



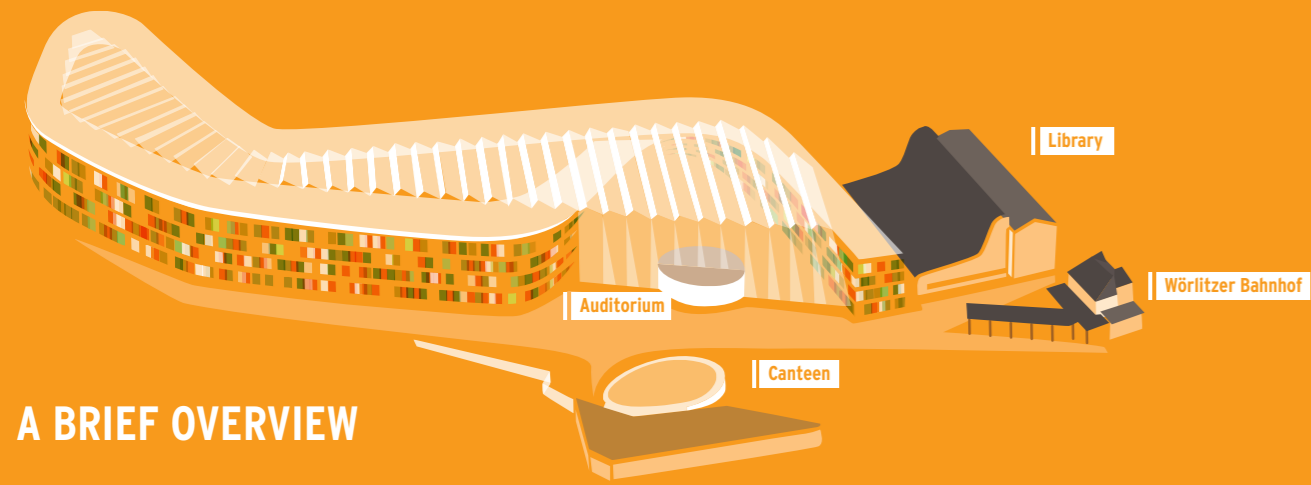
This is complemented by various art objects: the LCD screen traces left by visitors (Elisabeth Heindl, Munich), the Crossword Puzzle (Michael Seilman, Berlin) and the metal sculptures of Frieder Sties (Hans-Joachim Härtel, Erfurt), which conceal the suction ports for the geothermal heat exchanger.

The building designed by Berlin-based sauerbruch hutton architects is joined by the free-standing canteen, the auditorium and two renovated listed buildings – 'Building 109' and the Wörlitzer Bahnhof – to form an open ensemble within a newly created park landscape (designed by ST raum a, Berlin).

With its characteristic shape and the colour scheme of its facade, the UBA's new main building blends in well with its surroundings. A four-storey 'snake' of offices and functional rooms wraps around a public forum and the atrium, which is reserved for Agency staff. Both spaces are covered by a glass shed roof, into which textile solar protection and – over the atrium – a photovoltaic system has been integrated.

THE NEW BUILDING

Innovative ecological architecture



A BRIEF OVERVIEW



Eco-architecture
The four-storey 'snake' with its characteristic shape and colour scheme is part of the ecological concept.



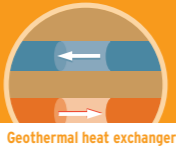
Building materials
Strict environmental and health criteria were applied in the selection of building materials.



Accessibility
The entire building is barrier-free, an orientation system helps disabled persons.



Energy efficiency
Energy is used very efficiently, preference is given to renewable energies.



Geothermal heat exchanger
The geothermal heat exchanger utilises a renewable energy source to cool fresh air in summer and heat it in winter.



Art
Three intriguing art objects attract attention.

Umwelt Bundes Amt
For our Environment

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The forum (entrance hall) is open to visitors during the building's opening hours:
Mon to Fri 6:00 am to 10:00 pm
Sat 6:00 am to 4:00 pm
Sun/hols 8:30 am to 4:00 pm

The visitors' room (information material) and the library in the forum are open:
Mon to Weds 9:00 am to 3:30 pm
Thu 9:00 am to 5:00 pm
Fri 9:00 am to 2:00 pm

Visitors who would like to learn more about the architectural and ecological design of the new building and visit the atrium can join a guided tour. For more information about this, ask at our visitors centre or visit our website (www.uba.de).

Photo credits: Reinhard Görner, Jan Bitter, Steffen Mainka, Marcus Bredt, nora systems GmbH
Text: Umweltbundesamt, PB, Z5

UBA SITE DESSAU



THE FEDERAL ENVIRONMENT AGENCY IN DESSAU

An example of ecological and accessible building

Umwelt Bundes Amt
For our Environment



UBA'S BUILDING IN DESSAU

In brief

- Total site area: 27,300 m²
- Gross base area: 39,800 m²
- Usable floor area: 17,800 m²
- Gross volume: 195,000 m³ including atrium and forum
- Number of storeys: 4 (plus basement)
- Bicycle parking spaces: 367
- Car parking spaces: 204

Structural design: reinforced concrete frame with columns and flat slabs; wood facade; wood frame with heat insulation; atrium and forum; covered with a glass shed roof; library: combination of new and old building; auditorium: separate structure in the forum; 360 seats; canteen: stand-alone building.

Architects: sauerbruch hutton - Berlin/London



THE FEDERAL ENVIRONMENT AGENCY IN DESSAU

For our environment

The Federal Environment Agency (Umweltbundesamt – UBA) is Germany's central scientific authority for environmental protection. The UBA was established in 1974 in Berlin. After German unification, the Commission on Federalism decided to relocate the UBA to Saxony-Anhalt. Based on an architects' contest, a new Agency building was erected in Dessau, with the following objectives:

- to meet high ecological standards in construction and operation
- high cost-efficiency
- accessibility to persons with disabilities
- best-possible integration into the urban surroundings

BUILDING MATERIALS

Eco-friendly and health-compatible

Strict environmental and health criteria were observed in the selection of building materials. Materials containing problematic substances were not used. Whilst the shell of the building is a reinforced concrete frame structure, the prefabricated elements of the façade are made entirely of timber and are thus the most visible component of the building's sustainable architecture. The materials were chosen on the basis of an assessment of their ecological impacts. Building products for interior use and for the geothermal heat exchanger were tested for pollutant emissions.

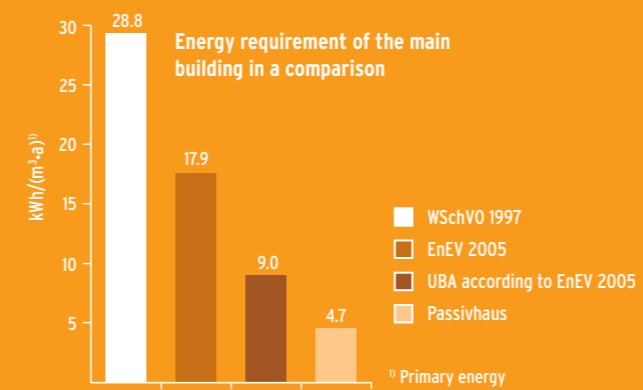
The behaviour of building products in terms of emissions of volatile organic compounds (VOCs) was evaluated on the basis of the assessment scheme of the Committee for Health-related Evaluation of Building Products (AgBB). Only products which satisfied these requirements were used.



ENERGY SUPPLY

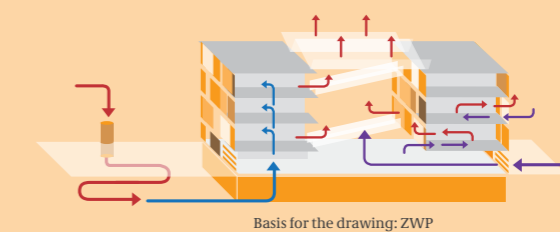
Economical and environmentally friendly

The energy requirement of the highly heat-insulated building is between that of a low-energy building and that of a passive building (Passivhaus); it is more than 50% less than the maximum allowed by the Heat Insulation Ordinance (WSchVO) of 1997, which applied at the time the building was planned, and about 30% less than the maximum allowed by the Energy Saving Ordinance of 2005.



District heating from combined heat and power production covers the basic heating requirements of the building. Because of noise on the western side of the building due to railway tracks and a federal road, it was not possible to implement the original plan of ventilating the entire building by natural means. The offices in that section have to be ventilated mechanically, as do the rooms with high thermal loads such as the computer centre or the auditorium.

The ventilation system can be controlled independently for the various areas. To reduce the energy demand, the exterior air to the system is passed through a geothermal heat exchanger – one of the largest in the world. The total length of the pipe system is 4,800 m. This is where the air is preconditioned – heated in winter, cooled in summer. Irrespective of this, windows can be opened in all of the rooms. To improve indoor climatic conditions and reduce energy consumption in the summer months, the entire building can be cooled at night via centrally controllable air louvres.



The necessary air conditioning of the rooms of the computer centre, the auditorium and the rooms for IT training occurs via an adsorption chiller, which is powered by energy supplied by solar heat collectors situated on the flat roof of the main building. In winter, when solar radiation is insufficient, a vapour compression chiller contributes to cooling. Electricity is supplied by a photovoltaic system on the shed roof over the atrium and the flat roof of the main building. Renewable energies cover almost 10 percent of the total energy demand.

ACCESS

Barrier-free and targeted

The entire building is accessible to persons with disabilities. All public areas such as the library, the information centre and the canteen can be used by the disabled unassisted. The same applies to the auditorium, whose seating and podium areas are accessible to disabled persons.

Doors, stairways and elevators are also barrier-free, as are the sanitary facilities. In the building and throughout the premises, there is an orientation system which helps disabled persons to find their way.

