Federal Republic of Germany

Population: 82,5 million
Capital: Berlin
Language: German
Currency: EUR (€)
GDP per capita: $28,500

Environment – Current issues:

Germany has committed itself to the reduction in emissions of climate-damaging gases - such as carbon dioxide - by 8% by 2012. The Climate Protection Initiative consists of national and international measures and focuses in particular on increasing energy efficiency (for buildings, appliances, vehicles), saving energy and augmenting the use of renewable energies.

Other issues include

Emissions from coal-burning utilities and industries contribute to air pollution; acid rain from sulfur dioxide emissions damages forests; pollution in the Baltic Sea from raw sewage and industrial effluents from rivers in eastern Germany; hazardous waste disposal; ending the use of nuclear power over the next 15 years; identify nature preservation areas in line with the EU's Flora, Fauna, and Habitat directive; noise pollution; CO_2.reduction measurements; increasing energy efficiency; increased use of renewable energy sources.

Environment – International Agreements:
Party to: Air Pollution,-Nitrogen Oxides,-Sulfur 85,-Sulfur 94,-Volatile Organic Compounds, Antarctic-Env. Protocol, Antarctic-Marine Living Resources, Antarctic Seals, Antarctic Treaty, Biodiversity, Climate Change, Kyoto Protocol, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, 94, Wetlands, Whaling, Air Pollution-Persistent Organic Pollutants.

Industries:
Production of iron, steel, coal, cement, chemicals, machinery, vehicles, machine tools, electronics, food and beverages; shipbuilding; textiles, renewable energy equipment, semiconductors, pulp and paper, almost all other industries.

Summary:
In 2007, Germany produced goods and services valued at EUR 69.5 billion in the environmental sector, accounting for almost five percent of Germany's gross domestic production with further growth expected. Germany's market share for the environmental technologies trade amounts to 16.1 percent; making Germany the leading nation in this industry. An estimated five percent of total sales are spent by R&D (as compared to three percent on average for all other industries), illustrating the innovative force in this sector. In 2008, 1.8 million jobs were directly attributed to the environmental sector in Germany. Despite the financial crisis, further growth in the sector is expected for 2009. German entities and the public sector spent EUR 4.1 billion for environmental technologies; more than half was spent on water (drinking water and sewage technologies) and waste (mostly recycling) technologies. Other large segments were air purification and noise-prevention measurements.

End Summary

The main drivers for the stable growth in the environmental sector have been the incentives, regulations and imposed standards listed below:

Energy generation:
- Renewable Energy Law (EEG), regulating guaranteed fixed-in-tariffs for electricity and other energy fed into public grids;
- Combined Heat and Power Law (KWK-G), promoting cogeneration and guaranteeing fixed feed-in tariffs
- Energy Industry Act (EnWG), opening the access to Germany's electricity grid for utility providers

Raw Materials, Resource Efficiency, Prevention of Hazardous Materials:
- Regulating or prohibiting the use of or promoting the reduction of hazardous materials such as lead, sulfur, CFC, solvents, tensides

Waste and Recycling Economy:
- Technical regulations for waste treatment (TASi),
- End of lifecycle law for vehicles (AltFzgG)
- Packaging Directive (Verpackungsverordnung) stipulating the use of certain recyclable materials and deposits

Sustainable Mobility / Air Purity / Immisions:
- Immission Law (BImSchG)
- Technical Regulation regarding air purity (TA Luft),
- Eco tax (Ökosteuer) stipulating mainly a special tax on fossil fuel consumption
- Traffic Noise Law (Verkehrslärmschutzgesetz)

Energy Efficiency:
- Energy Savings Law (EnEV) and Heat Savings Law (WSVO) stipulating the use of energy-efficient heating systems (also for hot water), the reinforced insulation of buildings, and the use of renewable energy sources

Sustainable Water Economy:
- EU Water Framework Directive (EU Wasserrahmenrichtlinie)
- Drinking water directive (Trinkwasserverordnung),
- Sewage Water Directive (Abwasserverordnung).

Production of Products with Potential Environmental Application (in EUR billion)

Application Purpose	2006	2007
Waste	4.1	4.7
Sewage	12.6	14.3
Air pollution	17.8	19.7
Measuring technologies [1)]	16.8	18.3
Of which: Goods for efficient energy use	7.2	7.9
Goods for efficient energy conversion	1.3	1.4
Goods for using renewable energy sources	3.8	4.8
Total [2)]	**62.1**	**69.5**
Representing a share of the total industry production (in percent)	5.1	5.3

[1)] excluding heat pumps
[2)] including noise protection
Source: German Ministry of the Environment (BMU), Umweltwirtschaftsbericht 2009

The use of environmentally friendly technologies is actively being promoted on a EURpean scale by programs such as EMAS (Eco Management and Audit Scheme), helping companies to identify areas where investment in ecologically sound and sustainable technologies would pay off, either through decreasing consumption of energy or other resources, avoiding waste, disposal or recycling of harmful substances, or by improving working conditions (thus limiting job-related illnesses).

IKEP

Germany has initiated a special road map for climate control, IKEP (integrated energy and climate program) which defines development guidelines and targets.

Efficient Power Generation - Objective: to increase efficiency and the use of combined heat and power cogeneration (CHP). Target: to generate 25 percent of Germany's total electricity needs from CHP. Driver: Subsidies and incentives for mini CHP plants.

Smart metering - Driver: Starting 2010, all new buildings must employ smart meters. When retrofitting an existing building or apartment, smart meters must also be offered. As of 2010, utility companies must offer load-based tariffs to their clients, enabling clients to adjust their consumption habits and to save money.

Energy-efficient buildings - As of 2009, further energy-efficiency enhancing measurements have become mandatory, which are projected to increase efficiency by 30 percent. Chimney cleaners (each chimney in Germany has to be swept and checked at least once a year by an authorized cleaner) have been tasked with ensuring whether that the appropriate steps have been taken.

Renovation incentives - EUR 1.4 billion have been reserved for incentives (grants, low rate credits) regarding the renovation and retrofitting of buildings. This also includes the retrofitting of public buildings such as schools and kindergartens.

Green electricity - The Renewable Energy Law (EEG) stipulates that 30 percent of all electric energy must come from renewable sources in 2020. The main driver continues to be the guaranteed feed-in tariffs for electricity from photovoltaics, wind, biogas, biomass, and hydropower.

Green heat - The Renewable Energy Law (EEG) also contains a substantive chapter regarding resources used to generate heat. In 2020, fourteen percent of energy used for heating and hot water must come from renewable sources. The German government has buffered the law with a market incentive fund of EUR 500 million, used, for example, to replace old furnaces with modern pellet/solar thermal central heating boiler combinations.

Biogas - Based on the IKEP, modifications regarding the liberalization and access to natural gas grids have come into force in Germany. By 2030, ten percent of all gas used for power generation or heating must stem from biogas.

Biofuels - Moderate growth rates for biofuels (without set targets) are planned for Germany. Prerequisites for this development are sustainable growing methods, nature preservation and avoiding a conflict between food and biofuel generation.

Electric vehicles - A substantive number of vehicles are to be run on electricity (no set precise targets, timeframe or guidelines), preferably using renewable energy sources.

Lower tolls for clean trucks - Tolls for trucks were introduced on German highways in 2005. According to the IKEP and as a purchasing incentive, trucks that pollute less will enjoy a reduction in tolls in 2010.

Lower taxes for clean cars - As with trucks, it is planned that as of 2010 vehicles will be taxed according to their CO2 output (presently they are taxed according to engine size).

Because of the IKEP measurements, investment activities in the 2009-2020 timeframe are expected as follows (selection):

Energy-efficient buildings	EUR 150 billion
Of which "green heat"	EUR 39 billion
Renovation incentives	EUR 19 billion
Smart Metering	EUR 5 billion
Hybrid vehicles	EUR 60 billion
Electric vehicles	EUR 2.5 billion
Biofuels	EUR 1.3 billion

Environmental Trade Shows *(selection)*

- **Achema** (Int'l Trade Fair and Congress on Chemical Engineering, Environmental Protection and Biotechnology), Frankfurt, May 11-15, 2009 (every 3 years), www.achema.de
- **Entsorga** (Int'l Trade Fair for Waste Management and Environmental Technology), Cologne, October 27-30, 2009 (every 3 years), www.entsorga-enteco.com
- **IFAT** (Int'l Trade fair for Water, Sewage, Refuse, and Recycling), Munich, September 13-17, 2009 (every 2 years) - www.ifat.de
- **TerraTec** (Int'l Trade Fair for Environmental Technologies and Services), Leipzig, January 25 - 27, 2011 (every 2 years), www.terratec-leipzig.de
- **Aquatech** (Int'l Trade fair for Process, Drinking and Waste Water), Amsterdam, September 28-October 01, 2010, www.aquatechtrade.com
- **Wasser Berlin** (Int'l Trade Fair for Water Technology and Sewage), Berlin, April 2012 (every 2 years), www.wassser-berlin.de

Selected Renewable Energy Generation Events in Germany*:*

- Wind energy: **Husum WindEnergy** - Husum, September 21-25, 2010 - www.husumwind.de
- Photovoltaic and solar thermal energy: **Intersolar** - Munich, June 2010 - www.intersolar.de
- Hydrogen / fuel cell / wind: **Hanover Fair** Energy - Hanover, April 2010 - www.hannovermesse.de
- Biogas / wood / pellets / bio fuels: **Renexpo** / **IHE**, Augsburg, Sept. 24-27, 2009 - www.renexpo.de
- Heat pumps / pellets / wood: **ISH**, Frankfurt, March 15-19, 2011 - www.ish.messefrankfurt.com
- Biogas / bio fuels: **EURtier**, Hanover, November 16-19, 2010 - www.EURtier.de
- Biogas / sewage gas: **IFAT**, Munich September 13-17, 2010 - www.ifat.de

Please visit www.buyusa.gov/germany/en for a detailed list of trade shows and an overview of what the U.S. Commercial Service has to offer to American exporters at featured events.

Associations & other related links *(selection)*

BEE (Federal Renewable Energy Association) - www.bee-ev.de
DENA (German Energy Agency) - www.dena.de
WEG (Industry Association of Oil and Gas Production Technologies) - www.erdoel-erdgas.de
DVGW (German Technical and Scientific Association for Gas and Water) - www.dvgw.de
DWA (German Association for Water, Wastewater and Waste) - www.dwa.de
VCI (Association of the Chemical Industry) - www.vci.de
BDEW (National Association of the German Energy Industry) - www.bdew.de
BSW (German Solar Industry Association) - www.solarwirtschaft.de

Contact Information:

Ms. Andrea Stahl, Commercial Specialist, Renewable Energies and Environmental Technologies,
American Consulate General, U.S. Commercial Service, Giessener Strasse 30, 60435 Frankfurt am Main, Germany
Tel: +49 69-7535-3120, Fax: +49 69-7535-3171, Email: Andrea.Stahl@mail.doc.gov