Energy Grids and Storage Systems in the Capital Region Berlin-Brandenburg
Renewable energy has been pooled as a power plant and fed into a 380 kV supergrid on demand for the first time at ‘Hybrid Power Plant Prignitz’. Our goal is to generate and use energy in ONE region – Berlin and Brandenburg – so we can avoid an expensive grid expansion.

Holger Ruletzki
Chief Executive Officer
Parabel GmbH

GridLab – the European training and research center for the safety of electrical grids – operates a grid simulator to test critical grid situations under real-world conditions, train personnel and develop, define and certify standards. With its excellent logistics and very high share of both renewable and conventional energy, the capital region is an ideal location for us.

Dr. Bernd Benser
Chief Business Officer
GridLab GmbH

Companies
50 Hertz Transmission
BAE Batterien
BELECTRIC
Berliner Erdgasspeicher
Betoni- und Energietechnik
Heinrich Gräper
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Bosch SI
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Energy transition pioneer
Berlin-Brandenburg is a pioneer of the German “Energiewende”. Here in the capital region, a quickly growing supply of renewable energy in Brandenburg is encountering the high demand of Berlin, a major city. The challenge is to match supply and demand along the individual dimensions of generation, energy grids, energy storage and consumption – in an intelligent manner.

The companies in the capital region have special advantages in the areas of:

• Construction and operation of energy grids with a high share or renewable energy
• Transformation and storage of energy in the form of electricity, gas and heat for needs-compatible supply and grid stabilization
• Information and communication systems for future energy supply structures
• System security for complex energy grids
• Flexible power plants, innovative gas turbines and innovative products for maintenance, repair and overhaul (MRO)

Many significant innovations have come from the region. In September 2014, Europe’s first commercial battery power station started up. It was developed by Younicos, a company from Berlin. The fully automated station with 5 megawatts of lithium-ion storage stabilizes short-term fluctuations in line frequency with standby energy. Additional battery storage projects are operating in Solar Park Alt Daber and the small village of Feldheim in Brandenburg, which has been energy self-sufficient since 2010. ENERTRAG in Prenzlau operates the first hybrid power plant in the world, which generates hydrogen in addition to electricity and heat. In 2013 E.ON established a power-to-gas pilot plant in Falkenhagen.

Ideal location for development and testing
The synergies in the region function across state borders, creating an attractive environment for development and testing for local companies and grid operators as well as for players outside the region. There is a very large supply of renewable energy in the regional transmission and distribution network. All of the energy-relevant network lines of business (electricity, gas and district heat-
At BTU Cottbus, we work on very extensive projects in partnership with industry in order to find new solutions for integrating renewable energy and electromobility into the grid. We also do basic research, for example on high voltage direct current and vacuum switches.

Prof. Dr.-Ing. Harald Schwarz
Chair of Power Distribution and High-Voltage Engineering
BTU Cottbus – Senftenberg

The specific combination of Brandenburg, a region with a high level of wind energy conversion, and Berlin, which has a high population density, offers outstanding potential for integrating renewable energy. Smart grid technology can be used to control storage systems and flexible loads, and managing cross-medial grids for electricity and heat.

Prof. Dr.-Ing. Kai Strunz, Head of Department Sustainable Electric Networks and Sources of Energy
Technische Universität Berlin

The Capital region is an energy transition pioneer
Leading in the development and management of energy grids with a high share of renewable energy
Development and integration of energy storage technology for grid stabilization
Pilot projects for hybrid power plants and Power to Gas/H₂
System security know-how for complex energy grids
Management of multi-sectoral infrastructures (electricity, heat, water) and optimization with respect to efficiency and safety

Science and Research
Beuth University of Applied Sciences Berlin
Brandenburg University of Applied Sciences
Brandenburg University of Technology Cottbus – Senftenberg
Eberswalde University for Sustainable Development
Fraunhofer FOKUS
Fraunhofer IPK
Fraunhofer IZM
Gridlab
HTW Berlin
Technical University of Applied Sciences Wildau
Technische Universität Berlin
Telekom Laboratories

Associations/Initiatives/Networks
BDEW German Association of Energy and Water Industries
Berlin Brandenburg Energy Network
BSW – German Solar Industry Association
Bundesverband Energiespeicher
BWE
Cebra
EIT ICT
ETI
green with IT
KIC InnoEnergy
NetzwerkE
NOW
performing energy
RegioEnergieNetzwerk

Close cooperation between science and business

In GridLab, jointly established by 50 Hertz Transmission and BTU Cottbus – Senftenberg, the region has a unique research and training infrastructure at its service. BTU is also operating a hydrogen and storage research center in partnership with ENERTRAG and TOTAL Deutschland. The center has a test system in which hydrogen is generated using pressure electrolysis of up to 60 bar and the optimal adaptation to the electricity infeed from wind power stations. Innovation Centre Energy at TU Berlin interconnects the expert knowledge in the energy field and provides a centralized platform for communication and collaboration with partners in industry and external researchers. Hochschule für Technik und Wirtschaft (HTW) Berlin has a special focus on the intelligent link-up between photovoltaic systems and battery and heat storage systems. The Berlin-Brandenburg Energy Technology Cluster management plays a key role in initiating R&D partnerships and joint showcase projects.
Our aim: your success!

Berlin and Brandenburg support the focal area Energy Grids and Storage Systems with an economic policy developed across state borders in the Energy technology cluster. The cluster is managed under the aegis of the Brandenburg Economic Development Board (ZAB) 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
- Finding contacts and cooperation partners
- Technology transfer
- Cooperating in networks
- Recruiting personnel
- Developing international markets

Reach out and contact us!
www.zab-brandenburg.de
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