LAND BRANDENBURG

be Berlin

Energy Efficiency

in the Capital Region Berlin-Brandenburg

THE GERMAN CAPITAL REGION

excellence in energy technology

At TU Berlin, the energy-efficient ventilation of operations rooms is being researched

Solar-powered refrigerator by Coolar

Companies

ADAKOM
Austrotherm
B & O Gebäudetechnik
Berliner Energieagentur
Berliner Stadtreinigung
BIM Berliner Immobilien-management
BLS Energieplan
Cegelec Contracting
Clina Heiz- und Kühl-elemente
Coolar
deematrix Energiesysteme
deZem
Dr. Riedel Automatisie-rungstechnik
ECOPLAN
ED-ENERGY
energiewaechter
E.ON Connecting Energies
eZeit Ingenieure
GASAG Solution Plus
GEA Refrigeration Germany
GeoClimaDesign
Geo-En Energy Technologies
Greenhaus
heinhaus architekten
HOWOGE
HPS Home Power Solutions
Huch Behälterbau
Ibar Systemtechnik
inhouse engineering
i-save-energy
isofloc Dämmstatt
Kieback & Peter
Kofler Energies
MAHLE Amovis
Märkische Scholle Wohnungsunternehmen
ÖKOTEC
Osram
Pneumatik Berlin
Prefere Resins Germany
Rubitherm Technologies
Schneider Electric
SES Energiesysteme
Semperlux

The topic of energy efficiency is as important today as ever. Numerous new options are emerging as part of the digitalization process. This is not just about optimizing individual elements, but also about making complex infrastructures at the system level more efficient.

The German capital region is home to extensive expertise and experience thanks to its ambitious climate protection goals. Employing about 26,000 people and generating revenues of more than €3.3 billion a year, technologies related to energy efficiency represent an important aspect of the region's energy and environmental sector. Efficiency technologies are being developed and tested in a variety of projects here, including lighting technology, visualizing energy consumption, lightweight construction, air-conditioning technology, technologies for the efficient distribution and storage of heat and cold as well as building services engineering. The energy-efficient buildings segment accounts for about two-thirds of those working in this sector and about 57% of the revenues.

As a growing city, Berlin offers ideal opportunities to develop and apply the latest technologies, energy services, and new business models, especially in the building sector. Numerous projects across the city are combining a wide range of different approaches.

»With Geo-En's geo-hybrid technology, we are already reaching the climate protection targets for tomorrow. For me, it is clear that without integral energy solutions, we will not be able to save our climate. Renewable energies are the most important key.«

Tobias Viernickel
CEO
Geo-En Energy Technologies

»THB is involved in a wide range of research and teaching projects related to creating energy efficient technical systems following an interdisciplinary approach. Our research focuses on energy optimization of production processes, heat recovery, heat storage, energy-efficient lighting systems, and solar thermal energy for process heat.«

Prof. Dr.-Ing. habil. Katharina Löwe
Vice Dean, Department of Engineering
Energy and Environmental Engineering
Brandenburg University of Applied Sciences

The "Märkische Scholle" cooperative residential area in Lichterfelde is home to about 1,000 apartments that have been comprehensively modernized by means of recompaction, energy generation, heat recovery, geothermal storage and a "dynamic energy manager", all without having to raise rents.

The project "Nechlin – A village full of energy" in the Uckermark is a showcase of an economically successful integration of renewable energies, including an innovative heat supply, photovoltaic cells, e-mobility, and renovations to create energy-efficient buildings.

The 13.6 acre EUREF campus is another representative symbol of the energy transition in Germany and serves as a home base for companies working in the fields of energy, sustainability, and mobility. Energy obtained from the sun and wind is combined with bio and natural gas cogeneration units and power-

eTank heat accumulator by deematrix

Capillary tube system by GeoClimaDesign as overhead heating and cooling system

to-heat and power-to-cool systems. The German government's CO_2 emissions targets for 2050 were already met here in 2014.

In Strausberg, Hermann Römmler Kunststofftechnik is generating electricity and cooling through cogeneration and uses it both to power its production processes and to control its building climates. The results: 40% energy savings and 60% less CO_2 emissions.

Coolar, a spin-off from the TU Berlin, has developed a refrigerator that runs on low-temperature heat from solar thermal energy without electricity or harmful refrigerants. A key application for this technology will be cooling medicines and vaccines in developing countries with limited electricity supplies.

Under the motto "Making ice cream from the sun", ice cream manufacturer Florida Eis has adopted climate-neutral production and logistics systems with innovative refrigeration, insulation, and adsorption technologies. The refrigerated delivery vehicles are equipped with a fixed eutectic plate cooling system which is charged overnight.

»The capital region offers my team and me an excellent environment for research in the area of sustainable heating and cooling, for example, developing cooling plants and heat transformers powered by process waste heat.«

Prof. Dr.-Ing. Felix Ziegler
Head of the Department of Mechanical and Systems Engineering
TU-Berlin, Institute for Energy Technology

»With its numerous competencies in science and business, the Berlin Brandenburg Energy Technologies Cluster offers an ideal environment for developing and advancing new technologies in the area of energy-efficient building systems.«

Antje Vargas
CEO
GeoClimaDesign AG, Fürstenwalde

Bäckerei Röhrig in Trebbin is setting new standards for the trade. The operation was able to reduce its CO_2 emissions by 57%, for which it was awarded the 2017 Brandenburg Energy Efficiency Award. The bakery has systematically implemented a series of efficiency measures, such as solar thermal systems, CHP, LED lighting, battery storage, and heat generation with natural gas via photovoltaics.

As the capital of digital transformation, Berlin is also making important contributions to the development of energy-saving IT solutions. The Photonics Enhanced Data Centers (SAVE) project at the Berlin Center for Digital Transformation of the Fraunhofer Society, for example, is working on ways to integrate photonic elements into data centers in order to reduce their enormous energy consumption levels significantly. Sicoya received the 2017 "Start Up Energy Transition Award" for the development of low-cost, energy-efficient optical transceiver chips for server connections.

Siemens
STG Combustion Control
Thermondo
T-Systems
TTZ
Vectron International
Vattenfall Europe Wärme
ZeoSys – Zeolithsysteme
Ziegert Roswag Seiler Architekten Ingenieure

Research

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Brandenburg University of Technology Cottbus–Senftenberg
German Aerospace Center (DLR)
GFZ German Research Centre for Geosciences
Eberswalde University for Sustainable Development
Fraunhofer FOKUS
Fraunhofer IPK
Freie Universität Berlin
Hochschule für Technik und Wirtschaft Berlin (HTW)
Potsdam Institute for Climate Impact Research
Technische Hochschule Brandenburg
Technische Universität Berlin
University of Applied Sciences Potsdam

Associations and networks

Berliner Energieagentur (BEA)
Berliner NetzwerkE
Brandenburgische Energie Technologie Initiative
Deutsche Energie-Agentur (dena)
Deutsche Unternehmensinitiative Energieeffizienz (DENEFF)
Energiesparagentur bei der Wirtschaftsförderung Land Brandenburg
green with IT Berlin-Brandenburg

Our aim: your success!

Berlin and Brandenburg are promoting energy efficiency through a transregional economic policy in the Energy Technologies Cluster. The cluster is managed by the Brandenburg Economic Development Corporation (WFBB) and Berlin Partner for Business and Technology.

Our aim is to provide comprehensive support to companies and scientific institutions interested in inward investment or further development in the capital region.

We are ready to assist you with:

- **Finding a site**
- **Funding and financing**
- **Technology transfer**
- **Finding contacts and cooperation partners**
- **Cooperating in networks**
- **Recruiting personnel**
- **Developing international markets**

Reach out and contact us!
www.energy-bb.com

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Berlin Partner für Wirtschaft und Technologie GmbH
Fasanenstraße 85
10623 Berlin
www.berlin-partner.de
Twitter: @BerlinPartner

Contact:
Wolfgang Korek
Tel +49 30 46302 577
wolfgang.korek@berlin-partner.de

Wirtschaftsförderung Land Brandenburg GmbH
Babelsberger Straße 21
14473 Potsdam
www.wfbb.de

Contact:
Jürgen Vogler
Tel +49 331 73061 425
juergen.vogler@wfbb.de

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