliable drawings of the whole mine are essential for reasons of safety, the mine operator must have drawings (mine plans) made and updated by a qualified surveyor for every extraction working.

B.1.4. GUIDELINES FOR ARTISANAL, SMALL AND MEDIUM-SIZED MINING

The above requirements and procedures apply to all mine operations irrespective of their size. Therefore, there are no specific provisions for artisanal, small and medium-scale mining operations.

B.1.5. PUBLIC/STAKEHOLDER CONSULTATION AND PARTICIPATION IN DECISION-MAKING RELATED TO MINING

A consultation and participation process for decision-making related to mining is already provided for at the licence granting level. Before deciding on an application for an exploration or exploitation licence, the mining authority must consult the authorities safeguarding public interests. If the operations plan touches the field of competence of other authorities or of the municipalities as planning authorities, these bodies must be consulted before approval of the operations plan.

For major mining activities (e.g. opencast mining of more than 25 ha) the skeleton operations plan is subject to an environmental impact assessment with the consultation of the broad public.

B.1.6. PUBLIC GOVERNANCE AND TRANSPARENCY IN THE MINING SECTOR

The procedures set out above guarantee a high level of public governance and transparency in the German mining sector.

B.2. MINING BEST PRACTICES

B.2.1. ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND MONITORING OF ALL PHASES OF MINING OPERATION (EXPLORATION, PROJECT DEVELOPMENT, MINE OPERATION, AND MINE CLOSURE)

The Federal Mining Act and the Ordinance on the Environmental Impact Assessment for Mining Projects of 1990 integrate the environmental impact assessment (EIA) into the skeleton operations plan procedure with specific provisions taking into account the dynamic character of mining activities. The Ordinance of 1990 contains a list of major mining projects that are subject to an EIA, e.g. opencast mining with a surface of 25 ha or more, tips of an area of 10 ha or more. In order to guarantee the participation of the public and of all stakeholders, the approval of a skeleton operations plan with an EIA by the mining authority is subject to a formal plan approval procedure according to the general German Administrative Procedure Act, with a concentration of all involved parallel permits (one-stop shop). This procedure allows all issues involved to be examined with all administrations and stakeholders and gives the investor the necessary legal security.

As regards the monitoring of all phases of mining operations (exploration, project development, mine operation, and mine closure), the German mining law contains a very dense system of mechanisms for compliance and monitoring enforced by the mining authority through a differentiated system of administrative acts and regular controls.

B.2.2. PRIVATE-PUBLIC PARTNERSHIP (PPP) FOR SUSTAINABLE MINING

The above provisions set out the legal framework for assuring maximum sustainability in the mining sector. With respect to the operation of mining activities, the existing legal framework assigns responsibility for mining activities to private companies. The State itself normally plays no active role in these activities but assures compliance with the legal framework.

B.2.3. EMERGENCY RESPONSE PLANS AND PREPAREDNESS AT LOCAL LEVEL

According to the provisions of the German Federal Mining Act, the organisation of mine emergency and rescue arrangements is the task of the mines operator. He is especially obliged in the case of situations or events occurring in the enterprise liable to create or having created direct hazards for the lives or health of employed personnel or third parties, to take the appropriate measures to avert hazards or rescue accident victims.

In addition to these individual emergency arrangements, mines operators running an underground mine connected with inflammable or explosive installations or with installations liable to produce unbreathable or poisonous gases or vapours must form, maintain or contribute to main stations for mines rescue for carrying out common obligations in the field of mines rescue. At present, there are five main stations for mines rescue coordinated by the German Committee for Mines Rescue, covering the whole territory.

B.2.4. RISK ASSESSMENT OF MINES AND MINING ACTIVITIES

The Federal Mining Act of 1980, the Health and Safety Ordinance of 1995 and the Federal General Mining Ordinance of 1995 contain detailed provisions on risk assessment of mines and mining activities, transposing the relevant 11th and 12th Individual EU Directives and ILO Convention No 176 Concerning Safety and Health in Mines. These provisions comprise concrete orders and prohibitions concerning both the deployment and the behaviour of staff and the utilisation of equipment.

Thus, a person employed in an underground mine is allowed to work only when he or she has passed a medical examination undertaken at the employer's expense. Follow-up examinations ensure continued monitoring of the physical state of the person employed. The reduction of the normal working time at hot working points in underground mines prevents any health-damaging overexertion in these climatic zones in accordance with the Federal Mining Ordinance on Climate of 1983. Each person employed underground has to wear a filter self-rescuer. Some types of equipment that are used in larger numbers may only be used when a type approval has been issued confirming the operational safety of a random sample. Where mining regulations do not contain any particular provisions for the protection of employees, the general workers' protection regulations such as working time regulations, laws on the protection of minors, on hazardous work materials and so on will apply in the mining industry.

B.2.5. REHABILITATION OF AFFECTED COMMUNITIES AND LIFE-SUPPORTING ECOSYSTEMS, INCLUDING MINE SITE DECOMMISSIONING

Mining activities are necessarily associated with impacts on the surface. This applies particularly to the temporary utilisation of the surface by opencast mines, but also for long-term or permanent utilisation, such in the case of spoil heaps. According to the Federal Mining Act, mining activities do not end with the extraction of mineral resources and tipping of the overburden. Rehabilitation represents an integral part of mining activity. Mines operators are required under law to rehabilitate worked-out sites.

The interests of affected communities and ecosystems are taken into account at a very early stage in the planning phase before extraction begins. In general, regional planning procedures must be carried out in advance of the development of mining activities. In the case of lignite opencast mining extending over very large areas, a specific lignite extraction plan addressing the specific environmental, socio-economic and related issues has to be submitted in addition to the operations plan. This lignite extraction plan is prepared by the lignite extraction committee. The committee's work is influenced by political aspects, as most members of the committee are elected representatives of the communities involved. The lignite extraction plan must define the working boundaries, coordinate changes in infrastructure required by the working, find resettlement territories and state basic rehabilitation measures.

B.2.6. TECHNOLOGICAL, INSTITUTIONAL AND SOCIAL INITIATIVES FOR PROTECTING THE HEALTH AND SAFETY OF MINING WORKERS

The German government actively supports various national and international technological, institutional and social initiatives for protecting the health and safety of mining workers, e.g. through active cooperation in the Standing Working Party for the Mining and other Extractive Industries (SWP) of the EU Advisory Committee on Safety and Health at Work (ACSH).

B.2.7. MINE CLOSURE PLANNING (LAND USE PLANS AND SITE REHABILITATION, SITE SAFETY, DECOMMISSIONING, WASTE DUMPS AND TAILINGS, SITE WATER MANAGEMENT, OFF-SITE INFRASTRUCTURE, COMMUNITY SOCIO-ECONOMIC PROGRAMMES AND EMPLOYEES)

Mine closure planning is an integral part of the authorisation procedure. Even before mineral extraction begins, the operator has to state in his operations plan the measures required for surface reclamation. If these measures are not sufficient, the mining authority may only approve the extraction with corresponding reservations, or not at all. The surface affected must be rehabilitated as soon as the extraction work permits. Where on the one side of the mine the overburden is removed and the mineral extracted, reclamation measures are immediately taken on the other side after extraction and overburden tipping. Rehabilitation needs not necessarily mean restoring the surface to its original state. If the proposed subsequent use is landfill, the obligations are fulfilled by forming the required cavity and making it safe. With regard to infrastructure measures, roads and other traffic connections removed by the mining activities are not simply rebuilt in the same place; rather these measures are integrated within an overall package for reclamation of the area in accordance with the relevant land use plans.

The precautionary and organisational measures for mine closure planning including land use, site rehabilitation, site safety, decommissioning, waste dumps and tailings ponds, site water management, off-site infrastructure, community socio-economic programmes and so on are laid out in detail in the Federal Mining Act and the relevant Mining Ordinances and specified in the individual operations plans. The recently amended Federal General Mining Ordinance of 1995 contains detailed provisions on requirements relating to site safety, decommissioning, waste dumps and tailings ponds and related issues, thus transposing the EU Mining Waste Directive 2006/21/EC and integrating the standards of the Directive into the operations plan procedure.

After mining, a separate mine closure operations plan specifies all the details, especially with regard to land use, site safety, waste dumps and tailings ponds, water management, infrastructure and other issues, on the basis of the existing policies and technical possibilities.

With respect to mining closure planning and site water management, a particular problem in the Ruhr District, is the need to maintain the drainage and flow of rivers. Over the course of time, coal mining resulted in subsidence of up to 20 metres in wide parts of this area. To ensure proper drainage under such conditions it has been necessary to deepen or raise many parts of the water courses. Large parts of the district would be one vast area of inundation due to subsidence if the flow of the Emscher river, the Lippe river and their small tributaries were not maintained by pumping water within artificially heightened embankments or deepened water courses. Also the drainage of the sewage systems had to be converted to a pump system. All this has been done within the last few decades.

Practical experience of reclamation and restoration has shown that utilisation and devastation by mining activities present not only a burden or danger to affected areas but also an opportunity to correct negative developments and to plan in accordance with the expectations of the population and more freely than one could in a grown landscape.

C. TRANSPORT

C.1. POLICIES AND PROGRESS ON TRANSPORT ACCESS, INCLUDING THE RURAL POPULATION AND POOR

Major geopolitical changes characterise the last decade and a half: the disappearance of the Iron Curtain, reunification and EU enlargement had a major impact on Germany as a whole and German transport policy.

Additional factors are:

- the globalisation of markets and services, the increasing international division of labour and drastically rising freight traffic volumes
- the rise of business supply chains
- new information technologies
- the challenges of demographic change leading, among other things, to a concentration of an increasingly ageing population in urban agglomerations, while there are also regions with declining population
- a changing economic environment
- ecological challenges (e.g. air pollution, climate change, loss of biodiversity, noise)
- continuing deregulation and liberalisation (especially in air transport and shipping).

Germany as **an export-oriented nation** has been influenced by the world-wide economic crisis, which is reflected not only in the declining demand for transport. The German stimulus packages are aimed at providing targeted incentives for innovation and a long-term boost to economic growth. The first signs of macro-economic recovery indicate that the long-term trend of increased international interdependence and international division of work will continue.

Germany, as a **traditional transit country** in the middle of Europe, faces further rising freight traffic volumes which are attributable to globalisation. According to forecasts, in Germany a growth of 71% in freight traffic is to be expected by 2025 (compared with 2004) while passenger transport will only rise moderately until then. Regarding transit traffic, an increase of 136% in freight transport is to be expected by 2025.

The foreseeable **consequences of climate change and higher energy** prices, as well as the rising demand for energy in the face of declining raw material resources, show us vividly that:

- new patterns of mobility have to be supported;
- there is a need for new products (e.g. cars, materials) as well as new solutions for realising more energy- and resource-efficient and sustainable transport;
- the way in which we manage energy has to be reorganised.

In developing transport policy, it is essential to combine the desire for individual mobility with the demand for sustainable development. Therefore, the basis of any action is a **long-term vision for the sustainable mobility of people and goods** that covers the **entire transport system**, taking into account all aspects of sustainability (ecological aspects such as emissions, land use, biodiversity, security, noise and also social and economic aspects). The optimum balancing of ecological, economic and social aspects is already the basis for political and planning activities. Germany furthermore committed itself back in December 2007 to reduce its CO₂ emissions by 30% by 2020 compared to 1990 as part of the **German Integrated Energy and Climate Program**, which includes market incentive programmes on renewable energy and measures to support sustainable transport. In 2009, the **G8 Countries** agreed to limit global warming to 2°C; the transport sector will make its contribution towards achieving this goal.

Major policies and systematic approaches are

a) at the national level:

- The **National Sustainability Strategy 2002 and Progress reports (2004, 2005, 2008)**: The German government strives for sustainable development in terms of the economy, ecology, and social issues. Its policy is based on a long-term, global perspective that spans the generations. *More information*: <http://www.bundesregierung.de>
- The **Freight Transport and Logistics Master Plan**: in July 2008 the German government approved a systematic and intermodal transport policy approach. One of the predominant objectives of this integrated approach is to cope with the drastic rise of freight traffic due to increasing globalisation and therefore make the transport system as a whole more efficient and to further reduce CO₂ emissions. *More information*: <http://www.bmvbs.de>
- The **Federal Government Fuel Strategy**: As part of the **National Sustainable Development Strategy**, in 2004 the German government elaborated a strategy with a time horizon of 2020 on the basis of a matrix process conducted by experts and in the light of international developments. *More information*: <http://www.bmvbs.de>. Within the German government's Fuel Strategy, the National Innovation Programme on Hydrogen and Fuel Cell Technology (NIP) and the National Development Plan for Electric Mobility (NEE) focus on the electrification of transport (cf. C. 3).
- **National High-Tech Strategy and Environmental Technology Master Plan**: The German government launched the **National High-Tech Strategy** in 2006 to support the development of innovative environmental technologies and products and to develop lead markets. It was set up as an overall strategy on innovation policy to promote systematic research in Germany in various fields, such as climate change, use of natural resources and energy, mobility and cross-cutting technology (such as nano-technology, bio-technology). To further stimulate eco-innovations, an **Environmental Technologies Master Plan** was adopted at the end of 2008 to consolidate different policy instruments in the field of R&D and environmental policy, such as eco-design, technology procurement and market diffusion programmes for eco-innovations. *More information*: <http://www.hightech-strategie.de>; http://www.bmu.de/wirtschaft_und_umwelt/downloads/doc/42558.php

b) at the European level

- During the **German EU Presidency** (1 January 2007 – 30 June 2007), Germany addressed “transport and climate” policy in the Transport Council on a broad basis for the first time.
- The **Greening Transport Package** includes key EU policy developments which address the greening of transport (COM (2008) 433, 8.7.2008), the internalisation of external costs (COM (2008) 435, 8.7.2008) and the abatement of noise from railways (COM (2008) 432, 8.7.2008). A proposal on internalisation charges for lorries was also included (COM (2008) 436, 8.7.2008). In April 2009, a regulation setting binding targets for CO₂ emissions from new passenger cars was adopted (Regulation (EC) No 443/2009).

c) at the international level

- The German government is committed to **international targets for the reduction of GHGs** and is therefore strongly lobbying for international aviation and international shipping to be included in a new global deal to be agreed at the Copenhagen Climate Conference in December 2009.
- The **International Transport Forum**, as the major global platform for the transport sector including more than 50 states and giving political, economic, scientific and civil society circles the possibility of exchanging experiences and opinions on selected mobility issues of worldwide importance, is held once a year in Leipzig.

- There are numerous **international fora and partnerships** addressing sustainable transport issues and operating in the sectors of alternative and renewable sources of energy in transport, e.g. Indo-German Joint Working Group on the Automotive Sector, German Chinese Sustainable Fuel Partnership (GCSFP).

C.2. FUEL PRICES AND TAX REFORM

Germany uses about 30% of its final energy consumption in the transport sector; nearly 94% of road transport is based on fossil fuels.

The purpose of the **German government's Fuel Strategy** is to concentrate resources on promising alternatives and to accelerate their development. The strategy for "**Reducing our dependence on oil**", as an important strategic leitmotif, is aimed at diversifying the energy supply in the transport sector by contributing to an accelerated shift to a low-carbon economy, based on energy and resource-efficient technologies and sustainable transport and a shift towards sustainable consumption behaviour. The focus is on determining appropriate and practicable solutions to meet the needs and challenges of today's and tomorrow's sustainable transport. Actions already undertaken have a double impetus: continuing to improve the fuel efficiency of new conventional vehicles and encouraging low carbon vehicles and promising fuels of the future and power train technologies that show a high potential in terms of availability and economic efficiency to decarbonise transport in the medium and long term.

The aim is to **decouple traffic growth from energy consumption**. The approach adopted, i.e. to organise today's transport levels in the year 2020 with at least 20% fewer CO₂ emissions, will be aimed at. There will be scope for further savings after 2020, because it can be assumed that efficiency technologies (batteries, fuel cell/hydrogen, second generation biofuels) will be further developed and that ETS, too, will be fully operational by then.

C.2.1. REMOVING SUBSIDIES ON FUEL

- **Eco-tax:** In 1999, an **eco-tax** was introduced and graduated according to ecological criteria. It allows external effects to be internalised, on the one hand, while on the other hand tax revenue can also be generated. The aim was to use scarce resources sparingly. The petroleum tax was raised between 1999 and 2003 by about 3.07 ct/ litre and year (up to 15.34 ct/l from 2003 on). Companies from the manufacturing industry are granted a tax reduction.
- The fifth step of the eco-tax entered into force on 1 January 2003. The implementation of the Directive restructuring the Community framework for the taxation of energy products and electricity (2003/96/EC) led to a complete restructuring of the German petroleum tax. The new German Energy Taxation Act, which entered into force on 1 August 2006, replaced the Petroleum Tax Act.
- **Biofuels:** Since 1 January 2007, the promotion of biofuels has substantially changed; the main focus is now on an **obligatory biofuel quota (Biofuels Quota Act)** which contains an obligation for the petroleum industry to put biofuels into circulation. This is done in particular by blending biofuels with petrol and diesel. Moreover, a phasing out of the tax exemption for biofuels was introduced. With regard to the protection of legitimate expectations, tax relief was furthermore granted only on pure biofuels which are not assigned to the biofuel quota. Additional tax relief was granted for pure biofuels used in agriculture or forestry. In 2009, the overall quota was modified by the Act amending the Promotion of Biofuels. The quota is now 5.25% (by energy content) for 2009 and 6.25% (by energy content) for 2010 to 2014. From 2015, the biofuel quota will no longer be based on energy content but on the

potential for net GHG reduction. Biofuels with a high potential for net GHG reduction will therefore receive much greater support.

There should be no overcompensation of biofuels through tax relief. Therefore, there is an obligation to propose an adaptation of the tax relief on biofuels if there is evidence that biofuels are receiving more assistance than required.

- **CO₂-based vehicle tax:** Since 1 July 2009, the vehicle tax for new passenger cars has been based on CO₂ emissions. The conversion of motor vehicle tax to a CO₂ basis is designed to tackle climate change by providing an incentive to buy efficient vehicles with lower CO₂ emissions.

Exemptions

- **Public transport:** The aim of **tax relief for fuels used in vehicles and track railways** for public transport is to improve the competitive position of the public transport sector (€54.02/1,000 litres for diesel or petrol).
- **Stimulus package:** For new passenger cars registered between 5 November 2008 and 30 June 2009, tax relief from the annual vehicle tax was granted for one year. This instrument focused on providing market stimulus to buy modern, environmentally-friendly cars.

One of the lessons learned is that the **obligatory biofuel quota** is a very important and appropriate instrument for promoting biofuels. Following a recommendation by the European Commission, Germany adopted a **National Biomass Action Plan** in April 2009. The action plan focuses on strategies to expand bioenergy efficiently and sustainably and includes concrete measures. *More information:* <http://www.erneuerbare-energien.de>.

Germany, like all the other EU member states, is committed to source **10% of German transport energy from sustainable renewable sources by 2020** (Renewable Energy Directive (2009/28/EC), Fuel Quality Directive (2009/30/EC)). This sectoral target for at least 10% of energy to be renewable (including biofuels, renewable electricity and hydrogen) in the transport sector by 2020 is accompanied in both directives by **binding sustainability criteria for biofuels**. The successful implementation of sustainability criteria for biofuels will be a crucial step; this means setting up a certification system for imported and domestically produced biomass used for the production of biofuels. These measures are supported by the promotion of R&D projects in the biofuels sector, especially in the field of plant breeding, and consulting activities.

C.2.2. ENCOURAGING ENERGY EFFICIENCY

Increased energy efficiency not only makes it possible to further decarbonise transport but is a **highly efficient instrument in the face of rising energy prices**.

- The measures contained in the systematic and intermodal transport policy approach outlined in the **Freight Transport and Logistics Master Plan** are aimed in particular at the efficient use of all transport modes, optimum use of existing infrastructures, targeted investments in transport infrastructures (e.g. innovative transport technologies (traffic and vehicle engineering, alternative drivetrains), a shift to more environmentally-friendly modes such as rail and waterways and, wherever possible, more efficient organisation of logistics and transport chains (e.g. HGV tolls as an important incentive for road hauliers, optimisation of transit traffic, telematics).
- **The National Airports Strategy** and the **National Ports Strategy** follow this approach, aiming in particular at the optimum use of existing infrastructure, further interlinking aviation and shipping with other transport modes on the basis of a sustainable, integrated transport policy, and avoidance of undesirable infrastructure development.

- **Aviation and shipping:** Germany encourages operators and manufacturers to take forward ambitious technological improvements in aviation and shipping with the aim of increasing fuel efficiency and reducing negative environmental impacts.
 - Germany, together with France and Norway, has proposed an international emissions trading scheme for **shipping** in order to reduce the growing emissions of that sector.
 - Efficiency in **air transport** has already been addressed by research initiatives on alternative fuels in aviation.

Other improvements are, among other things, the innovation programme for **inland navigation** in 2009 for the renewal of shipping space and the modernisation of the fleet of inland vessels, the elaboration of a National Ports Strategy for Seaports and Inland Ports and investments in the infrastructure of maritime and inland waterways.

- **Railway sector:** Germany is strengthening the railway sector as one of the energy-efficient modes of transport. The transport and railway policy objectives of the structural reform of the railways in Germany, launched in 1993, are still the leading guidelines (shift more traffic to the railways, limit the budgetary burden, more competition, economic efficiency of Germany's rail company, Deutsche Bahn AG).
- **Tolling scheme for HGVs above 12 t GVW with further differentiation according to emission category and PM reducing systems** from 1 January 2009 (for six-wheelers (three axles): 0.141 - 0.169 - 0.190 - 0.274 €/km depending on emission category; for vehicles with four axles or more: 0.155 - 0.183 - 0.204 - 0.288 €/km depending on emission category). The aim is to make costs user-related and to increase efficiency and the number of environmentally-friendly vehicles, leading to a positive trend towards even more efficient utilisation of transport capacity (e.g. acquisition of backloads). The share of Euro 2 vehicles fell from above 30% in 2005 to less than 3% in February 2010; the share of Euro 5 vehicles increased during this period from 1% to nearly 55%.
- Adoption of a **Directive on the promotion of clean and energy-efficient road transport vehicles** (Directive 2009/33/EC).
- EU action plan for the deployment of **Intelligent Transport Systems** ((COM (2008) 886, 16 December 2008).

Recent trends include policy initiatives on **Green Public Procurement (GPP)**, including a Communication on public procurement for a better environment (Regulation (EC) No 106/2008), which proposes a voluntary 50% GPP target for Member States to be reached as from 2010. The Commission has developed GPP criteria for ten priority products and service groups including transport.

Since 17 January 2008, the German government has had a **binding obligation for green public procurement** which obliges public authorities to lead by example and consider energy efficiency criteria and life-cycle costs when buying electronic devices or procuring services ("General administrative regulation on the procurement of energy-efficient products and services").

A cabinet decision of 28 February 2007 stipulated that all **official trips taken on government business shall be climate-neutral**.

C.2.3. PROVIDING RELIABLE ALTERNATIVES FOR THE POOR

All action is guided by the principle of sustainability, which is aimed at continuing to contribute, with common sense and prudence, to an economically efficient, socially just and ecologically responsible society. A good transport system is central to a prosperous economy and a necessary precondition for social participation. It facilitates transport access and links people to

jobs, products to markets and supports national and international trade. Affordable mobility is a precondition for social participation. Germany has therefore strongly lobbied for public transport to remain a **public service obligation, with a high level of transport services**. Under the German EU Presidency, the successor to Regulation 1191 concerning public transport services (PSO) was adopted, which ensures a high level of public transport services and gives legal certainty for companies and public agencies.

The initiatives focus in general on a sustainable transport policy with the aim of ensuring affordable mobility over the long term.

- The basis for reliable transport alternatives for low-income groups is a functioning **projected development of the public transport system** which at the same time helps to protect the environment, improves the quality of life and supports the mobility needs of all, including those in rural areas and the elderly. Public transport should be attractive, accessible and – if possible – low carbon. The German stimulus package provides money for Deutsche Bahn AG to invest in the renovation of railway stations.
- Tickets known as “mobility” or “social” tickets enable people on low incomes to use public transport. They are designed to enable them to maintain social contacts and to be more flexible when looking for jobs. There is no federal approach. At present, the fare structures of the integrated transport associations are predominantly based on local authority boundaries. Beyond that, the prices of the tickets differ according to the target group (e.g. school pupil, student, apprentice, employed person, pensioner).
- **Barrier-free travel** addresses, among other things, the rights of air passengers with disabilities or impaired mobility. Passenger cars for certain groups of disabled people are completely exempted from motor vehicle tax. Besides this tax relief, people with certain disabilities have the possibility to choose between the right to free use of the public transport system or the vehicle tax relief. (*For more information see Chapter E*)
Economic development and poverty reduction require a functioning transport system. Many developing countries are facing the problem of rapidly rising GHG emissions in the transport sector. International fora therefore provide a good opportunity to exchange knowledge and experience so that the problem can be addressed.
- German **development cooperation** aims to improve energy efficiency in the transport sector and support environmentally-friendly means of transport. Germany therefore supports developing and emerging countries in setting up and developing public transport systems, focusing especially on rail, better transport planning in municipalities, and education and training. Since 2008, Germany has been supporting, within the framework of IKLU (“*Initiative for Climate Change and Environmental Protection*” with funding totalling about €2.4 billion), investment with a clear focus on climate change and environmental protection by providing low-interest loans and grants, for example for energy-efficient transport systems (e.g. rail transport or buses).
- International climate initiative: The focus of the International Climate Initiative is on the following areas:
 - Promoting a climate-friendly economy. Key elements include increasing energy efficiency, expanding the use of renewable energies, reducing climate-damaging fluorocarbons. Both investment measures and support for capacity-building are planned for newly industrialising, developing and transition countries.
 - Promoting measures for adaptation to the impacts of climate change and conserving biodiversity of relevance for the climate. Projects cover the following categories: measures for adaptation to the impacts of climate change and measures for the conservation of biodiversity of relevance for the climate.

C.3. REGIONAL AND GLOBAL TRANSPORT SYSTEM INTEGRATION - ENCOURAGING EFFICIENT MODES

The German government concentrates on the concept of an **integrated transport policy** focusing on an overall approach to optimise the transport system as a whole. This includes not only the design and financing of transport infrastructure but covers other transport-related areas such as innovation and regulatory policy as well. Each transport mode is to contribute with its own strengths to the management of the predicted increase of traffic (*see also C. 1*).

- **Copenhagen agreement:** Germany strongly supports a Copenhagen agreement with climate-related targets for the transport sector to create an ambitious and realistic framework for long-term emissions reductions. This will provide a strong impetus to come up with innovative solutions in shipping and aviation aimed at reducing CO₂ emissions and achieving further efficiency improvements. This will lead to feasible and market-based approaches.
- Requiring **international shipping and aviation** to reduce emissions
 - Germany will continue to address emissions from aviation at the European and international level.
 - Germany continues to work within the **IMO** and **ICAO** on market-based, technical and operational measures to reduce CO₂ emissions.
 - Emissions trading in conformity with the conditions of competition, including all flights arriving at or departing from an EU airport, within the EU Emissions Trading Scheme from 2012 (Aviation Emissions Trading Scheme).
 - Supporting a global agreement on reducing emissions from international aviation and shipping within UNFCCC, setting a target to reduce CO₂ emissions from aviation and shipping, despite forecast growth for both sectors.
 - Offering economic incentives for the development of **air transport** in line with environmental and climate change requirements, e.g. emission-related landing charges have been introduced at some German airports.
- Implementation of **international regulations on pollutant emissions in maritime transport**, including gradual reduction of the maximum permissible sulphur content in marine fuel to 0.5% by 2020 (in special control areas such as the North Sea and Baltic Sea, essential reduction as early as 2015) and also preparatory work for a global model, capable of gaining majority support, for the inclusion of maritime transport in international climate change schemes.
- Support for more stringent standards for pollutants in the environmental committee of the ICAO with a particular focus on nitrogen oxides and particulates
 - The **tolling scheme for HGVs**, which was introduced back in 2005 and modified in 2009 (*see also C. 2.2*).
 - **Rail transport** and the quality of the rail network have been improved, e.g. high quality standards for main and local lines, minimum of €2.5 billion annually to maintain the existing rail infrastructure (service level and funding agreement with Deutsche Bahn AG; the Deutsche Bahn Netz AG is responsible purely for maintenance. Additionally, €1 billion annually are available for construction and extension of the rail network. Specific public financing for regional and local infrastructure and regional transport also exists (Local Public Transport (Regionalisation Act), Gemeindeverkehrsfinanzierungsgesetz). Rail as a mode of transport was strengthened, among other things, by gradual harmonisation and liberalisation of rail transport at European level (rail freight transport and international passenger transport) and the consistent improvement of rail infrastructure (investment volume of about €36 billion during the last ten years).
- Innovation programmes such as the electrification of drivetrains:

- The **National Innovation Programme on Hydrogen and Fuel Cell Technology** (NIP) and the **National Development Plan for E-vehicles** are both innovation programmes which stretch over several years to prepare for the commercialisation and introduction of innovative drivetrains and technologies for energy storage (fuel cell, EV) using technological innovations.
 - The **second stimulus package** provides investment to promote innovation in transport, above all for EVs, hybrid drivetrains and storage technologies. The focus is, especially, on a strategy to strengthen R&D in battery technology and drivetrains, to build up “model regions” as clusters to foster and gain extensive experience with the whole range of aspects concerning EVs, and to foster the market integration of EVs. Future EVs will use renewable energy and be able to provide flexible energy storage. The German government’s goal is to have one million EVs on the roads by 2020.
- Many regions support **smart ticketing** approaches (e.g. Brandenburg Ticket, Rhein-Neckar Integrated Transport Association) which allow passengers to move seamlessly between different modes. Improved interchange between cycling and other public transport (e.g. bike/bus and rail integration) is being encouraged.
- **Being able to move easily between different modes** provides, in particular, an environmentally-friendly option for travel to work or for sustainable travel in general. Parking facilities close to motorways can be one instrument allowing car-pooling as one option for travel to work. Another example of support for improved interchange is the improved cycle storage facilities at stations, car hire, bike and rail integration provided by the Deutsche Bahn AG.
- **Additional investment** of approximately €12 billion in 2009 and 2010 **in the transport sector** (2005: approximately €9 billion) via additional revenue from the tolling scheme for HGVs, the Construction and Transport Job Creation Programme and the first and second stimulus packages, which will make it possible to maintain the infrastructure and to remove bottlenecks in the rail, road and waterway sectors and systematically upgrade busy major transport arteries and hubs as a consequence of the already noticeable bottlenecks in transport infrastructure and the foreseeable considerable increase in the volume of traffic. Additionally it creates jobs and public demand. Additional investments to reduce bottlenecks can contribute to reduce CO₂-emissions. Since 2007, planning procedures have been accelerated (reduction of nearly two years) and, above all, public procurement procedures have been simplified for a fixed time in the framework of the stimulus packages.

Research instruments which focus on reorganisation, traffic reduction or information aim at “indirect reduction” of emissions as well, for example:

- the programme entitled “**Traffic management systems of the future – innovative transport with dynamic networks**” to optimise road and rail transport as well as shipping via telematics and to combine them across the modes,
- the programme entitled “**Faster, convenient and environmentally-friendly by rail and bus**” to optimise the efficiency and attractiveness of public transport with organisational innovations, new means of transport and new interchange technologies. The programme entitled “Better understanding of mobility” supports, for example, research activities related to holiday and leisure traffic, which accounts for about 50% of traffic (in terms of passenger kilometres) in the private motorised transport sector, and addresses new forms of transport for leisure time,
- the programme entitled “**Promotion of structures which reduce traffic demand and substitute for physical transport**” to address the reason for transport demand.
- the project “**Safe and intelligent mobility – test Germany (SIM-TD)**”, which is co-financed by the Federal Government is a field trial testing applications of vehicle-to-vehicle- and

vehicle-to-infrastructure communication. These applications can contribute to enhance road safety and will make traffic more efficient thus preventing traffic congestion and reducing CO₂-emissions.

Other projects are to be discussed, such as **SES II** (Single European Sky), **SESAR ATM Master Plan** (air traffic management master plan) or the Commission's Communication on the "Future of Transport", published in mid-June 2009.

C.4. URBAN TRANSPORT PLANNING AND POLICIES

Germany advocates an **integrated policy for future-oriented and sustainable urban transport**, optimising the efficiency of individual transport modes and their interaction, making cycling, walking and local public transport more attractive by means of forward-looking urban planning. At a time when more than 70% of the population is living in cities and approximately 80% of all jobs can be found there, when mobility in the sector of passenger transport is on the rise and goods transport is increasing, the challenge of managing the traffic situation in the city (centres) is becoming greater. Urban transport systems are focal points of economic development and innovation, supporting the **function of the cities as locations for business and science**. At the same time, the development of cities and transport has to take social needs into account, ensuring the **mobility of the inhabitants of the cities and the urban fringes within the framework of the provision of services of general interest**, thus guaranteeing **opportunities for participation and inclusion**. An important factor is **demographic change** which will, among other things, lead to the concentration of an increasingly ageing population in the urban agglomerations and the rising demand for barrier-free travel (among other things, rights of air passengers with disabilities or impaired mobility). In the long term, the consequences of demographic change will also lead, for instance, to demands for new technologies to meet changing mobility needs. And, in the light of this, it is all the more necessary to **strengthen local public transport as a contribution to tackling climate change and affordable mobility**.

This facilitates a switch to low-carbon modes of transport such as walking and cycling.

Within the competence of the German federal government, the following **measures** must be taken:

- efforts to enhance the attractiveness of local public transport, such as
 - promoting innovative and promising technologies, increasing the capacity and safety of the transport systems and facilitating intermodal uses (e.g. DELFI, eTicket). More information: <http://www.delfi.de/>,
 - ensuring barrier-free access wherever possible as a quality gain for all users.
 - promoting consumer protection (e.g. strengthening passengers' rights),
- elaboration of a framework for demand-responsive mobility offers (e.g. car sharing, ride share and commuter services, alternative types of service)
- provision of funds for the benefit of local public transport within the scope of federal funding competence
- funds for the regionalisation of short-distance passenger transport by rail
- elaboration of an initiative at federal level for urban commercial transport
- support for new market development to better meet individuals' requirements for motorisation in the (near) future, with the emphasis on **EVs** for short-distance and city traffic and efficient combustion-engine-based drivetrains for longer journeys
- the **National Cycling Plan 2002-2012** covers, amongst other things, the development and extension of cycling infrastructure, which is vital in enabling cycling to become an attractive alternative to car journeys for short trips and, in addition, improves health. This will be

completed by systems to rent bikes or infrastructure for cycle storage and a nationwide pilot project entitled “Innovative public bike rent systems – new mobility for cities”.

- **launch of a National Traffic Noise Mitigation Package** by the Federal Ministry of Transport, Building and Urban Affairs (BMVBS) in February 2007. The package contains a raft of ongoing and new initiatives to avoid traffic noise and to protect against its impacts, for example by reducing noise emissions from vehicles of all kinds, doubling the funds for noise mitigation on the roads and railways to €50 million annually for federal highways and €100 million annually for the railways. It also includes a programme to retrofit the freight wagon fleet with low-noise composite brake blocks. The progress achieved since then provided the chance to launch a **National Traffic Noise Mitigation Package II** in August 2009. It contains additional measures such as a reduction of the noise mitigation values for federal highways by a clearly noticeable 3 dB(A) no later than 2011 (creating investment needs of up to €1.5 billion by 2020). For rail traffic, an extensive testing programme for innovative noise mitigation measures for the tracks of the federal railways has been launched (for up to €100 million totally). Furthermore a noise-related rail access charge system will be introduced within the next four years. For air traffic, a closed legal framework will be finalised in 2009 and provide up-to-date passive noise protection for residents living near airports and provide planning certainty for airports (triggering expenditures of up to €75 million for military airfields and €614 million for civil airfields).
- road safety aimed at a significant reduction of accidents
- **the National Climate Initiative** of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) . This initiative aims to tap into existing potential for emissions reductions cost-effectively and advance innovative model projects for climate protection. It includes programmes in the area of mobility such as the Zero Emission Mobility (ZEM) project and the Mobility Management project.

C.5. VEHICLE EFFICIENCY AND EMISSIONS POLICIES

Germany, as a **traditional transit country**, faces rising freight traffic volumes, which are attributable to globalisation and an increasing international division of labour. For economic and environmental reasons, it will not be possible to manage the expected additional traffic volume by specifically constructing new, and upgrading the existing, transport infrastructure. Germany, therefore, is endeavouring in particular to enhance the efficiency of the transport system and to make full use of the capacities available in an optimum way. Combined with regulatory instruments, such as tightened emission limits and the use of innovative technologies, improving the efficiency of transport is a priority field of action in efforts to achieve sustainable mobility.

The **guiding principle of “moving away from oil”** is supported by the measures contained in the German government’s Integrated Energy and Climate Change Programme, which provides incentives in particular for industry and consumers aimed at **speeding up the supply of and demand for especially energy-efficient passenger cars and creating a stable market for innovative mobility concepts**. It aims to encourage the development of innovative technologies and fuels to decarbonise transport in the medium and long term.

- Implementation of the EU directives and regulations on pollutant emissions and CO₂ emissions from cars and light-duty vehicles and emissions from heavy-duty trucks.
 - **Introduction of European new car CO₂ standards:** The instrument aims to reduce the specific energy consumption of new passenger cars by legislative measures. The EU New Car CO₂ Regulation (EC) No 443/2009, establishes a target of 130 g CO₂/km in 2012 (with a phase-in period up to 2015) and a long-term target of 95 g CO₂/km target by 2020. The regulation allows the use of so called eco-innovations which will be taken into account when measuring the CO₂-emissions of a car.

Therefore the regulation gives an incentive to explore all kinds of measures to reduce CO₂-emissions from cars.

- In addition 10 g CO₂/km are to be achieved via non-engine-related measures such as increased use of biofuels, low-rolling-resistance tyres, control of tyre pressure systems, energy-efficient air conditioning systems and measures to reduce emissions from light duty vehicles. The Commission has now forwarded proposals for most of these measures and will shortly come up with a **framework for CO₂ reduction for light duty vehicles**. In this way, the automotive industry is receiving a strong push towards innovation, while at the same time the regular development cycles are taken into account.
- **Scrappage scheme**: The German scrappage scheme, worth €5 billion, provides a strong consumer incentive for buying modern passenger cars (private consumers receive a €2,500 grant to trade in vehicles that are at least 9 years old and buy a new model). The new vehicles bought in exchange for the old ones are more energy-efficient and therefore contribute to CO₂ reduction in the transport sector.
- **National innovation programme on the promotion of low-emission HGVs**: Government grant of a maximum of €4,250 for road hauliers to compensate for additional costs for extra equipment in order to reduce pollution emissions beyond statutory emission standards.
- **Measures to combat traffic noise** (see C. 4)
- **Transport-related measures for improving air quality**: instruments include
 - Clean air plans and action plans (low emission zone in cities, tightened limits for harmful substances, tightened limits for Euro 5/6 and Euro VI).
 - Incentives of €330 for **retrofitting of PM10 filters** (since 1 August 2009) to accelerate retrofitting of diesel passenger cars with PM10 filters before the end of 2009. This instrument focuses not only on the reduction of PM emissions but also on the strengthening of demand for PM10 filters. Alternatively, the existing instrument, involving temporary tax reduction, remains in force until the end of 2009.
- **Second Stimulus Package – R&D and model regions for EVs**: The activities within the German model regions for EVs are initially to be focused on selected clusters. They will then be gradually extended and interlinked, both within the model regions and nationwide. The clusters bring co-benefits as well, such as discussions about a reasonable framework for mobile energy supplies of the future, energy saving, energy use and supply chains. Furthermore, substantial R&D efforts are supported in all relevant fields, e.g. power train, battery, grid integration.
- **New EU Renewable Energy Directive**: Germany strongly supported the EU Renewable Energy Directive, which includes a 10% renewables target in transport by 2020. This provides a strong incentive to use alternative and sustainable fuels from renewables. At the same time, it gives a clear market signal at national, EU and international level to encourage sustainable production. (see C. 2.1 as well).

Other projects yet to be realised include, for example, a revision of the German regulation on **CO₂ labelling of cars** as well as the proposal for a new **Directive on tyre labelling** (COM (2008) 779, 12 November 2008).

C.6.DEVELOPMENT OF ANY TRANSPORT TECHNOLOGY RESEARCH AND DEVELOPMENT (PUBLIC SECTOR OR PRIVATE)

Research plays an important role in addressing the issue of innovative transport. Research funds are not only an investment in a clean environment but also help to create sustainable jobs in Germany.

The **revised environmental State Aid Guidelines**, which provide a 10% bonus on maximum aid intensity on eco-innovation investments (OJ No C 82, 1.4.2008), give additional flexibility and incentives.

The German government focuses on existing structures, supporting agencies and structures (e.g. German Aerospace Center (DLR), NOW GmbH, DBFZ,) in order to exchange and develop knowledge in new areas. Close links to stakeholders in the scientific community, automotive industry, component supply industry, the boards of academic advisers to the relevant Federal Ministries as well as the German Advisory Council on Climate Change (WBGU) and the German Council for Sustainable Development.

One of the main challenges ahead in transport is to build on the promising first steps and to encourage the contribution of research on future topics. The key areas in this respect are the following:

- applied research via the National Hydrogen and Fuel Cell Technology Innovation Programme (NIP) (<http://www.bmvbs.de/>, <http://www.now-gmbh.de>), the German Biomass Research Centre (<http://www.dbfz.de/>), the Fraunhofer Institute for Environment, Safety and Energy Technology UMSICHT (<http://www.umsicht.fraunhofer.de>), and the Helmholtz Association (<http://www.helmholtz.de>); the use of test vehicles in day-to-day operation in cooperation with German automobile manufacturers,
- initiatives, model projects and pilot projects such as “**Shipping and maritime technology for the 21st century**”; “**Transport and transport technology**” or “**Sustainable solutions through innovative transport technologies**”. A new focus will be “Transport management 2010”; “**Traffic management system of the future – innovative transport design in dynamic networks**” to optimise road, rail and aviation by using telematics. The **European research agenda “ACARE-vision 2020”** supports the German aviation industry in finding solutions for innovative lightweight design as well as power trains and on-board systems and innovative concepts for aviation (Aviation Research Programme IV),
- climate monitoring (National Climate Data Centre, Global Precipitation Climatology Centre, Satellite Centre for Climate Monitoring and Maritime Data Centre (each centre operated by the German Meteorological Service) (www.dwd.de)),
- further activities, such as the announcement by the Deutsche Bahn AG that it will establish a centre of excellence for environmentally-friendly rail technologies in Kirchmöser/Brandenburg.

Recently, there has been a trend towards focusing on raw materials. This includes the **EU Raw Material Initiative** (COM (2008) 699, 4.11.2008), which proposed an integrated strategy to deal with various challenges related to access to raw materials, including secondary raw materials that can be obtained in the EU through more and better recycling.

At the European level, two of the **Joint Technology Initiatives (JTI)** established under the Seventh Framework Programme for Research and Technological Development for the period 2007-2013 (FP7) address, for example, the issues of “Clean Sky” and “Hydrogen and Fuel Cells”. Both issues are linked to sustainable development.

There are already a large number of studies concerning the **sustainability of biofuels**. There is further need for research to find a suitable methodology for addressing and minimising the indirect impact of biofuels on land use and to review the effects for international biodiversity.

Helping people to make **low-carbon travel decisions in future** is still a major challenge because it involves the question of behavioural change.

The **aviation industry** has experienced increasing growth rates in recent years. In 2007, turnover surpassed €20 billion. Eurocontrol, the European organisation for air traffic control, predicts a doubling of air activities between 2003 and 2025 in Germany alone.

C.7. ROAD, RAIL AND MARITIME SYSTEMS CONSTRUCTION STANDARDS AND CHANGES IN THEM, IN ANTICIPATION OF CLIMATE CHANGE IMPACTS (SEA LEVEL RISE, AND INCREASED FREQUENCY AND SEVERITY OF WEATHER EVENTS)

The German government adopted an overall **German Adaptation Strategy on Climate Change** on 17 December 2008, which establishes a framework for action to adapt to the consequences of climate change in Germany. It describes above all the strategy of the German federal government but provides guidance for other players, such as the federal states. The strategy is the first part of a medium-term process of cooperation with the federal states and relevant stakeholders in which the risks of climate change will be evaluated, possible measures will be addressed and adaptation strategies will be defined and implemented.

Climate change will have impacts on the transport sector, e.g. waterborne freight transport, risk management, infrastructure and new shipping technologies. This will require **policies for adapting to climate change**. Forecasting and early-warning systems and also risk management and rescue, infrastructure and shipping technology may have to be reviewed and adapted to changing conditions.

Kliwas, a special research programme, addresses the implications of climate change for shipping and maritime traffic.

C.8. CAPACITY BUILDING NEEDS ON TRANSPORT ACTIVITY ASSESSMENT AND ANALYSIS FOR INTEGRATED PLANNING (E.G. URBAN TRANSIT, CONGESTION RELIEF, NON-MOTORISED TRANSIT, VEHICLE EFFICIENCY PROGRAMMES DEVELOPMENT, ASSESSING FISCAL INCENTIVES, INTER-MODAL FREIGHT MANAGEMENT SYSTEMS)

Capacity building is an ongoing target with a strong relationship to and interdependence with the aforementioned challenges.

Note

This national report outlines relevant policies, activities and instruments at the national level which cover strategies for an even more sustainable German transport policy. The structure of the report is based on the theme-specific issues mentioned in the guideline document on the preparation of the national reports for CSD 18/19, anticipating the overall aim of this reporting initiative, and focusing on the proposed means of implementation. This report does not give a complete list of all relevant activities; numerous policies and activities at local authority, federal state and federal government levels as well as international partnerships are not included. The report provides an overview of activities which characterise the national profile of transport policy implementation. It does not completely cover all activities that are related to the implementation of EU legislation.

D. WASTE MANAGEMENT

D.1. INTRODUCTION AND GENERAL ISSUES ON HAZARDOUS WASTES AND SOLID WASTES

The objective of the German government's policy on waste is to achieve a recycling-based economy that conserves resources and reduces adverse impacts on the environment. The aim is to increase and optimise the efficient use of raw materials, to maximise recovery quotas and to permanently remove from our environment any residual waste that can no longer be used. This will lead to a substance management within closed substance cycles, i.e. turning today's trash into tomorrow's treasure-trove. Activities on waste are part of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety's action programme to increase the productivity of resources.

Waste management legislation is based on European law, German federal law, the regional laws of the federal states and the statutes of the local authority waste management services. It is also based on the precautionary principle, the polluter-pays principle and the principle of co-operation. The main pillar is the Closed Substance Cycle and Waste Management Act. This act will be further developed by the end of 2010 on the basis of the new EU Waste Framework Directive in order to strengthen waste prevention and recovery. Through this act, industry and the commercial sector have been made responsible for the recovery of waste, i.e. they also have to bear the costs. All waste from private households and waste for disposal from other generators has to be passed on to waste institutions subject to public law; for this service, fees have to be paid. For waste destined for disposal, it has been stipulated that priority should be given to disposal within Germany (self-sufficiency principle), whilst waste destined for recovery underlies the free movement of goods within the EU.

The enforcement of waste legislation in Germany is mainly the task of the federal states. It is governed by requirements for waste supervision contained in the Closed Substance Cycle and Waste Management Act and supported by requirements on waste recovery and disposal records, transport licenses and specialised waste management companies.

Modern waste policy in Germany has triggered the rapid evolution of recovery and disposal technologies – an important green market. Today, the waste industry employs over 200,000 people and generates an annual turnover in excess of €40 billion. The infrastructure for all types of waste is in place.

Various activities on capacity-building, education, training and awareness-raising are carried out on Federal level, federal states level and community level and also by the private sector and non-governmental organisations. Trade unions and private-sector businesses are playing an active role in shaping integration of ecological and business concerns in waste management.

The structure of this report is based on the theme-specific issues in the guidelines for national reporting; however the sections on hazardous and non-hazardous waste have been merged.

Further information is available at www.bmu.de/3865 (general information on waste management), www.bmu.de/38067 (brochure) and www.bmu.de/42826 (data).

D.2. PREVENTION, MINIMISATION AND ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS WASTES AND OF SOLID (NON-HAZARDOUS) WASTES AND SEWAGE

D.2.1. PREVENTION AND MINIMISATION OF WASTES

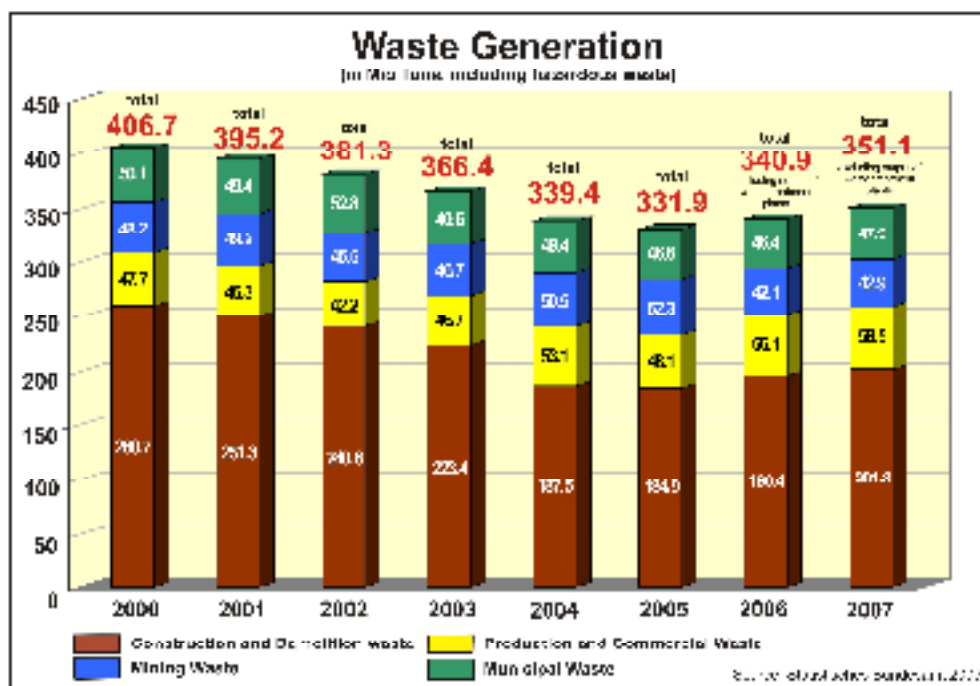
The Closed Substance Cycle and Waste Management Act aims to ensure the complete prevention and recovery of waste, including hazardous waste. Thus, prevention takes precedence over recovery, which in turn comes before disposal. Waste prevention is implemented inter alia through extended producer responsibility, which on the one hand involves developing products and substances with the longest possible service life and, on the other, introducing production techniques that generate the minimum possible volume of waste through best available techniques (BAT) requirements as part of a permitting system for industrial installations. Under extended producer responsibility, producers of a commodity are required to consider the environmental impacts and possible risks of a product during its entire life-cycle (precaution). In collaboration with the other parties involved – producers, distributors, consumers, disposal and recycling companies, government offices (co-operation) – the producer is required to create a system that minimises the adverse environmental impacts and maximises the recovery of resources (recycling, reuse).

In addition, laws and ordinances containing provisions on product responsibility for packaging, batteries, electrical and electronic appliances, end-of-life vehicles and waste oil contribute to waste prevention. Furthermore, a comprehensive waste prevention program will be developed until 2013.

The Packaging Ordinance from 1991 was a prototype for legislation designed to close substance cycles. It generally requires manufacturers and distributors to take back packaging and to re-use it or recycle its constituent materials. “Dual systems” organise the collection of waste packaging directly from private households, the sorting of this waste into material groups, and the recycling of these materials. There is a levying of charges, on a scale related to the type of packaging material used. A compulsory deposit of 25 cents on non-reusable drinks packaging has been introduced. This deposit is payable on all non-ecologically favourable packaging containing mineral water, beer, soft drinks and alcoholic mixed drinks. The main objective of the compulsory deposit is to stabilise the proportion of reusable drinks packaging and put an end to the throw-away mentality.

Furthermore, the ambitious requirements for waste recovery and disposal (see below) have indirectly contributed to waste prevention.

Less waste has been produced overall in recent years (see the figure below). The total volume of domestic waste has remained virtually constant over many years. The link between economic growth and the volume of waste has thus been severed.



D.2.2. RECOVERY, REUSE AND RECYCLING OF WASTES

In Germany, a number of laws and regulations, in addition to the Closed Substance Cycle and Waste Management Act, contain provisions on recovery, reuse and recycling for the following wastes: packaging, batteries, waste electrical and electronic equipment, end-of-life vehicles, waste oil, biodegradable waste, waste wood, sewage sludge, commercial municipal waste, waste going to incineration, waste recovered at surface landfills and waste going to underground stowage.

Glass, paper, old clothes, compost and biowaste, packaging, electrical and electronic waste, batteries, metal, bulky waste and hazardous waste from private households are collected separately before they are recycled by the producers of new products or by private or public sector agencies. For example, in 2006 on average over 8 kilograms of waste electrical and electronic appliances per inhabitant and year was collected from private households, more than twice as many as required by the related EU Directive .

Because of the high standards imposed on recovery, waste that has been separately collected still needs to be further sorted. This sorting is mainly performed automatically using, for example, a refined detector system based on near infrared spectrography in order to separate different types of plastic with a high degree of accuracy.

For example, the Ordinance on Biowaste ensures that only biodegradable waste with a low pollutant content is utilised as a source material for fertilisers or soil improvers, for example, after composting or fermentation. The aim is to recycle organic material and to avoid the accumulation of pollutants in the soil. An average of about 50% of the population in Germany

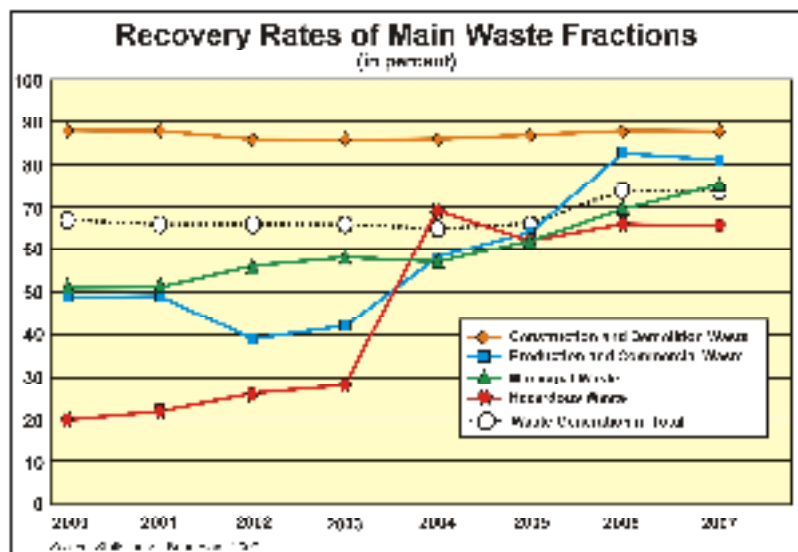
collects biowaste by using bio-bins. The separate collection of suitable biowaste should be expanded.

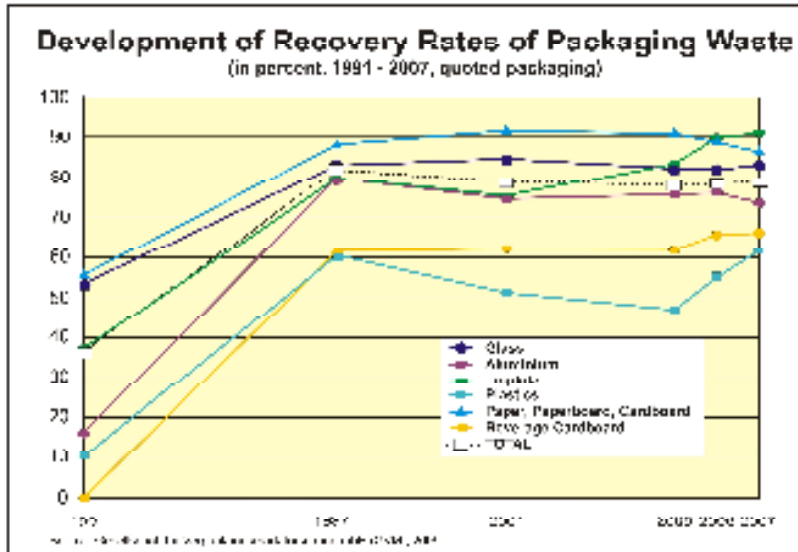
Sewage sludge from local authority sewage treatment plants contains high levels of phosphorous. That is why around 30% of sewage sludge is currently used as a source material for fertilisers. The German government is also promoting techniques for extracting low-pollutant phosphate from sewage sludge and domestic sewage to increase the ratio of recycled phosphor.

The Waste Wood Ordinance sets out concrete requirements governing the recycling, energy recovery and disposal of waste wood and ensures that pollutants are not recycled or do not accumulate during recovery.

In addition, there are voluntary commitments by the industry for construction and demolition waste and for graphic paper.

There has been a clear shift towards more recovery and recycling (see the figure and the table below). The population's willingness to separate its waste has helped to reinforce this trend.





D.2.3. PHASE-OUT OF TOXIC, PERSISTENT AND BIO-ACCUMULATIVE WASTE

An ordinance covers the disposal of waste containing polychlorinated biphenyl (PCB) and polychlorinated terphenyl (PCT). The EU's Regulation¹ on persistent organic pollutants (POPs) contains a general provision on the destruction of these hazardous substances in wastes. Only if the level of POPs in waste is below strict limits can it be recovered or disposed of in the same way as other waste. In addition, the European chemicals legislation (REACH) and provisions on the content of hazardous substances in electrical and electronic equipment have led to reductions in hazardous waste.

D.2.4. ENVIRONMENTALLY SOUND WASTE DISPOSAL AND TREATMENT

The Landfill Ordinance sets high standards for landfill sites. It also requires extremely hazardous waste to be disposed of below ground in deep salt mines. Compared to about 2,000 in the 1980s, today only about 160 landfill sites for municipal waste exist in Germany. This number will be further decreased.

The provisions on landfills in Germany are much stricter than required by the EU Landfill Directive. Since June 2005, residual waste from households and industry must be treated in such a way as to prevent biological conversion processes from occurring in landfills. This presupposes that the residual waste is pre-treated. The most part of the residual waste is treated by high-standard waste-to-energy plants; the rest is treated by high-standard mechanical-biological treatment. In this way, the generation of landfill gas is reduced to almost zero. This has led to a reduction of more than 30 million tonnes of carbon dioxide equivalents per year. The substitution of fossil fuels through the non-recyclable biogenic part of residual waste in waste-to-energy plants leads to a yearly reduction of round about 4 million tonnes of

¹ EU Regulations are directly applicable in the EU Member States

carbon dioxide equivalents. Thus sustainable residual waste management makes an important contribution to climate protection in Germany.

There is also the political goal of recovering municipal waste as much as possible and further reducing the number of above-ground landfills by 2020.

The waste incineration ordinance, based on the Federal Immission Control Act, contains high standards for the incineration and co-incineration of waste.

D.2.5. PREVENTING ILLEGAL INTERNATIONAL TRAFFIC IN WASTES

For transboundary movements of waste, the EU Waste Shipment Regulation transposes the provisions of the Basel Convention. Furthermore, an EU Regulation on the export of non-hazardous waste to non-OECD countries applies. In Germany, a Waste Movement Act, an ordinance on fines and penal law for waste shipments are also in place. Through these provisions and the effective implementation and control of them by the responsible authorities, where appropriate in cooperation with authorities from other countries, illegal waste shipments are reduced to a minimum.

D.2.6. PROCEDURES FOR ENVIRONMENTAL IMPACT ASSESSMENT, TAKING INTO ACCOUNT THE CRADLE-TO-GRAVE APPROACH

Environmental Impact Assessments (EIA) are required for all projects with particular environmental relevance.

D.2.7. ESTABLISHMENT OF COMBINED TREATMENT/DISPOSAL FACILITIES FOR WASTES IN SMALL AND MEDIUM-SIZED INDUSTRIES

The provision of facilities for waste treatment and disposal is led mainly by the private sector, including for small- and medium-sized industries.

D.2.8. TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGIES AND KNOW-HOW ON CLEAN TECHNOLOGIES AND LOW-WASTE PRODUCTION

German development policy supports a number of technical and financial assistance projects to further the environmentally sound management of hazardous wastes as well as non-hazardous wastes and sewage systems. The German government also promotes environmentally sound waste management technologies and know-how through special funding programmes, capacity building, bilateral cooperation and participation in international conferences and fairs. In addition, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety is conducting the initiative “Recycling and Efficiency Technologies” (RETech) in order to foster the transfer of German recycling and waste disposal technologies (www.retech-germany.net/english). Under the research programme of the Federal Ministry for Education and Research (BMBF), a number of waste-related projects are being carried out.

D.2.9. INVENTORIES OF WASTE PRODUCTION, THEIR TREATMENT/DISPOSAL, AND CONTAMINATED SITES

Information on waste production, waste treatment/disposal and contaminated sites can be found e.g. on the websites of the Federal Environment Agency (www.umweltbundesamt.de) and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (www.bmu.de).

D.2.10. DISSEMINATION OF SCIENTIFIC AND TECHNICAL INFORMATION DEALING WITH VARIOUS HEALTH AND ENVIRONMENTAL ASPECTS OF WASTES

Scientific and technical information dealing with health and environmental aspects of wastes is available at various levels, including the website of the Federal Environment Agency (www.umweltbundesamt.de) and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (www.bmu.de).

D.3. RADIOACTIVE WASTES AND THEIR ENVIRONMENTALLY SOUND MANAGEMENT (SAFE STORAGE, TRANSPORTATION AND DISPOSAL OF RADIOACTIVE WASTE)

According to national legislation and regulations (Atomic Energy Act - AtG), the waste producer has to present to the competent Federal State regulatory authority a waste concept indicating what plans are in place to avoid or reduce the arising of radioactive waste. Spent fuel from nuclear power plants is to go to on-site interim storage, with the aim of disposal in deep geological formations together with the highly active waste from reprocessing. Since July 2005, the shipment of spent fuel from nuclear power plants to reprocessing facilities has been prohibited.

The *Konrad* repository, which will have a maximum waste package volume of 303 000 m³, is expected to be commissioned in 2014 for German radioactive waste with negligible heat generation (low- and intermediate-level waste). This represents about 90% of total radioactive waste from the operation of nuclear power plants, nuclear industry and the radioactive waste from research activities, hospitals and medical practices and industry that needs to be disposed of, but only about 0.1% of total expected radioactivity.

Germany is a contracting party to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management and participated in the third review meeting in May 2009. The report submitted under the Joint Convention by the Government of the Federal Republic of Germany for this review meeting, dealing with the environmentally sound management of radioactive waste and spent fuel, is available at http://www.bmu.de/files/pdfs/allgemein/application/pdf/3nationaler_bericht_atomenergie_en.pdf. The report includes Germany's policy and strategy on the management of radioactive waste and spent nuclear fuel management, inventories of radioactive waste and spent nuclear fuel, the facilities for the treatment of the wastes and a comprehensive description of the legal basis.

Furthermore, Germany supports the efforts being made by the International Atomic Energy Agency (IAEA) and the European Union to harmonise regulations and standards concerning the management of radioactive waste. For several years now, Germany has been a member of the *Western European Nuclear Regulators' Association* (WENRA).

The regulations for the transport of radioactive material (including radioactive waste and spent nuclear fuel) is in accordance with the international transport regulations TS-R-1 (Transport Safety Requirement) specified by the IAEA and laid down in the different ordinances for the transport of dangerous goods.

E. THE TEN YEAR FRAMEWORK OF PROGRAMMES ON SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

E.1. INTRODUCTORY NOTE

This national report outlines the relevant policies, activities and instruments at national level that are related to the implementation of the ten year framework of programmes on sustainable consumption and production patterns (SCP) in Germany. The structure of the report is primarily based on the theme-specific issues mentioned in the guideline document on the preparation of the national reports for CSD 18/19, anticipating the overall aim of this reporting initiative, and devotes special attention to the proposed means of implementation. This report does not provide a complete list of all relevant activities. Numerous policies and activities at community, state and federal level and also international partnerships are not included. The report focuses on examples at the federal level and outlines national contributions to the established Marrakech process, introduced in 2003 as follow-up to the implementation of Chapter III of the Johannesburg Plan of Implementation. The report provides an overview of activities which characterise the national profile of SCP implementation and does not explicitly cover activities that are related to the implementation of EU legislation.

E.2. STATE OF THE ENVIRONMENT (BASED ON ENVIRONMENTAL KEY INDICATOR SYSTEM)

The updated Environmental Key Indicator System of the Federal Environment Agency (UBA) contains more than 50 indicators that describe the state of the environment and identify the successes of environmental policy as well as areas where there is more to be done in the future. Germany scored well in 2008 on climate protection and expansion of renewable energies. In addition, energy and resource productivity have grown significantly in relative terms; however, further efforts should be taken to improve this in absolute terms. The trend in land used for organic farming continues to be positive. The transport sector should become more sustainable, and considerable efforts are still required to achieve the clean air policy goals of a high level of health protection and the preservation of biodiversity. As concerns reduction of land consumption, Germany is still falling short of its goals.

E.3. HOUSEHOLD-RELATED CONSUMPTION

Growing prosperity in Germany over the past 30 years has led to an unprecedented surge in the number of consumer durables to be found in private households. Current levels reveal that, for the majority of German households, items such as a car, various household appliances, consumer electronics, computers and mobile phones are taken for granted. In addition they have numerous small technical appliances, for example for gardening, hobbies, leisure and sport. Between 1993 and 2003 the growth rates for some consumer durables were enormous: 200% for computers, over 100% for dishwashers and driers, more than 60% for televisions. Some of this growth is attributable to the “need to catch up” in the new federal states.² Various studies on household consumption reveal that the areas of “mobility”, “housing” and “food” have particular environmental relevance³, taking into account the manufacturing and use phases of

² Environmental Data Germany 2007

³ such as the cumulative expenditure of energy, greenhouse potential, acidification potential, eutrophication potential and photo-oxidation potential

the products purchased by households. Estimates regarding selected product categories (e.g. cars, heating, refrigerators) assume that approximately two thirds of the entire environmental impact occurs during the period covered by the use of the products.⁴

E.4. NATIONAL FRAMEWORK STRATEGIES AND POLICIES TO PROMOTE SCP IN GERMANY

Since the UN Conference on Environment and Development (UNCED) in 1992, the promotion of sustainable patterns of consumption and production has played an increasingly important role in policy-making in Germany. The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety is the leading body in this field. Given the cross-sectoral nature of this issue, individual areas of activity have been entrusted to other federal institutions with a view to promoting SCP patterns. At state level, responsibility falls to the respective environment ministries, while at town and municipality level the task falls to the administrative offices responsible for environment protection.

Sustainable development became a guiding principle of federal sustainability policy in Germany at the end of 1990s. This was manifested in 2002 by the national sustainable development strategy (SDS) "Perspectives for Germany". The national SDS outlines the vision of sustainable development in Germany and sets out a wide range of indicators, quantitative targets and timetables. Several indicators and measurements are directly related to SCP, such as energy and material productivity. The SDS is revised periodically (last revision in 2008) by the German federal government ("Green cabinet") and is supported by the Council for Sustainable Development, which was established in 2001 to facilitate stakeholder involvement and public consultation.

At present, there is no national strategy explicitly on SCP, but its underlying aspects form an integral part of a wide spectrum of framework strategies and policies. Principally, the German government is taking into account the economic, social and environmental dimensions of sustainable development and formulating policies that will help achieve ambitious environmental and climate protection targets while simultaneously maintaining the competitiveness of German industry. The overall objectives with regard to promoting SCP in Germany are:

- to combat climate change;
- to reduce environmental damage and health risks;
- to increase energy and resource productivity;
- to establish conditions that maintain the international competitiveness of German industry and increase its potential for growth, employment and innovation;
- to strive at international fora like WTO for the removal of trade barriers so as to improve the supply of (raw) materials in conformity with ecological and social standards and for free trade in environmental goods and services, including agricultural products;
- to stimulate environmental product and process innovations and to create and facilitate green markets;
- to make consumers aware of the benefits of sustainable consumption in order to help them to make sustainable choices and consume responsibly;
- to improve decent work conditions and contribute to decent work in international relations.

To strengthen the SCP-related dimension of the national SDS and to stimulate the implementation of the various approaches and instruments (such as integrated product policy, consumer information, green public procurement, Green IT) the national dialogue process on sustainable consumption and production was initiated in 2004, led by the Federal Ministry for

⁴ Öko-Institut www.ecotopten.de

the Environment, Nature Conservation and Nuclear Safety and the Federal Environment Agency.

The following strategies and policies are in place for the implementation of SCP in Germany:

National High-Tech Strategy and Master Plan on Environmental Technology

In 2006 the German government launched a National High-Tech Strategy to support the development of innovative environmental technologies and products and to develop lead markets. The National High-Tech Strategy was set up as an overall strategy on innovation policy to promote systematic research in Germany in various fields, such as health, climate change, use of natural resources and energy, mobility, cross-cutting technology (like nano-technology, bio-technology) and security. To further stimulate eco-innovations, a Master Plan on Environmental Technology was set up by the German government at the end of 2008 to bring together different policy measures in the field of research/innovation policy and environmental policy, such as eco-design, technology procurement and market diffusion programmes for eco-innovations. Additionally, an action programme with funding of €100 million was launched in spring 2009 to stimulate electric (car) mobility.

Integrated Energy and Climate Package

SCP-related policies play an important role in the integrated energy and climate protection package that was launched by the German federal government in 2007 to achieve the 40% CO₂ reduction target by 2020. Within the package, 29 fields of specific policy measures are addressed, such as market incentive programmes for renewable energy and energy efficiency in buildings, eco-design, public procurement, sustainable mobility etc. One of the measures is the climate protection initiative of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety to spread renewable energy and energy efficiency within society and the economy. The initiative complements other support programmes and is directed at the private and public sector, including policies and instruments aimed at private households.

Sustainability and Consumer Policy

In 2009, the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) launched an integrated strategy on sustainability covering food, agriculture and consumer policies to specify political action in 10 different areas, such as climate protection and adaptation, bio-energy and renewable resources, resource efficiency management, rural development and demographic change, safe and healthier food, sustainable consumption, global dimensions of food production. SCP-related instruments, such as consumer information and education, form a central part of this strategy.

E.5. SUSTAINABLE PUBLIC PROCUREMENT POLICIES, LAWS AND REGULATIONS

Sustainable public procurement (SPP) plays an important role in the implementation of SCP in Germany. The main focus of the federal government is to strengthen the application of green public procurement practices at all levels of government, e.g. through a central website www.beschaffung-info.de. The website provides legal advice on the implementation of SPP, product criteria, tender documents etc. The available information is being expanded continuously. Within the framework of research projects and cooperation with stakeholders, papers have been published on a continuous base, such as:

- a legal report on possibilities for including environmental aspects in the procurement process (<http://www.umweltdaten.de/publikationen/fpdf-l/3661.pdf>),

- a series of six lecture notes for the advanced training of procurers, which will also be used by the federal government's central training institution,
- guidelines on the environmentally sound procurement of IT equipment (together with the central procurement agency and industry association BITKOM, www.itk-beschaffung.de).

Furthermore, it is mandatory for all contracting authorities at federal level to use life-cycle costing in their procurement procedures to ensure energy-efficient and environmentally friendly public procurement (<http://www.bmwi.de/BMWi/Redaktion/PDF/A/aav-zur-beschaffung-energieeffizienter-produkte.property=pdf.bereich=bmwi.sprache=de.rwb=true.pdf>). With the adoption of guidelines on environmentally friendly and energy-efficient procurement within the framework of the integrated energy and climate package, the German government is setting a good example for others to follow. Energy-efficient appliances and services will be promoted through priority procurement and energy costs will be saved. A task force on SPP has been established to monitor the national strategy on SPP and to encourage players at regional/local level to develop similar guidance and targets. Apart from legally harvested and sustainably produced timber, there are no compulsory targets for products at the federal level.

On 24 April 2009, the German government procurement law (Act against Restrictions of Competition) was modernised. This has meant that it is now explicitly possible to also include aspects of social sustainability in public procurement decisions. The Federal Ministry for Economic Cooperation and Development (BMZ) is already implementing the new law by including the core labour standards of the ILO in its procurement policy.

The German federal government as well as the federal states are aware that they have to set an example in terms of sustainable planning, construction and operation of buildings.

The federal government therefore developed guidelines on sustainable construction (Leitfaden "Nachhaltiges Bauen") back in 2000 and made these mandatory standards. This document is the basis for all tenders for publicly procured construction services. The guidelines are currently being revised and extended to also encompass planning and construction within the context of existing buildings.

<http://www.nachhaltigesbauen.de/leitfaeden-und-arbeitshilfen/leitfaden-nachhaltiges-bauen.html>
http://greenbuilding.ca/iisbe/gbnp/documents/policies/guidelines/Germany_guideline_SB.pdf

For the systematic selection of construction materials according to environmental criteria, the web-based tool WECOBIS was developed and made available to the public. WECOBIS was the result of a research project which was supported by the national programme *Zukunft Bau* (Future [of] Construction).

<http://www.nachhaltigesbauen.de/baustoff-und-gebaeuedaten/wecobis.html>

E.6. INSTRUMENTS FOR SUSTAINABLE CONSUMPTION

There is a wide variety of programmes, actions and measures for promoting sustainable consumption within Germany. The German eco-label "Blue Angel", for example, has now been in use successfully for more than 30 years. Confidence, transparency of processes, co-operation among all stakeholders and a wide range of applications ensures that this instrument plays a strong role within environmental and consumer protection policies. The Blue Angel could be seen as one of the driving forces in stimulating the shift towards more sustainable consumption and production over the last two decades in Germany. At present, over 10,000

products and services from approximately 950 label users in Germany and abroad and in over 90 product groups are entitled to bear the Blue Angel. The Blue Angel offers industry, retailers and artisanal producers the opportunity to publicly document their environmental credentials in a simple and inexpensive way. By using the eco-label, they can significantly increase the competitive market potential of their products and services. To increase the further outreach of the national eco-label, the Ministry for the Environment, Nature Conservation and Nuclear Safety, together with the Eco-labelling Board, decided in 2008 to relaunch the eco-label to make it more widely used in the fields of climate protection and sustainable use of resources, including supply chain management and CSR-related aspects. Furthermore, the Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), together with the Federal Environment Agency (UBA), started research into the applicability of a carbon footprint approach within the existing eco-label in 2008. (www.blauer-engel.de)

Another important initiative is the promotion of organic farming. The Ministry of Food, Agriculture and Consumer Protection (BMELV) has launched various programmes to increase the market share of organic food since 2001. With the establishment of the national eco-label for organic food (*Bio-Siegel*) the market share of organic food increased significantly. The users of the Bio-Siegel now report the labelling of over 55,000 products. In 2008 the sales volume of organically produced food amounted to approximately €5.8 billion (= 3.5% of total food sales). Germany has become the largest market for organic food in the European Union. (www.bio-siegel.de and www.oekolandbau.de)

Within the context of funded research activities, the Federal Ministry of Transport, Building and Urban Affairs (BMVBS) engaged a wide range of stakeholders in developing the *Deutsches Gütesiegel Nachhaltiges Bauen* (German seal of quality for sustainable construction). The purpose of this label is to define, assess, certify and communicate the contribution of buildings to sustainable development.

<http://www.nachhaltigesbauen.de/deutsches-guetesiegel-nachhaltiges-bauen.html>

To provide the consumer with relevant information on sustainable products and a means of identifying such products, the Federal Environment Agency (UBA) sponsored a project by the German Verbraucher Initiative e. V. (a German consumer organisation) to establish a virtual platform on a broad range of labelling activities in Germany and Europe. At www.label-online.de, consumers will find up-to-date information on over 300 (eco)labels used by industry in various product categories. Additionally, consumers can obtain information on the institutional setting and the procedures represented by the respective label.

The “Sustainable Retail Initiative” was launched in 2007 by the Verbraucher Initiative e.V. in cooperation with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and Federal Environment Agency (UBA) as a framework initiative for several co-sponsored projects in the field of capacity building and demonstration within the retail sector with the aim of providing consumers with better guidance and information on sustainable products and CSR-related aspects. (www.verbraucher.org www.nachhaltige-produkte.de www.nachhaltig-einkaufen.de)

The Federal Ministry for Economic Cooperation and Development (BMZ) has sponsored a range of projects that promote fair trade in sustainably produced products from less developed countries through information platforms (www.oeko-fair.de), the launch of the new international TransFair label (www.transfair.org), point-of-sale activities and consumer information campaigns (www.fair-feels-good.de). The aim of the large-scale public awareness campaign (2003-2006) was to inform consumers, public authorities and retailers about principles, structures and backgrounds of fair trade and to increase the market share of eco-fairtrade products. Since

2003, the Forum Fairer Handel has been conducting an annual public campaign *Faire Wochen* with financial support from Federal Ministry for Economic Cooperation and Development (BMZ). The campaign involves a broad network of partners such as producers, retailers, schools, canteens, public authorities and private organisations to promote (eco) fairtrade products.

The Federal Ministry for Economic Cooperation and Development (BMZ) is currently financing the development of an internet platform to increase public awareness of sustainable consumption. The platform is being developed by the International Trade Centre (ITC), Geneva. The objective is to create a comprehensive database on sustainability labels as a reference for procurement decisions by public agencies as well as small and medium-scale enterprises. The internet platform will enter its testing phase in late 2009.

To increase the outreach of sustainability communication, the Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the Federal Environment Agency (UBA) launched a project to better draw together communication initiatives under the umbrella of the sustainable development strategy. The *KommN* project endeavours to develop strategic partnerships between various initiatives to stimulate joint communication on sustainability in Germany and to establish sustainability as a common guiding principle for the public.

To support effective communication on sustainable consumption and lifestyles in Germany, the federal government has established various research activities on socio-ecological aspects, such as public awareness, information behaviour, social-ecological transformation.

E.7. ECO-EFFICIENCY/ECO-DESIGN PROGRAMMES

The promotion of eco-efficient technologies, products and services is at the centre of several policy programmes, such as the integrated energy and climate package, with its wide spectrum of legislative, economical and informative measures, the High-Tech strategy, the Environmental Technology Action Plan etc. The German government is aiming to double energy productivity by 2020 compared with the baseline year of 1990. Important measures are:

- *Energy Saving Ordinance (EnEV)*: Report on and amendment to the Energy Saving Ordinance (EnEV). In order to increase energy efficiency in buildings, energy standards have been tightened by an average of 30 per cent from 1 October 2009. As a second step (planned for 2012), these efficiency standards will be further tightened up by 30 per cent, if economically viable. The Cabinet has adopted corresponding key elements.
- *Programme to Reduce CO₂ Emissions from Buildings*: The German government has established the legal and economic parameters for more efficient energy use within buildings. As part of this process, it has substantially expanded the Programme to Reduce CO₂ Emissions from Buildings since early 2006. Currently, €1.5 billion are available annually in the form of low-interest loans and grants. Since 2006, over 1 million buildings have been built or renovated to a high degree of energy efficiency with the support of this programme.
- *Reform of vehicle tax to a CO₂ basis*: The vehicle tax was amended in July 2009. For new vehicles, this tax will be calculated mainly on the basis of a vehicle's CO₂ emissions.
- *Material efficiency*: The German government has taken action to increase material efficiency within production processes and product design, such as through the German Agency on Material Efficiency, the Eco-Innovation Programme, waste management and recycling

schemes, and various research programmes to promote the sustainable use of resources, including waste prevention strategies.

The Federal Ministry of Transport, Building and Urban Affairs (BMVBS) initiated and supported the development of a database which supports the use of life-cycle assessments (LCA) for construction materials, products and processes in order to design environmentally friendly and resource-efficient buildings. The database is accessible to all architects and planners.

<http://www.nachhaltigesbauen.de/baustoff-und-gebaeuedaten/oekobaudat.html>

Furthermore, Germany is actively engaged in the implementation of the EU Eco-design Directive. The Federal Institute for Materials Research and Testing (BAM), in cooperation with the Federal Ministry of Economics and Technology (BMWi), the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the Federal Environment Agency (UBA), organises a national consultation forum. It provides an opportunity for national stakeholders to discuss the working documents for implementing measures. The results of those hearings are taken into account in Germany's statement to the European Commission. Furthermore, the Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Environment Agency have established an eco-design network to discuss cross-cutting issues or specific topics in preparation of the consultation process. Background papers to inform the public and industry about the requirements are made available.

E.8. PROMOTION OF CORPORATE SOCIAL RESPONSIBILITY IN THE SECTOR

There is a wide spectrum of CSR-related activities within various sectors in Germany, covering different social, ecological and socio-economic issues. The German government is currently drafting a national CSR strategy which will be presented as the "CSR Action Plan in Germany". In order to develop a widely supported national CSR strategy, it is necessary to involve the relevant stakeholders. For this purpose, the Federal Ministry of Labour and Social Affairs (BMAS), which is the ministry in charge of coordinating the development of a national CSR strategy, convened a national CSR forum in coordination with the other federal ministries in January 2009. The CSR forum is composed of some 40 actors from business and enterprises, trade unions, civil society, politics and other international organisations.

In July 2009, the Federal Cabinet decided on an interim report on the development of a national CSR strategy (see the Ministry's service portal www.csr-in-deutschland.de). The final report – CSR Action Plan in Germany – is scheduled to be adopted at the beginning of 2010. The promotion of CSR is already an integral part of German development policy with the aim of fostering sustainable development and equitable globalisation.

E.9. SUPPORT TO THE MARRAKECH PROCESS ON SCP

Since it began in 2003, Germany has been supporting the Marrakech Process for the development and implementation of the 10-year framework of programmes on SCP as a means of realising Chapter III of the JPOI in several ways:

- setting-up of the "Cooperation with Africa" Task Force in 2005 to encourage and support African countries to implement the African 10-year framework on SCP in various fields, such as
 - a study on leapfrogging possibilities for SCP in Africa
 - development of an African eco-labelling scheme

- development and implementation of SCP action plans at the national and municipality level
 - collection of best practices on SCP in Africa from projects implemented by development agencies.
- establishment of the UNEP/Wuppertal Collaboration Centre on SCP in 2005
- co-chairing of the Advisory Committee of the Marrakech process to prepare decisions to be made at CSD 18/19 on the further development of the implementation of the 10-year framework of programmes.

PART II: UPDATED INFORMATION ON NATIONAL FOCAL POINT FOR SUSTAINABLE DEVELOPMENT

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PART III: ANNEXED DRAFT PROFILE ON NATIONAL SUSTAINABLE DEVELOPMENT STRATEGIES; INDICATORS FOR SUSTAINABLE DEVELOPMENT

Strategy Title: Perspectives for Germany. Our Strategy for Sustainable Development.

Strategy website: www.dialog-nachhaltigkeit.de (Strategy and reports: <http://www.bundesregierung.de/Webs/Breg/nachhaltigkeit/DE/Berichte/Berichte.html>), Information in English: <http://www.bundesregierung.de/Webs/Breg/EN/Issues/Sustainability/sustainability.html>

Coordinating Body: Federal Chancellery

The Chancellery not only has a coordination role but is also managing the process and providing important inputs to the relevant ministries; see below in Chapter “Horizontal Integration” in Additional Information.

Coordinating Body website: See above.

Strategy Status: Being implemented.

Date of Adoption: The NSDS was adopted by the German government in 2002. The first comprehensive progress report was adopted by the German government in 2004, a shorter document on the NSDS (“Landmark Sustainability”) in 2005. The second comprehensive progress report (title: “For a sustainable Germany”) was adopted by the German government in October 2008. The NSDS is the strategy of the federal government.

Strategy contact: Dr. Stefan Bauernfeind, Federal Chancellery, Telephone +49 30 40 00-2318, e-mail Stefan.bauernfeind@bk.bund.de.

Additional Information:

Germany’s NSDS integrates all three dimensions of SD (economic development, social development and environmental protection) in four guidelines (intergeneration equity, quality of life, social cohesion, international responsibility).

Vertical integration

The current NSDS was adopted in 2002 by the German government after an intensive public consultation with stakeholders, including the federal states and local level, and was presented to the UN Summit in Johannesburg. It is the strategy of the federal government only and is not binding on the federal states with regard to their strategies. Nevertheless, stronger cooperation between the national level and the federal states for NSDS implementation has developed. The federal states are involved in the process of formulating concrete measures based on the NSDS. They participated in the consultation process for the progress report in 2008.

In 2008, the federal states took part for the first time in the formulation of a progress report itself. They provided the progress report with a guest contribution (separate chapter) adopted by the Minister-Presidents of the federal states, in addition to statements from the German Council for Sustainable Development, the Parliamentarian Council for Sustainable Development and a statement from the Association of Municipalities.

In their statement for the progress report, the federal states advocated a stronger cooperation between the federal government and federal states on the NSDS. The concrete result of this were meetings between the Head of the Federal Chancellery and the heads of the offices of the

Minister-Presidents of the federal states in 2008 and 2009. Representatives of the Minister-Presidents' offices or environmental ministers of seven federal states participated in December 2008 in a meeting of the Federal State Secretaries' Committee for Sustainable Development. There was consent that the possibilities for stronger cooperation on sustainable development should be explored, especially in the sectors of public procurement, land use and sustainability indicators. A joint Federal States Report from April 2009 – which has been prepared for the federal government under the lead of the Chancellery and for the federal states by representatives of Minister-Presidents' offices or environmental ministers – is now being discussed internally and will be the subject of a meeting between the Head of the Federal Chancellery and the heads of the Minister-Presidents' offices of the federal states once more in 2010.

The involvement of the federal states is also institutionalised in various federal/state working groups involving public administrators of the federal government and the federal states as part of the Conference of Environment Ministers (a forum in which the environmental ministers of the federal states and representatives of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety meet). These working groups are mainly concerned with exchanging experience. SD is currently addressed in the working group, "[climate, energy, mobility sustainability](#)" (BLAG KliNa), which has been in operation since January 2008.

Regarding the SD indicators developed at the federal level, federal states were asked to implement and use these indicators. In the environment policy field, there is extensive coordination and adoption of environmental indicators on all political levels.

Additionally there is some general exchange and coordination between the federal and state level on SD strategies. For instance, in November 2007, the German Council for Sustainable Development organised a workshop on the SD policies of the federal states. SD experts from 16 German states discussed the role of the states for SD and implementing the NSDS.

In order to strengthen vertical integration between the national and the European level, the 2008 progress report takes the EU SDS as the outline of a part of the report. The symbols used for national sustainability indicators are in line with the symbols used by Eurostat for the EU indicators. At a meeting in June 2009 the State Secretaries' Committee stressed the importance of the EU SDS as important point of reference for the NSDS.

Horizontal integration

The [State Secretaries' Committee on Sustainable Development](#) has existed since 2000 as a high-ranking coordinating and monitoring body for sustainability. It decides on the strategy and its further development (subject to subsequent formal approval by the cabinet), and keeps a close eye on implementation of the strategy. This "Green Cabinet", as it is known, consists of state secretaries (representatives of the minister, top level civil servants) from all ministries. It is chaired by the Head of the Federal Chancellery, who serves as the main leader in the national SD process. The responsibility lies not with one ministry but the Chancellery itself is in charge of the topic.

This mechanism is considered as a key factor in the success of SD in Germany. It prevented classic conflicts between ministries and ensured that quantitative objectives have been met. The Chancellery not only has a coordination role but also manages the process and provides important inputs to the relevant ministries. It shows the special importance the subject has for the federal government and is based on the fact that sustainability is a cross-cutting subject. In terms of political leadership, the NSDS falls under the Chancellery's authority to determine general policy guidelines, and in administrative terms it is implemented by means of a link between the Chancellery and the respective ministries responsible for the specific issue at hand in any one case. A permanent inter-ministerial working group for sustainable development (again chaired by the Chancellery) prepares the meetings of the Committee.

Beginning in December 2008, the [State Secretaries' Committee on Sustainable Development](#) has been dealing on the basis of a working programme with important sustainable development topics at monthly meetings. The topics discussed at the last recent meetings were the future of feeding the world, EU SDS, sustainable consumption and sustainable construction, impacts of demographic change on sustainable finance policy, and the future of research into SD as an innovation policy issue. Experts were invited – scientists, representatives of NGOs or of business associations, or even ambassadors of European member states.

Since January 2009, departmental reports have been filed on the implementation of sustainable development in specific policy fields. They are presented to the States Secretaries' Committee and [published on the internet](#) (available only in German). A major reform helping to strengthen the implementation of the strategy in daily policy was the introduction of sustainability as a criterion for the impact assessment of new laws or regulations. In May 2009 sustainability was included permanently in the Standing Orders of the federal government ("Geschäftsordnung der Bundesministerien", GGO) in the section dealing with impact assessment. A [guideline published by the Federal Ministry of the Interior in June 2009](#) advises using the indicators and management rules of the strategy in this context.

Evaluation and Review

In 2004, the German government reported for the first time on the progress made on the NSDS and the statistical progress made towards the 21 targets and indicators which were designed to make sustainability quantifiable. This is the link to the [Progress Report 2004 \(in German\)](#).

A shorter document on the NSDS was published in 2005 ("[Landmark Sustainability 2005](#)" (in German)).

In October 2008 the progress report ("[For a sustainable Germany](#)") was adopted by the State Secretaries' Committee and the Cabinet. It states that sustainability is a guiding principle for the political activities of the federal government.

For the first time, the report explains in detail the governmental organisation underlying sustainability policy and strengthens the management of sustainable development in German policy-making. The sustainability management concept of the strategy contains the following elements:

- management rules: The ten management rules summarise the guiding principle and the requirements relating to sustainable development,
- indicators and goals: 35 indicators with mostly concrete goals in 21 areas,
- monitoring: Every four years a progress report presents in detail the status of sustainable development. The progress reports are complemented by an indicator report, which is prepared by the Federal Statistical Office every two years, with the next one due in 2010.

To improve sustainability management, the State Secretaries' Committee for Sustainable Development was strengthened. The management rules for sustainable development have been in part revised in the light of changed global conditions and the experience gained since the NSDS was adopted in 2002.

In further developing the NSDS, the report covered four key topics (climate/energy, resources, demographic change/social opportunities, international food crises) and assessed the progress of the strategy in a broad range of subjects.

In 2009 the German government initiated a Peer Review on national sustainability policies, organised by the [Council for Sustainable Development](#) on behalf of the government. In June 2009 the group of independent peers, comprising in total seven peers from Sweden, Finland, the Netherlands, the UK, Canada, the USA and India, chaired by Mr. Björn Stigson, President of the World Business Council for Sustainable Development, met in Berlin and discussed the status of the NSDS. The final report of the Peer Review with conclusions, findings and recommendations was presented on 23 November 2009 during the annual conference of the

German Council for Sustainable Development (RNE). For further information see <http://www.nachhaltigkeitsrat.de/en/projects/projects-of-the-council/peer-review-2009/?blstr=0>.

Indicators and Monitoring

Monitoring reports are prepared independently every two years by the Federal Statistical Office to assess development on the basis of SD indicators (first one: [Indicator Report 2006](#)).

- The latest 2008 indicator report forms part of the 2008 progress report (also available as a single publication). For the first time, it includes, in addition to the detailed description of the 35 indicators for sustainable development in 21 areas and the trends in those areas, a brief statistical evaluation regarding how much progress is needed before the target can be met. This evaluation is depicted using weather symbols, e.g. “sunny” or “cloudy”, in line with the Eurostat Indicator symbols.

Participation

Since 2002 several stakeholder groups, e.g. social partners, NGOs, local communities, science community, etc. have been involved in the formulation and further development of the NSDS. The methods used for this ranged from traditional consultation processes to the possibility of delivering opinions on drafts, to internet chat sessions with ministers and state secretaries.

The German government initiated a broad public consultation process to accompany work on the 2008 NSDS progress report. Citizens were invited to contribute to the progress report by making comments and suggestions between November 2007 and January 2008, based on a consultation paper, and in May and June 2008 on a draft version of the 2008 NSDS progress report; both have been published on the internet. The Federal Chancellery, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the Federal Ministry for Economic Cooperation and Development (BMZ) invited selected stakeholders from groupings and associations to discuss the draft report in hearings or conferences. Documentation of the consultation process in 2008 is available as a [download](#) (in German).

Since 2004, a Parliamentary Advisory Council on Sustainable Development of the German Bundestag has been supporting the process of sustainable development in Germany. The Council submits proposals for the NSDS and provides recommendations on individual subjects relating to sustainable development. The Council has provided the Progress Report with a guest contribution (separate chapter). The Council now comprises 20 parliamentarians from all parliamentary parties, who can incorporate the results of the Council's work into the work of the parliamentary parties and special committees.

The German Council for Sustainable Development (RNE) was established by the German government in April 2000. Its members are appointed by the Chancellor. Currently it is composed of 13 members from various social groups as well as from the field of science and research. Its mission is to give advice to the government on its SD policy and, by presenting proposals on targets and indicators, to contribute towards the further development of the NSDS as well as to propose projects designed to implement the strategy. A statement by the RNE is published as a chapter in the progress report.

Sub-national activities

Currently, about half of the German federal states have regional SD strategies in place (e.g. Baden-Württemberg and Hesse), others have Agenda 21 or environmental strategies. It is the aim of the federal government to strengthen cooperation between the federal level and the federal states (see above).

At the local level, SD is addressed with LA 21 processes that emerged in the mid-1990s. Currently, more than 2600 local authorities (20% of all German local authorities) have initiated an LA 21 process. The federal government has strengthened cooperation with the local level in the context of the progress report 2008. Accepting an invitation by the federal government, the

German municipal umbrella organisation (consisting of the German Association of Cities, the German County Association and the German Association of Towns and Municipalities) presented their priorities and views on the NSDS in a chapter in the progress report. There it stressed that sustainability is increasingly becoming a central guiding principle of municipal politics. In February 2009 delegates from the German municipal umbrella organisation discussed questions of land use for housing and infrastructure with the federal government in a meeting of the State Secretaries' Committee for Sustainable Development.

Information on indicators for sustainable development

Name of indicator set:

Indicators of sustainable development in Germany

A comprehensive strategy encompassing all three dimensions of sustainable development (economic development, social development and environmental protection) is used, but no particular indicator set to monitor the implementation of NSDS.

Indicators website:

http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/EN/Navigation/Statistics/TimeSeries/Indicators/SubsustainableDevelopmentIndicators_nk.psml

Only indicator report 2008:

<http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/EN/Content/Publikationen/SpecializedPublications/EnvironmentEconomicAccounting/Indicators2008.property=file.pdf>

(We recommend placing a link to our indicator report, otherwise give permission to upload the German indicator report to your website.)

Date of last update: The indicator set for sustainable development was last updated in 2008. A selected set of the sustainability indicators in terms of environment and economy is continually updated.

Indicators contact: Federal Statistical Office, D 65 180 Wiesbaden, www.destatis.de/contact , Telephone +49 (0)611-754585

Additional Information:

In April 2002 the federal government published a National Strategy for Sustainable Development entitled "Perspectives for Germany". Since that time, sustainability has been considered a major political principle in Germany. To enable the effectiveness of that strategy to be measured, i.e. both successes and failures, suitable indicators have been selected at the political level. To provide transparency, a limited set of single indicators has been given preference over composite indicators. Most of the total of 35 indicators for 21 different sustainability issues have quantitative targets and show the extent to which development in the economy, the environment and the society meets the expectations and goals which have been defined by policy.

Most of the data for the indicators come from official statistics. With the system of Environmental-Economic Accounting, the Federal Statistical Office also has an excellent tool for systematically examining interrelations between the economic, environmental and social indicators of the strategy. An integrated approach allows simultaneous examination of different, and in part conflicting, goals.

The German indicator report contains a summarising table showing the information on sustainability trends in a concise and reader-friendly way. It illustrates the status of the indicators in terms of the success of past development and the projected development up to the target year. This is neither a political assessment nor a forecast but simply the result of a calculation continuing the past trend.

The 2008 Indicator Report was compiled by the Federal Statistical Office under its own responsibility and is based on the principle of neutral and independent reporting. The data for

the indicators are regularly updated and published every two years. The Federal Statistical Office supports fact-based sustainability policy by providing data and statistical analyses on the status of the German sustainability indicators.

(Please indicate whether you wish to also make this information publicly available on our website: **Yes**)