



THE SOLAR CAPITAL OF GERMANY

→ As one of the sunniest cities in Germany, efficient use of solar power is the main focus of Freiburg's efforts to be powered entirely by renewable energy.

THE SOLUTION

! The cityscape confirms Freiburg's reputation as the solar capital of Germany: solar panels blanket the roof of the stadium and City Hall, sit atop the roofs of schools, churches, private houses, and even the prison. Freiburg show off a variety of ways to harness the energy from the sun: solar photovoltaic panels, solar thermal for hot water, solar sunrooms or "winter gardens," passive solar design, solar cooling, and transparent solar insulation, which converts the solar heat that hits a wall into useable thermal energy.

WHY A SUSTAINIA100 SOLUTION?

? The efforts in Freiburg illustrate that delivering sustainable energy for a city of a quarter-million residents is possible. To reduce fossil fuel consumption, and to achieve a stable supply from renewable energy sources, Freiburg takes a holistic approach to sustainability. Decentralized renewable energy sources are combined with energy efficiency technologies to achieve sustainable heating and power supply.

1. City of Freiburg: "Green City Freiburg – Approaches to sustainability."



Photo: Solar-Fabrik AG

www.freiburg.de



GERMANY



DISTRICT HEATING

→ Urban populations are growing, and so is the need for heating. Luckily, smart urban planning offers a sustainable solution to this challenge: district heating.

THE SOLUTION

! In the Danish Region of Copenhagen, the City of Copenhagen, 20 local authorities, and the Danish Energy Agency have since 1980 cooperatively developed a unique integrated district heating system. It is cost-effective for society and consumers and supplies heat to 98% of the buildings in the network.

The heating produced is 95% surplus heat from multi-fuel combined heat and power (CHP) plants. 25% of the CHP is based on surplus waste from the region. The system, which is to be expanded further, is owned by four transmission companies and 20 municipal distribution companies.

Many other cities – Aarhus, Malmö, Berlin, Prague, Stockholm, Helsinki, Moscow, and Beijing among them – also benefit from city-wide district heating based on CHP.

WHY A SUSTAINIA100 SOLUTION?

? Cities need sustainable and cost-effective solutions for heating as a natural part of the urban infrastructure. Greater Copenhagen has demonstrated how this can be organized and designed to the benefit of consumers and society by combining government regulation and incentives with local commitment and co-operation.



DENMARK



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