Environmental data

2010

STAATSMINISTERIUM
FÜR UMWELT UND
LANDWIRTSCHAFT

Freistaat
SACHSEN

Foreword

The current environmental data provide a clear although brief overview of the performance of the forward-looking and sustainable environmental policy in the Free State of Saxony. The charts give visual information on the major environmental subjects such as climate, water, soil, air, nature, noise, environmental technology/industry trends, as well as environmental economic data and evolution over time. The environmental data for Saxony are explained in more detail in the Environmental Report, which is published just once within a legislative period. The latest report dates from 2007.

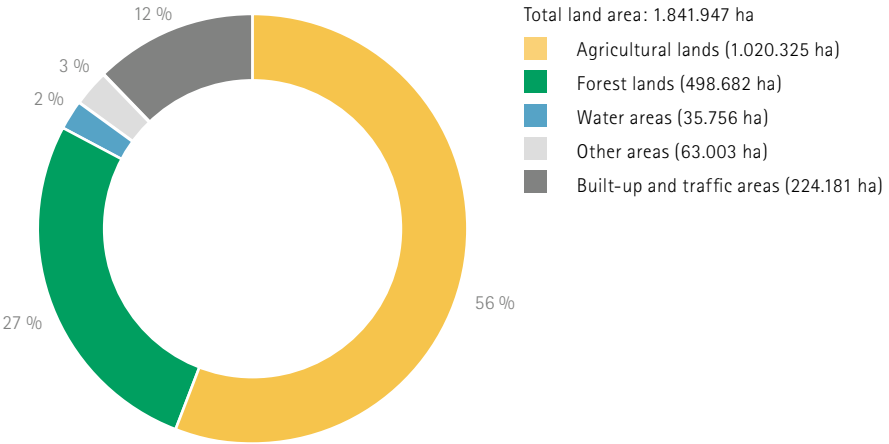
www.umwelt.sachsen.de

Land uses

Saxony is the sixth largest German state in terms of territory, with highly diversified landscapes and a natural and cultural heritage of a very high standing. The dominating land use is agriculture like everywhere in Central Europe.

Data source: Data as of: 31.12.2008, Land areas as of: 01.01.2009

Land uses

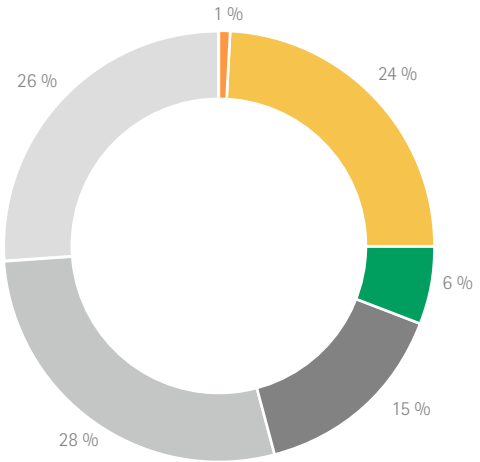


Economic structure

The Free State of Saxony has undergone a profound structural change during the past 20 years. Today, the country presents itself as an attractive location for modern business and industry and its added value mainly comes from the tertiary sector. Nevertheless, Saxony can rely on a comparatively strong manufacturing sector and a well performing agriculture.

Data source: Calculated as of: August 2009

Economic structure (Percentage of gross value added)



Total gross value added: 85.165.237 k EUR

- Agriculture, forestry and fishing (866.572 k EUR)
- Manufacturing sector (without construction) (20.105.954 k EUR)
- Construction (5.520.074 k EUR)
- Trade and commerce, hospitality industry, transports and communication (13.091.595 k EUR)
- Loan and insurance, real estate and housing, services for businesses (23.198.235 k EUR)
- Public services, education, health care, private households (22.382.807 k EUR)

Water consumption

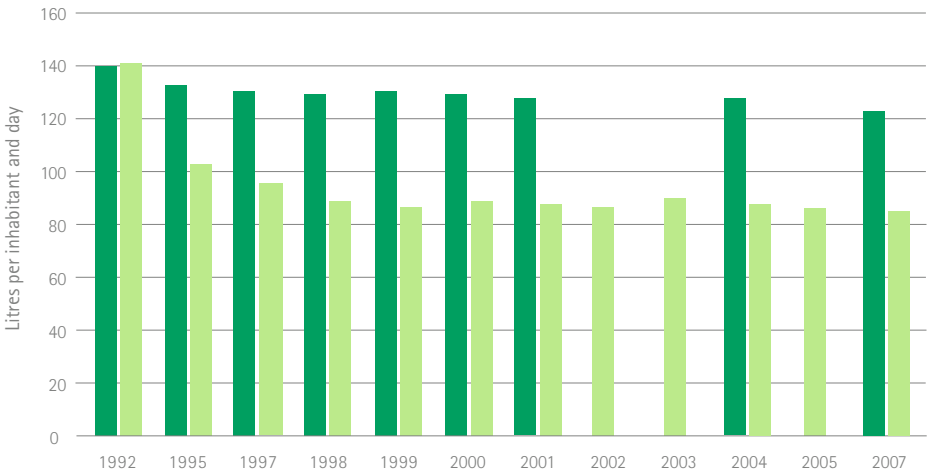
Water consumption has largely decreased in Saxony since the early 1990-ies, especially due to the application of water-saving technologies and the economic use of water on the basis of appropriate water rates. Saxony achieves a water consumption of 85 litres per inhabitant and day, which is the lowest value within Germany and far below the federal German average of 122 litres per inhabitant and day.

Germany

Saxony

Data source: Germany: Fedeeral German Statistical Office, Series 19 Environment, R 2.1 Public Water Supply & Sewage Disposal different years' issues and communication of 27.05.2009, partly compiled by UBA
Saxony: Saxon State Office for Environment, Agriculture and Geology, Water Supply, Sewage Disposal

Specific water consumption of households and small businesses



Sewage treatment

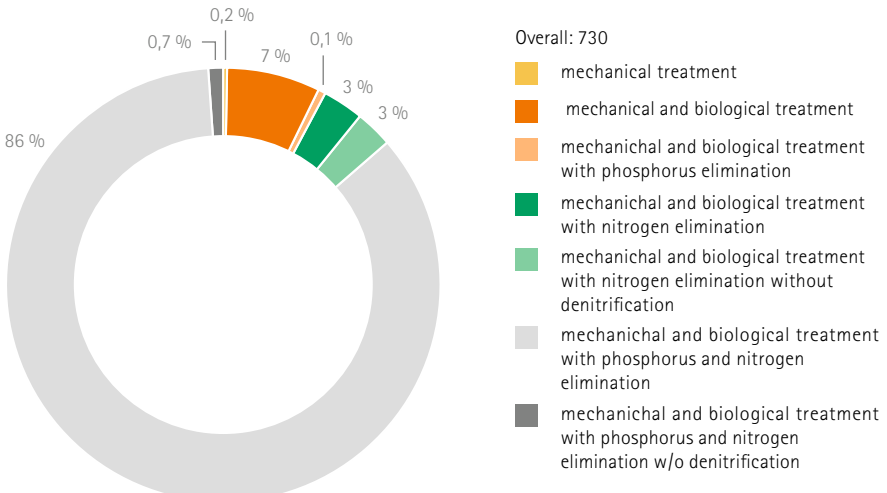
During the past few years, huge investments have been made into municipal sewage treatment works. As a result, more than 92 per cent of the wastewater stream can be cleaned in higher-standard treatment facilities. Today, almost every home in agglomerations is connected to the sewage system. Cleaner water bodies prove the success of these measures.

Degree of connection to public sewage treatment works in agglomeration areas

Agglomerations > 10,000 PE	97,80 %
Agglomerations with 2,000-10,000 PE	92,50 %
Agglomerations of 2,000 PE or more, total	96,60 %

Data source: SMUL Status Report 2008 Municipal Sewage Disposal in the Free State of Saxony, Data as of: 2008

Status of municipal sewage treatment works

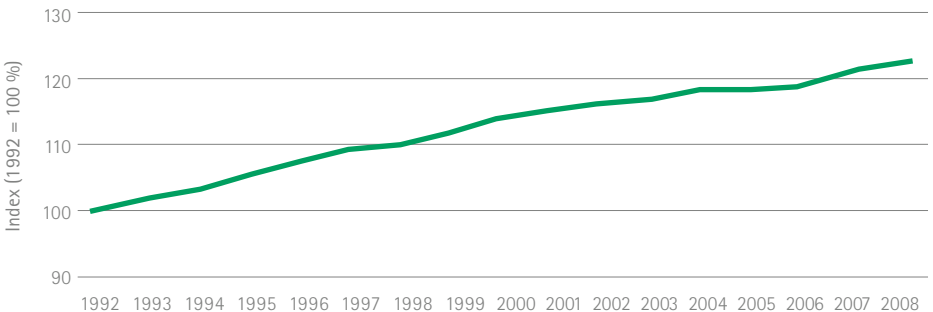


Sealed and traffic area

There has been a steady increase in impermeable surfaces in Saxony over many years. The Saxon government has identified the problem and set up an action programme for less new impermeabilisation, based on a set of measures striving for a reduced amount of new impervious surfaces without impairing the growth needs in industry, trade and traffic.

Data source: Statistical Office of Saxony, evaluation by Saxon State Office for Environment Agriculture and Geology

Sealed and traffic area over time



Rehabilitated contaminated lands

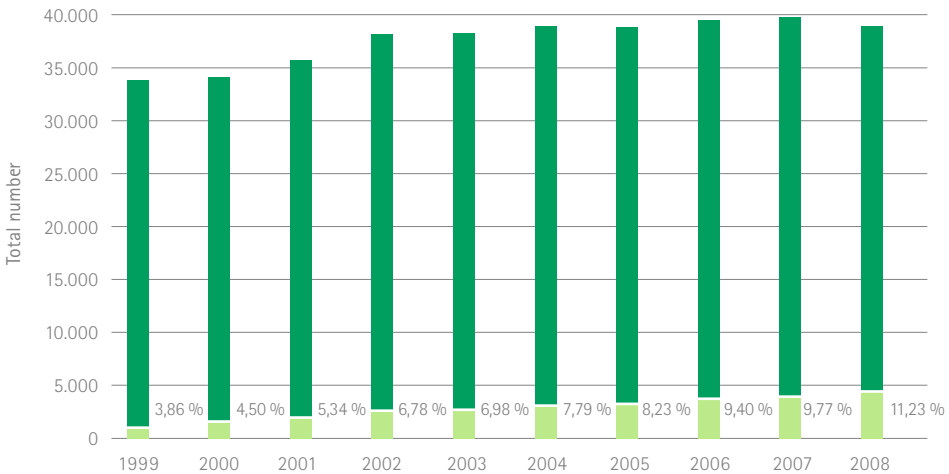
There has been a positive trend for the rehabilitation of contaminated site lands over the past few years - both in terms of number and percentage. There are two reasons for this positive outcome: on the one hand, exposure lands found not to be contaminated were removed from the contaminated site land register and, on the other, steady progress has been made in decontamination. Saxon companies with specialised knowledge in the rehabilitation of contaminated sites are among the technological world leaders in this field.

Total number of lands

Share (%)

Data source: Saxon State Office for Environment, Agriculture and Geology

Number and share of decontaminated lands



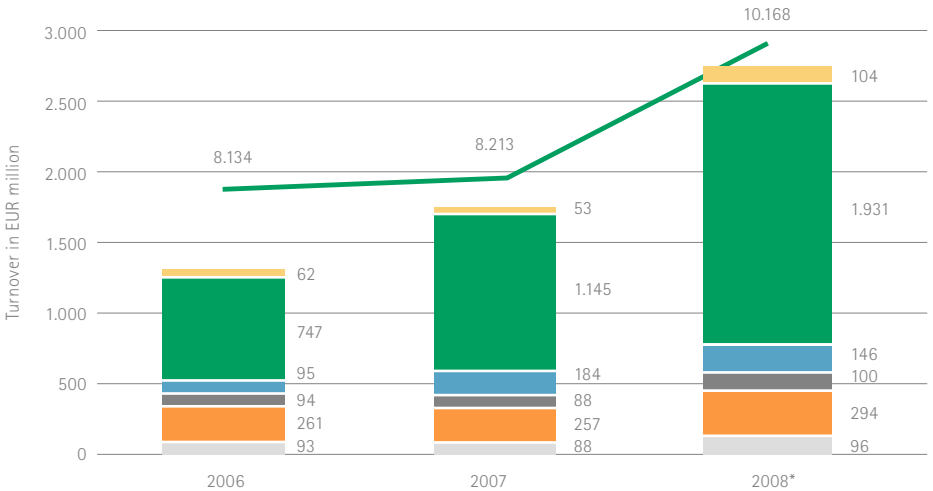
Environmental protection

Saxony has a well performing environmental economy with clearly growing turnovers and staff numbers. The green-tech industry's share in Saxony's gross domestic product is expected to almost double by 2020 against 2007. For methodological reasons, the figures for the turnover in climate protection are not comparable to the turnover from renewable energies.

Other
Climate protection
Clean air
Noise abatement
Water protection
Waste management
Number of employees

Data source: Statistical Office of the Free State of Saxony 2010
* 2008 – preliminary data

Employment and turnover for environmental protection



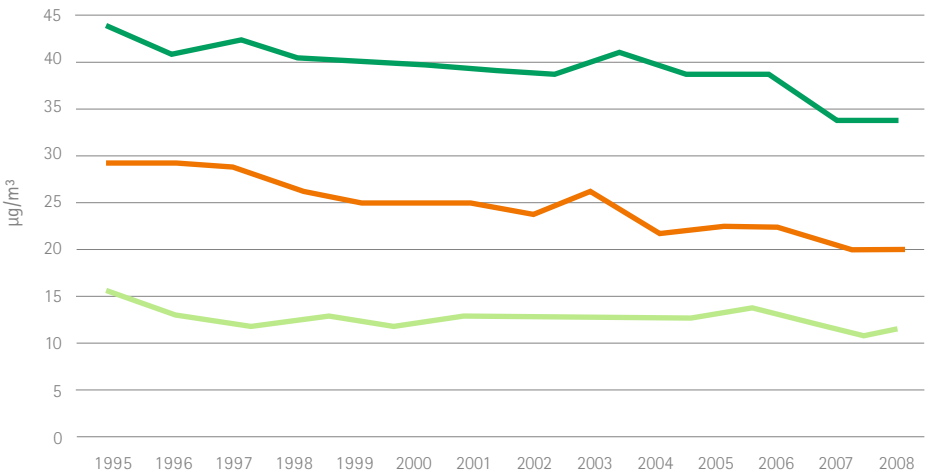
NO_2

The clean-air performance of the Free State of Saxony becomes evident from the nitrogen oxide emissions since 1990. As clearly shown, the closing down and upgrading of large combustion plants contributed a lot to the reduction of the emissions.

- Near-traffic zones
- Urban areas
- Rural areas

Data source: Saxon State Office for Environment, Agriculture and Geology; Calculation basis for NO_x emissions from traffic: HBEFA 2.1

Mean annual NO_2 concentrations by area type



SO_2

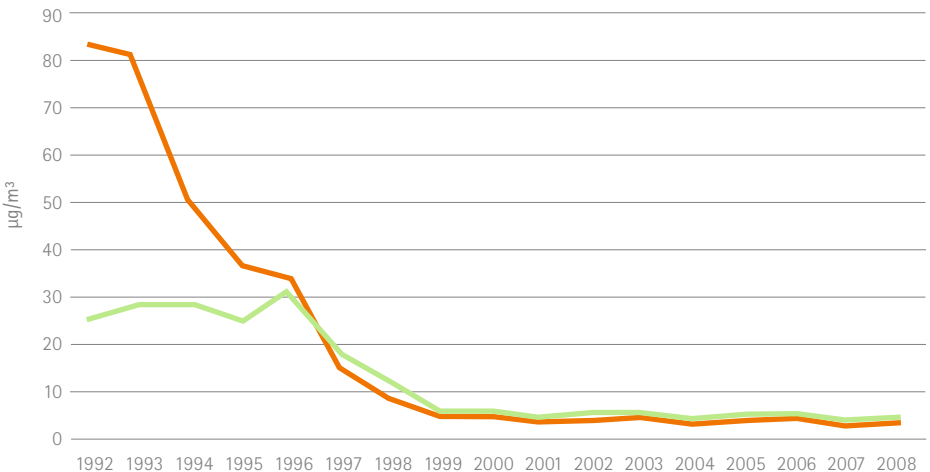
The sulphur dioxide levels are a clear indicator for the tremendous efforts made to improve the quality of the air - especially by upgrading and converting large combustion plants to natural gas / fuel oil. Both the chronic and acute loads were brought down to levels having an almost undetectable impact on human health and vegetation.

Urban areas

Rural areas

Data source: Saxon State Office for Environment, Agriculture and Geology

Mean annual SO_2 concentrations by area type



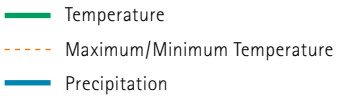
Evolution of the climatic conditions

The climate reference station of Görlitz shows the current trend towards less rainfalls during vegetation period 1 (April to June) in Saxony. The basic conditions have already changed noticeably in regions with high temperatures and light soils.

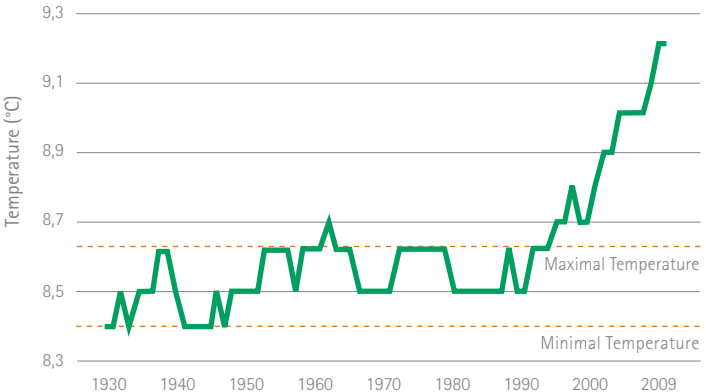
The chart from the Dresden measuring station is a representative example for Saxony. It shows the air temperature curve for the 30-year averages from 1900 to 2009. Between 1900 and 1990, the mean temperature value varied over a range of some 0.25 degree. In 1990, the temperature curve starts to rise at an extraordinarily steep angle. The mean value of the 1980-2009 period is already 0.5 degree above the variation range encountered before 1990.

The precipitation and temperature data of the meteorological stations in Saxony prove that the climate chnage is reality in Saxony. In response to this finding, the Saxon state government has set up its Climate & Energy action plan fixing emission targets beyond the European and German climate protection goals.

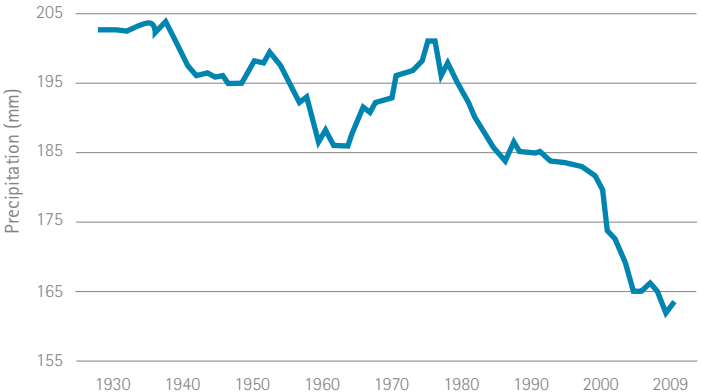
Data source: Saxon State Office for Environment, Agriculture and Geology, as well as DWD



Air temperature curve in the Dresden region
(Sliding 30-year average of the periods from 1901-1930 to 1980-2009)



Precipitation curve during vegetation period 1 (April to June)
Climate reference station of Görlitz
(Sliding 30-year average of the periods from 1901-1930 to 1980-2009)

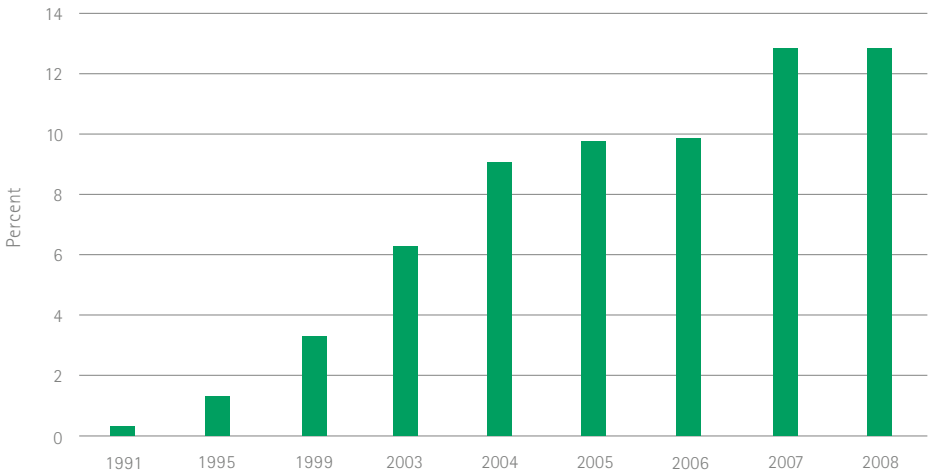


Share of electricity from regenerative resources

The use of renewable energies is a major component of the attempts to counteract the climate change while striving for future-oriented energy supplies. Saxony has made clear progress during the past few years with a clear trend towards more regenerative resources in energy production.

Data source: Saxon State Office for Environment, Agriculture and Geology, Saxon State Ministry for Economic Affairs and Labour Energy Reports of Saxony

Percentage share of regeneratives in power consumption



Employment/turnover in renewable energies

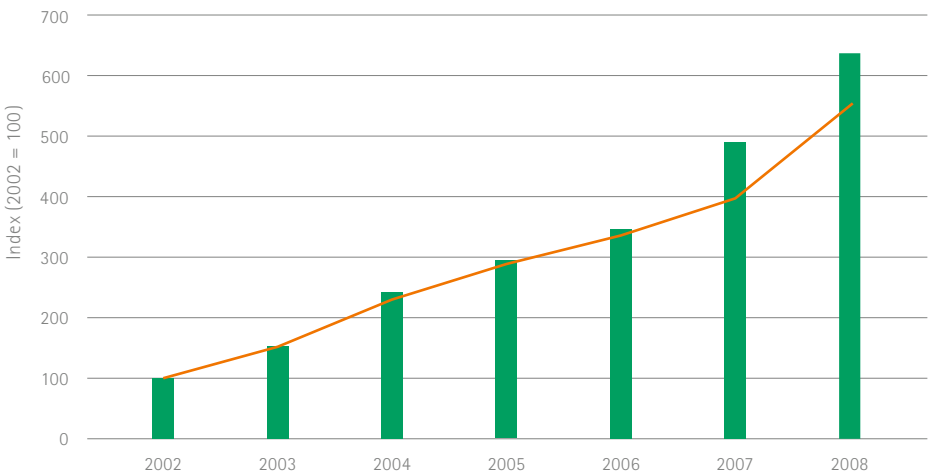
Renewable energies are a story of success in the Free State of Saxony. Within a period of 7 years, the number of jobs in this sector increased more than fivefold and the turnover even more than sixfold. So Saxony has developed into a top location for photovoltaics. In 2007, Saxony had more jobs in the production of solar components than any other German state.

Number of employees

Turnovers in Million Euros

Data source: In-house calculations after SAENA, paper held by Christian Miksch on 09.10.2009 and various issues of the study „Trends in Employment and Turnover from the Use of Renewable Energies in the Free State of Saxony"

Employment/turnover in renewable energies

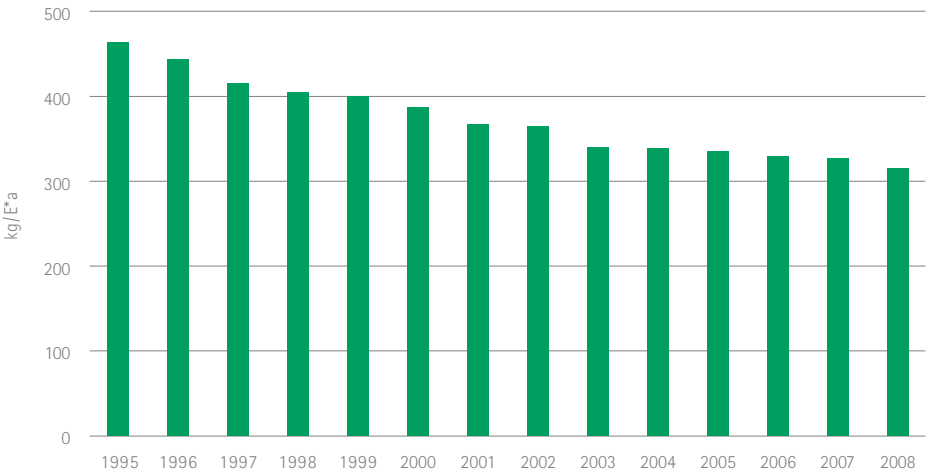


Residential waste stream

Since raw materials and energy resources are not endless, waste avoidance is the supreme goal of modern waste management systems. The steady reduction of the waste stream from households shows the continued improvements made in Saxony.

Data source: Saxon State Office for Environment, Agriculture and Geology

Residential waste stream from private households

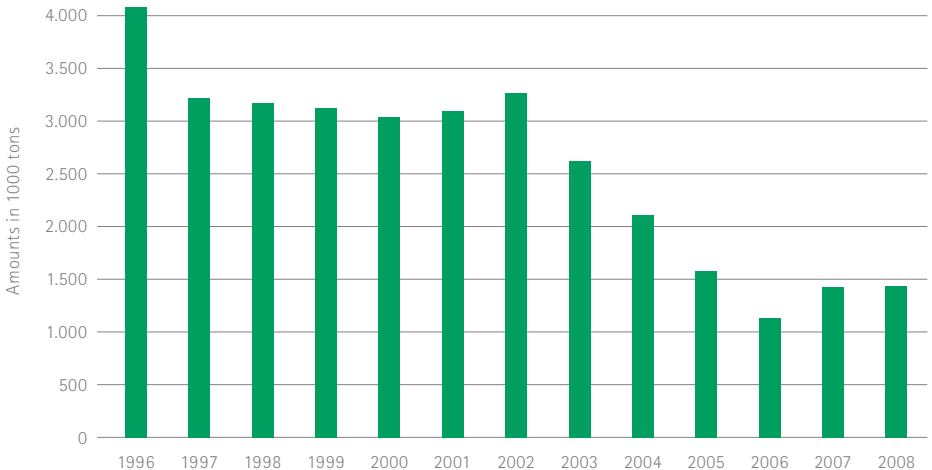


Waste disposal

As shown by the huge reduction in dumped waste during the past few years, it is meanwhile possible to use or recycle almost any type of waste in a suitable way. East German suppliers of waste management equipment are in a very strong technological position. Recent marginal increases in waste disposals are due to the growing amount of dumpable waste from industrial processes. These statistics also include required materials in preparation for the closing down of certain landfills and dumping sites.

Data source: Economic environmental accounts of the German states, issue 2009, as well as Statistical Office of Saxony

Waste disposal to landfills and dumps

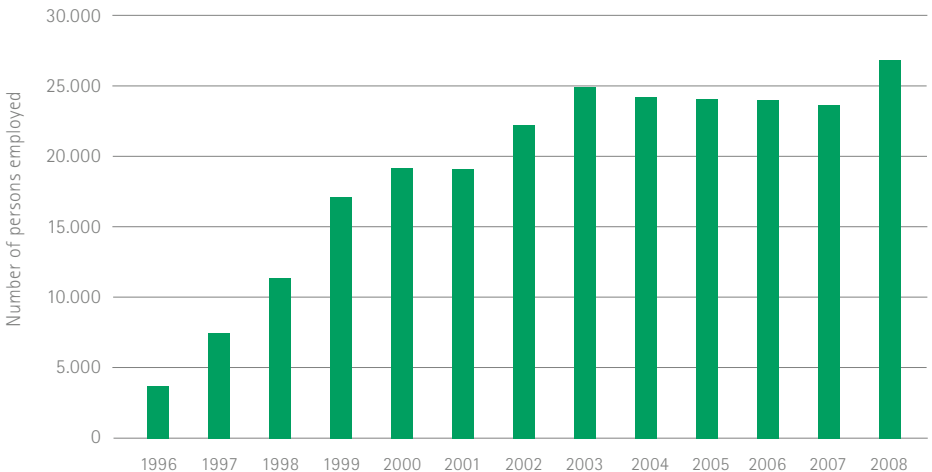


EMAS-certified plants

Saxony has managed to clearly raise the number of EMAS jobs and thus to have more and better integration of environmental issues in business processes. Environmental management systems do not only contribute to less environmental loads, but can give benefits in manifold ways, including cost savings, better predictability of legal issues and improved business organisation.

Data source: Chamber of Industry and Commerce - IHK Dresden, Chamber of Trade - HWK zu Leipzig : all for Saxony, Statistical Office of Saxony, Rb 214 Microcensus

Employment in EMAS-certified plants

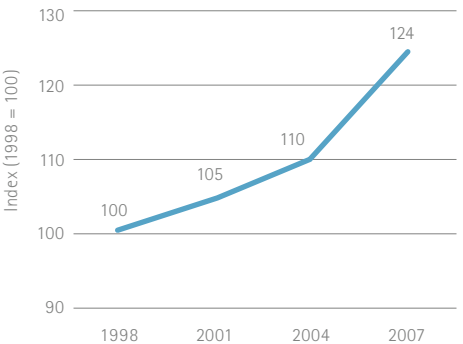


Water productivity

Water productivity is a rough indicator and helps to assess the extent to which economic growth is decoupled from the use of water resources. Water productivity is the relation between economic performance and water consumption, and thus high values indicate a positive trend. The data shows that the Free State of Saxony is on the way to more sustainable production.

Data source: Economic environmental accounts of the German states, as of spring 2010

Water productivity

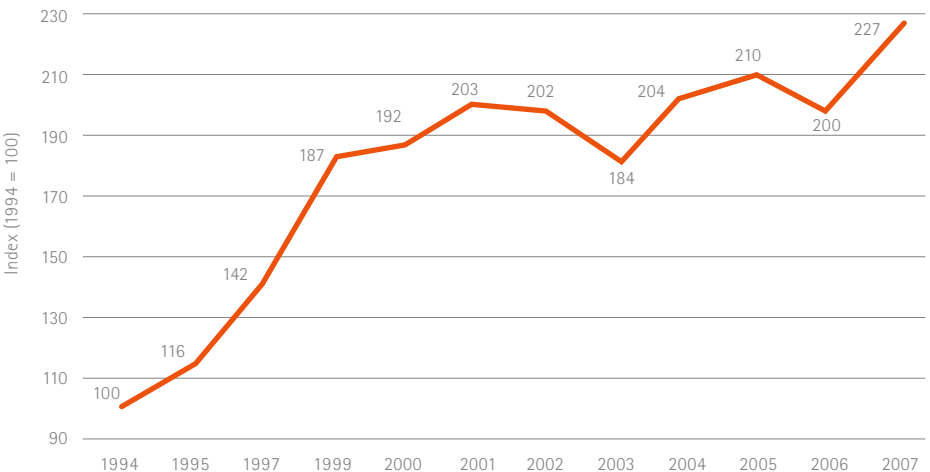


Raw material productivity

In times of shrinking resources, it is important to decouple the economic growth from resource consumption rates. A rising curve means a positive trend. Over the past few years, Saxony has achieved the best increase within Germany - more than three times the federal German rate.

Dada source: UGR, as of spring 2010

Raw material productivity

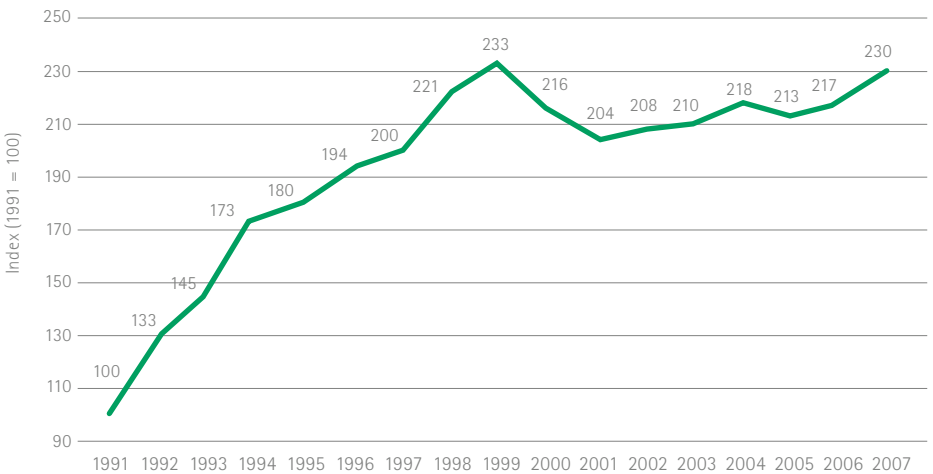


Energy productivity

Energy productivity is a clear indicator for an efficient conversion of primary energy into final energy and for the efficient use of final energy in the production of goods and services. The curve shows a steady increase in energy productivity before 1999. The decline in 2000 is due to the increased primary energy consumption of new power plants. However, the additional amount of high-efficiency energy thus produced has no effect on Saxony's GDP (electricity exports). The increase in energy productivity reaches top values in comparison with federal Germany.

Dada source: Economic environmental accounts of the German states, as of March 2009, Energy consumption: Energy Balances Interstate Work Group (as of 04.03.10), for Germany: Energy Balances Work Group (as of Sept. 2009)

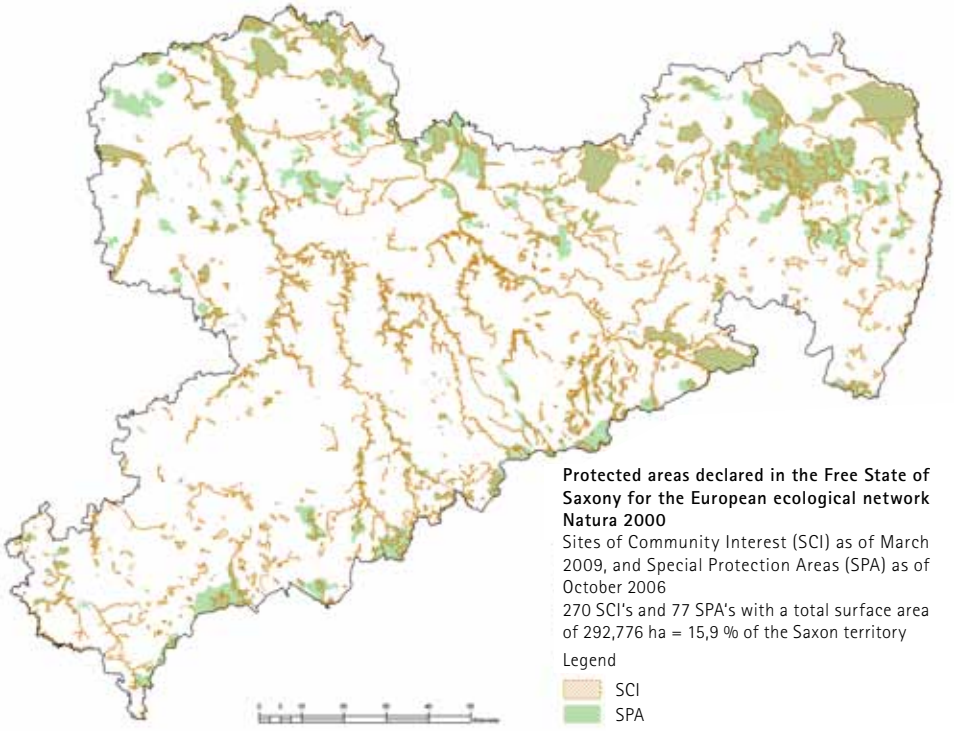
Energy productivity



Nature conservation

The NATURA 2000 system of protected areas was initiated by the European Union and is a major part of sustainable nature conservation policies. Saxony has 270 sites of community importance (SCI) and 77 bird protection areas (SPA), which are partly overlapping. They cover a total surface of 292,776 hectares and thus account for approximately 15.9 per cent of the Saxon territory.

Data source: Saxon State Office for Environment Agriculture and Geology



Protected areas declared in the Free State of Saxony for the European ecological network Natura 2000
Sites of Community Interest (SCI) as of March 2009, and Special Protection Areas (SPA) as of October 2006
270 SCI's and 77 SPA's with a total surface area of 292,776 ha = 15,9 % of the Saxon territory

Legend

SCI

SPA

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www.laendlicher-raum.sachsen.de

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