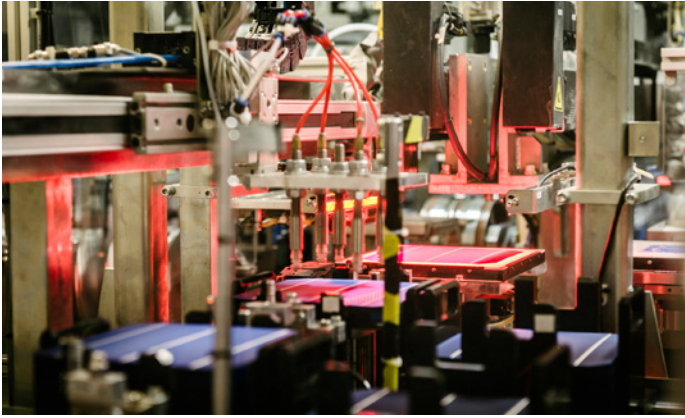




Renewable Energy

in the Capital Region Berlin-Brandenburg



Production at aleo solar in Prenzlau



Optimization of wind turbines in the wind tunnel at TU Berlin

Companies

Solar power

AkoTec
aleo solar
GMB Glasmanufaktur
Brandenburg
ib vogt
InvenSor
Jonas & Redmann
KBB Kollektorbau
Milk the Sun
Mounting Systems
mp tec
OneShore Energy
Parabel
PI Photovoltaik-Institut Berlin
PUK-Solar
Oxford PV
Silicor Materials
skytron energy
Solmove
SUNfarming

Bioenergy

Alensys Engineering
Algenol Biofuels Germany
Biopract
CTA Anlagenbau
Danpower
Forster Heiztechnik
GICON Bioenergie
HF Biotec Berlin
LXP Group
PCK Raffinerie
Pronova Analysentechnik
SunCoal Industries
TS Umwelтанlagenbau
VERBIO Biofuel &
Technology

Wind power

AMBAU Windservice
Ammonit Measurement
Energiequelle
EnerKite
ENERTRAG
Key Wind Energy
Reuther STC

Renewable energies play an outstanding role in Berlin and Brandenburg. While Berlin needs a lot of energy, Brandenburg can generate a lot of it from renewable sources. In Brandenburg, approx. 18,400 GWh of renewable electricity are generated per year. This is more than Berlin's total annual electricity consumption.

Together, technologies and implementation concepts are being developed and tested. The consortium WindNODE, which was initiated by the Berlin-Brandenburg Energy Technology Cluster and in which all the East German states are involved, will demonstrate in the »Smart Energy Showcase« how production and consumption can be permanently optimally brought into alignment. This is only possible through a comprehensive smart grid, in which all system participants communicate with each other via an »Internet of Energy«.



»The infrastructure in the capital region for research and development in the field of solar energy generation (in the form of electricity and hydrogen) is unique. This includes basic research in the EMIL laboratory at the BESSY II synchrotron as well as the Helmholtz Innovation Lab

HySPRINT and application-oriented technology development at PVcomB. With regional, national and international partners from industry and science, we are working intensively on the global energy transition.«

Prof. Dr. Rutger Schlatmann
Director PVcomB
Helmholtz-Zentrum Berlin

Bioenergy

The production of energy from biomass using a variety of technologies is an important pillar of the energy transition which can be very well



»The regional Feldheim 'regulating power station' ensures future prospects. Technically: via the significant contribution of the 10 MW battery storage system to stabilizing the grid. Regionally: by creating added value in a rural part of Brandenburg. Systemically: as a further, practical

building block for the implementation of the energy transition.«

René Just
Head of Domestic Projects
Energiequelle GmbH

planned and regulated. The big challenge is to use the existing resources and facilities more effectively. Many companies and research institutes are working together to find solutions in the areas of agro-forestry systems and algae research as well as biogas, biofuels and biochar. The Leibniz Institute for Agricultural Engineering and Bioeconomy is conducting research with a focus on the energetic use of biomass. By providing practical application laboratories for business partners, ATB is promoting the development of agricultural innovations into market-ready products.

Solar energy

Photovoltaics (PV) in particular makes an important contribution to supplying the capital region. With 1.5 MW/1,000 inhabitants, Brandenburg has the highest installed PV capacity per capita in Germany (2018). In addition, Germany's largest solar park, with an installed capacity of 168 MW, has been operating in Lusatia since 2011. In Weesow-Wilmersdorf the ENBW energy group is planning an open-space PV plant on an area of 164 hectares, without EEG subsidies, with an installed capacity of more



Danpower biomethane cogeneration plant on the site of the wind turbine blades producer Vestas Blades

- The capital region Berlin Brandenburg is an energy transition pioneer
- Large share of renewable energy
- Leading international expertise in solar research
- Extensive research landscape for the energetic use of biomass
- Pilot projects, research activities and young companies in the field of retrofitting of wind turbines
- Creative, startup-friendly climate

than 180 MW. In addition to manufacturers such as also solar and Oxford PV, more and more start-ups with innovative solar products for end users are being created.

At the Competence Centre Thin-Film and Nanotechnology for Photovoltaics Berlin (PV-comB), thin-film photovoltaic technologies and products are developed in cooperation with the industry. The technology and knowledge transfer occurs in research projects with industrial partners as well as by training highly skilled professionals. The capital region is also making its mark with new R&D trends, including the development of perovskite solar cells and solar road surfaces.

Wind energy

With an installed capacity of about 7,105 MW, Brandenburg is the second leading wind power state in Germany (as of 6/2019). But it doesn't end with wind turbines – development and manufacturing also take place here. Renowned manufacturers and suppliers manufacture maintenance pods, rotor blades and towers, for instance. At the Lauchhammer site in southern Brandenburg, rotor blades for Vestas megawatt wind turbines have been manufactured since May 2002. Moreover, companies and re-



»In 2016, we acquired our pilot line in Brandenburg an der Havel to bring our perovskite silicon solar cell technology to market. Brandenburg's support ranged from identifying a suitable location and facilitating access to grants to networking opportunities that allowed access to the best regional institutes.«

Frank P. Averdung
CEO
Oxford PV Germany GmbH



»The future-oriented operation of the capital's grid plays a key role in the urban energy transition. Stromnetz Berlin optimises the use of wind energy from Brandenburg and decentralised photovoltaic generation within the city through continuous innovation. An intelligent

power grid is also required for transforming the heat and transport sectors in order to achieve the climate protection goals of the capital region.«

Claudia Rathfux
Head of Customer and Market Relations
Stromnetz Berlin GmbH

search institutes in the region are also involved with innovative technologies such as high-altitude wind technology, in addition to research on rotor blades and base foundations. The aim of the high-altitude wind technology is to harness the power of stronger, more stable winds at altitudes up to 500 m, especially in inland areas, thus improving efficiency significantly. In addition, experts from Berlin and Brandenburg are increasingly dealing with topics such as retrofitting and predictive maintenance of wind turbines.

Integrating renewables into the energy supply system

The capital region is a great place to test methods for the stable supply of energy with a large share of renewable energy. At the core of this is the digital networking of market participants. Technology companies, energy producers and consumers, grid operators and scientific institutes are working on the necessary concepts and putting them into practice.

Seilpartner Windkraft
TRADYNA
Turbit Systems
Venpower
Vestas Blades
WINDnovation Engineering Solutions
WP Systems
Zahnradwerk Pritzwalk

Research

BAM Federal Institute for Materials Research and Testing
Beuth University of Applied Sciences Berlin
Brandenburg University of Applied Sciences
Brandenburg University of Technology Cottbus – Senftenberg
Eberswalde University for Sustainable Development
Fraunhofer FOKUS
Helmholtz-Zentrum Berlin für Materialien und Energie
HTW Berlin
Leibniz Centre for Agricultural Landscape Research
Leibniz Institute for Agricultural Engineering and Bioeconomy
Max Planck Institute of Colloids and Interfaces
PVcomB
Reiner Lemoine Institute
TH Wildau
TU Berlin

Associations and networks

Berlin-Brandenburg Energy Network (BEN)
Brandenburgische Energie Technologie Initiative (ETI)
CEBra – Centrum für Energietechnologie Brandenburg
German Biogas Association Regional Office East (FvB)
German Renewable Energy Federation (BEE), Berlin-Brandenburg branch
Regional Association Berlin Brandenburg WindEnergy (BWE)

Our aim: your success!

Berlin and Brandenburg support renewable energies with an economic policy developed across state borders in the energy technology cluster. The cluster is managed under the aegis of the Economic Development Agency Brandenburg (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, R&D and innovation projects
- Finding contacts and cooperation partners
- Cooperating in networks
- Recruitment of specialists and advanced training
- Developing international markets

Reach out and contact us!

www.energy-bb.com

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