



Baden-Württemberg
Ministry of Economic Affairs

Energy Utilities

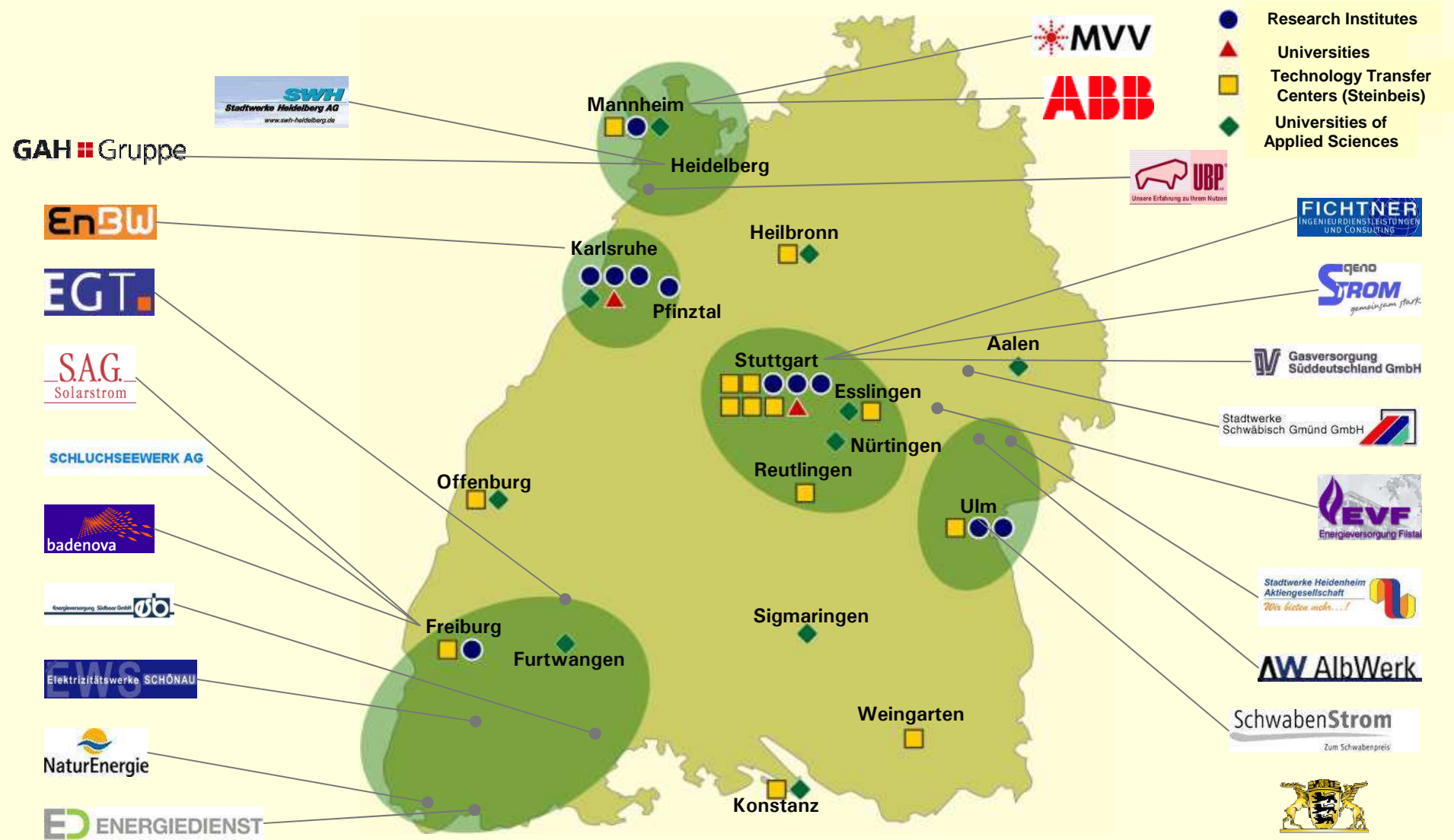
Baden-Württemberg – home to leading energy utilities

- Companies that generate, distribute, and sell energy serve a rapidly expanding market. What's more, the global energy market will grow by around 66 percent over the next 30 years – this represents an annual increase of 1.7 percent. In particular, the demand for gas will rise more than for other fossil fuels worldwide, and renewable energy will play a more important role in the future.
- The global electricity market will grow at an annual rate of approx. 2.4 percent between now and 2030.
- With around 40 million households and some 4 million customers in manufacturing, retail and commerce, the German electricity market is one of the largest and most attractive in the EU.
- Baden-Württemberg is a leader in the energy sector:
 - Germany's third largest energy utility, Energie Baden-Württemberg AG (EnBW), is headquartered in the region.
 - As well as key gas, water and electricity companies, Germany's largest solar-power specialist, S.A.G Solarstrom AG, is also located in Baden-Württemberg.
- The region is the ideal environment for energy players: not only does it have a wide range of research facilities and universities, there are also many technology-transfer centers (e.g. Steinbeis) and a well established industry network.



Regional Centers of Energy Utilities

(Relevant research institutes, universities and examples of important enterprises)



Energy Utilities – Selected Companies



MVV Energie AG, Mannheim

<http://www.mvv-energie-ag.de>



ABB AG, Mannheim

<http://www.abb.com>



Energie Baden-Württemberg AG, Karlsruhe

<http://www.enbw.com>



Energy Utilities – Selected Companies



Badenova AG & Co. KG, Freiburg

<http://www.badenova.de>



Gasversorgung Süddeutschland GmbH, Stuttgart

<http://www.gvs-erdgas.de>



Energiedienst AG, Rheinfeldern

<http://www.energiedienst.de>



Stadtwerke Heidelberg AG

<http://www.hvv-heidelberg.de/swh/>



Energy Utilities – Selected Companies



Energieversorgung Filstal GmbH & Co. KG, Göppingen

<http://www.evf.de>



Stadtwerke Schwäbisch Gmünd GmbH

<http://www.stadtwerke-schwaebisch-gmuend.de>



Stadtwerke Heidenheim Aktiengesellschaft, Heidenheim

<http://www.stadtwerke-heidenheim.de>



Energie plus Handels- und Service-GmbH, Ulm

<http://www.schwabenstrom.de>



Energy Utilities – Selected Companies



Fichtner GmbH & Co. KG, Stuttgart

<http://www.fichtner.de>



NaturEnergie Aktiengesellschaft für Wasser- und Sonnenstrom, Grenzach-Wyhlen

<http://www.naturenergie.de>



GENO Strom GmbH, Stuttgart

<http://www.geno-strom.de>



EGT Energie GmbH, Triberg

<http://www.egt-triberg.de>



Energy Utilities – Selected Companies



Albwerk GmbH & Co. KG, Geislingen

<http://www.albwerk.de>



Energieversorgung Südbaar GmbH, Blumberg

<http://www.esb-blumberg.de>



GAH Beteiligungs AG, Heidelberg

<http://www.gah-ag.de>



UMWELTSCHUTZ UBP AG, Wiesloch

<http://www.umweltschutz-ubp.de>



Energy Utilities – Selected Companies



S.A.G Solarstrom AG, Freiburg

<http://www.solarstromag.de>



Elektrizitätswerke Schönau EWS GmbH, Schönau#

<http://www.ews-schoenau.de>



Schluchseewerk AG, Freiburg

<http://www.schluchseewerk.de>



Energy Utilities – Regional Centers – Selected Companies

**Mannheim, Heidelberg,
Rhine-Neckar-District:**

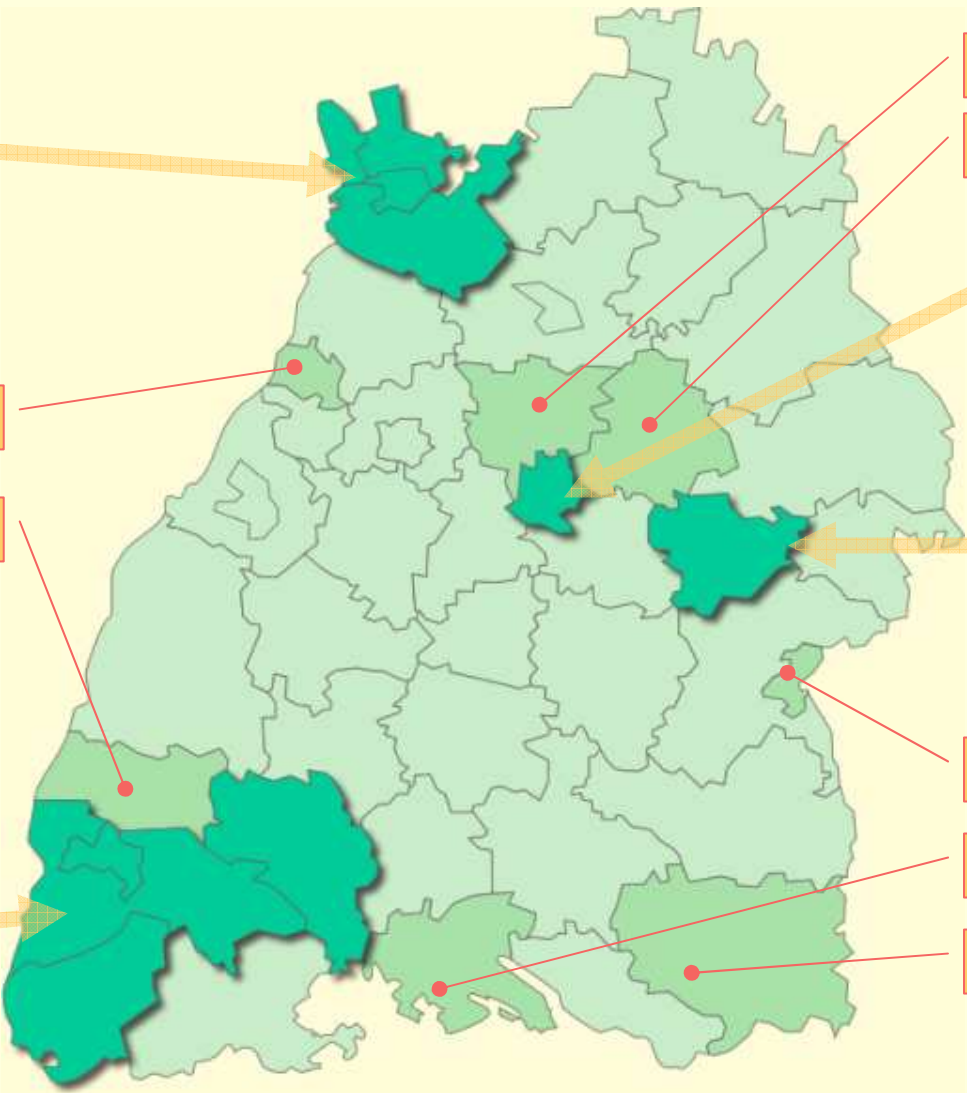
GAH Gruppe **ABB**
UBP **MVV**
Energiecontracting
Heidelberg GmbH
EC Bioenergie GmbH

EnBW, Karlsruhe

Emmendinger Erneuerbare Energien
GmbH, Emmendingen

**Breisgau-Hochschwarzwald,
Schwarzwald-Baar-District,
Lörrach, Freiburg:**

BIOGAS **badenova**
Elektrizitätswerke SCHÖNAU
S.A.G. Solarstrom **EGT**
ENERSYS
ENERGIEDIENST Energieversorgung
Südbaar GmbH
NaturEnergie **NTI**



KWA Kraftwärmeeanlagen GmbH,
Bietigheim-Bissingen

Gedea Energiemix GmbH, Murrhardt

Stuttgart: **NWS**
W Gasversorgung
Süddeutschland GmbH

Göppingen:
AW AlbWerk
EVF Energieversorgung Filstal
AW Alb RES

Energieplus Handels- und Service
GmbH, Ulm

Solarcomplex GmbH, Singen

Technische Werke Schussental
GmbH & Co. KG, Ravensburg



Energy Utilities – Regional Centers



**Freiburg, Breisgau-Hochschwarzwald,
Schwarzwald-Baar-District, Lörrach:**

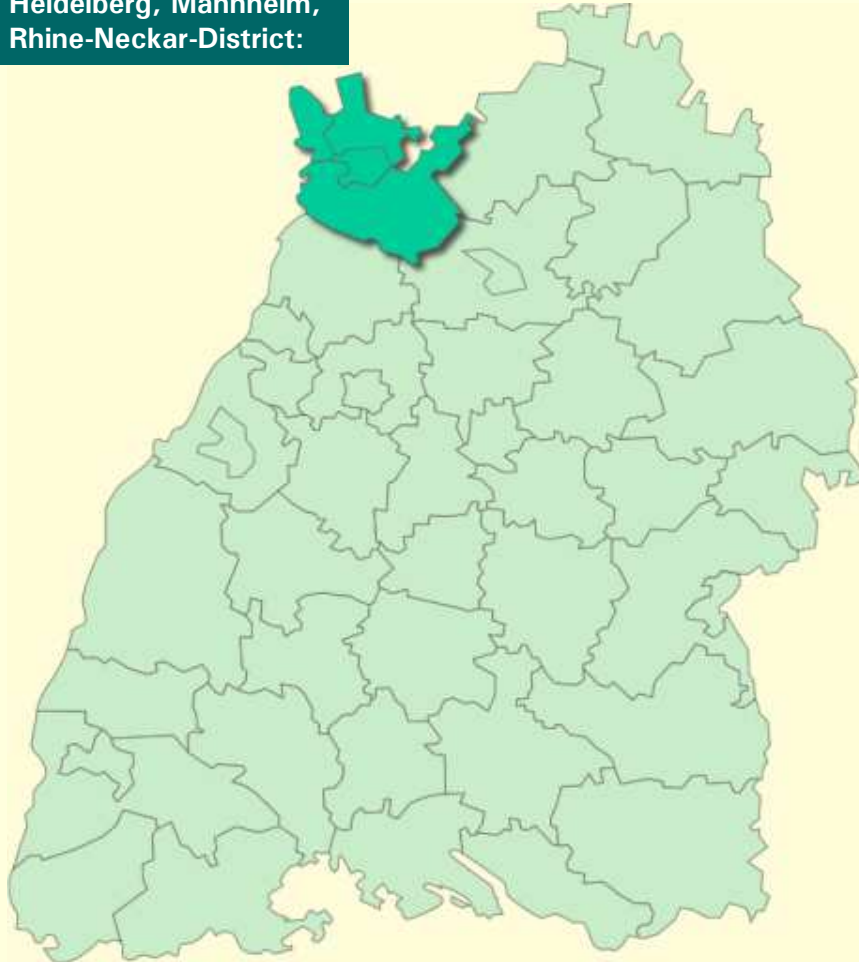
Freiburg, Breisgau-Hochschwarzwald, Schwarzwald-Baar-District, Lörrach:

- NTI AG für erneuerbare Energien (Staufen)
- badenova AG & Co. KG (Freiburg)
- Schluchseewerk AG (Freiburg)
- S.A.G. Solarstrom AG (Freiburg)
- Energiedienst AG (Rheinfelden)
- NaturEnergie AG (Grenzach-Wyhlen)
- EWS - Elektrizitätswerke Schönau GmbH (Schönau)
- EGT Energie GmbH (Triberg)
- Energieversorgung Südbaar GmbH (Blumberg)
- Energys Gesellschaft für Energiesysteme mbH (Donaueschingen)
- Biogas System Technik-Deutschland GmbH (Donaueschingen)



Energy Utilities – Regional Centers

Heidelberg, Mannheim,
Rhine-Neckar-District:



Heidelberg, Mannheim, Rhine-Neckar-District:

- Stadtwerke Heidelberg AG (Heidelberg)
- Energiecontracting Heidelberg GmbH (Heidelberg)
- GAH Gruppe (Heidelberg)
- DEUTZ Power Systems GmbH & Co. KG (Mannheim)
- ABB AG (Mannheim)
- MVV Energie AG (Mannheim)
- EC Bioenergie GmbH (Heidelberg)
- Umweltschutz UBP AG (Wiesloch)



Energy Utilities – Regional Centers



Stuttgart:

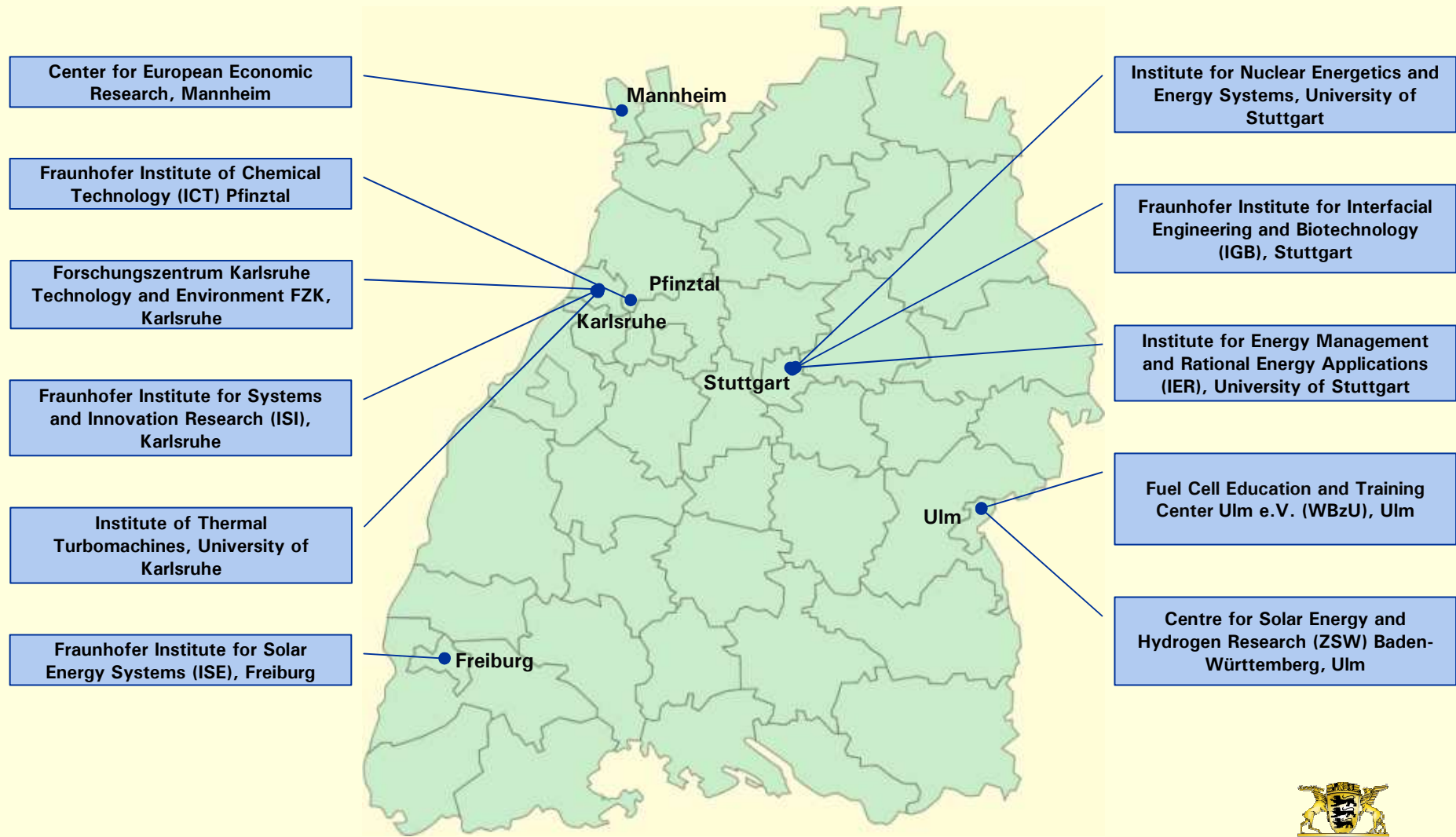
- Neckarwerke Stuttgart AG (Stuttgart)
- Fichtner GmbH & Co. KG (Stuttgart)
- Gasversorgung Süddeutschland GmbH (Stuttgart)
- Dr.-Ing. W. Götzmann & Partner GmbH (Stuttgart)
- Geno Strom GmbH (Stuttgart)

Göppingen:

- Albwerk Wasserkraftgesellschaft mbH (Geislingen)
- Energieversorgung Filstal GmbH & Co. KG (Göppingen)
- Albwerk GmbH & Co. KG (Geislingen)
- Rationelle Energie Süd GmbH (Geislingen)



Energy Utilities – Research Institutes



Energy Utilities – Relevant Study Courses (Universities)

University of Karlsruhe (TH):

- Business Engineering
- Mechanical Engineering
- Mechatronics
- Electrical Engineering



Karlsruhe

Stuttgart

Universität Stuttgart:

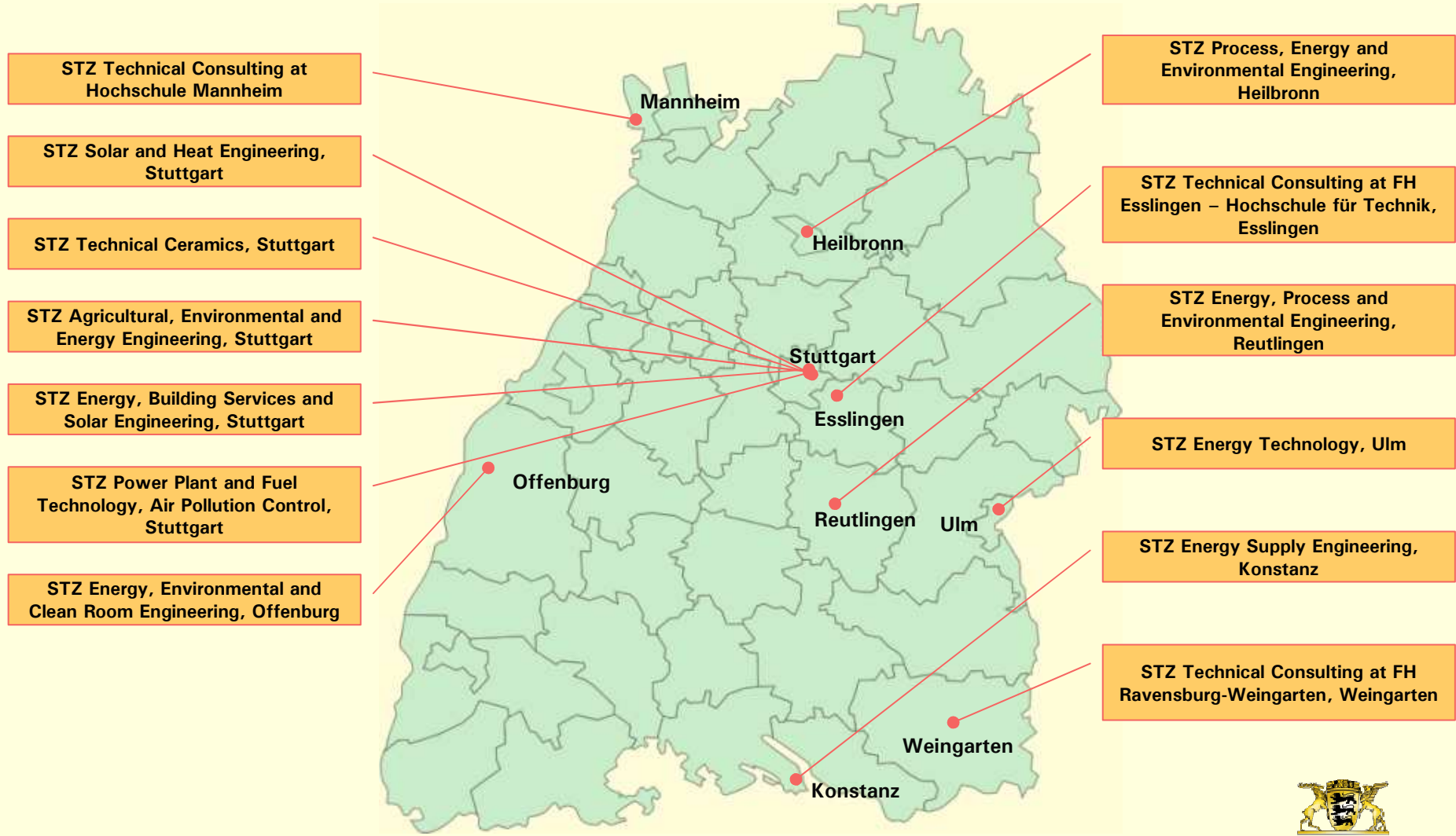
- Water Resources Engineering and Management
- Environmental Protection Engineering
- Business Engineering
- Mechanical Engineering
- Mechatronics
- Electrical Engineering



Energy Utilities – Relevant Study Courses (Universities of Applied Sciences/Fachhochschulen)



Energy Utilities – Steinbeis Technology Transfercenters (STZ)



Energy Utilities – Research



Fraunhofer Institute for Solar Energy Systems (ISE), Freiburg

<http://www.ise.fhg.de>

With its 400 staff, the Fraunhofer ISE is Europe's largest solar research institute, with work ranging from research into the scientific-technical basis of the utilization of solar energy to the development of prototypes and the implementation of demonstration installations. The institute offers planning and consulting services, provides technical know-how and equipment for services.



Fraunhofer Institute of Chemical Technology (ICT), Pfinztal

<http://www.ict.fhg.de>

Fraunhofer ICT in Germany is a unique research and development facility on energetic materials, energetic systems, polymer technology, applied electrochemistry and environmental engineering comprising the entire span from basic research tasks to application investigations and product introduction on behalf of customers' needs.



Fraunhofer Institute for Systems and Innovation Research (ISI), Karlsruhe

<http://www.isi.fhg.de>

With its research and consulting activities, the Fraunhofer-ISI is contributing to solving problems and to the necessary structural changes involved. The preconditions for this are holistic thinking and interdisciplinary and application-oriented research which are traditional strengths of the Institute. The ISI demonstrates the potentials of new technologies, their applications, markets, conditions for diffusion, opportunities and risks. It develops complex and systematic solutions as well as methods and information bases for strategic decision-making processes in industry, science and politics.



Energy Utilities – Research



Fraunhofer Institute for Interfacial Engineering and Biotechnology (IGB), Stuttgart

<http://www.igb.fhg.de>

Close cooperation between physicists and chemists, molecular-, micro- and cell biologists and engineers guarantees client-oriented, efficient and innovative answers to biotechnical R&D challenges from test tube to pilot plant.

The successful establishment of new technologies and processes requires the interdisciplinary and constructive cooperation of biological sciences and engineering. The Fraunhofer Institute for Interfacial Engineering and Biotechnology faces these demands with its long-standing experiences in industrial research and its motivated and specifically experienced staff.



Forschungszentrum Karlsruhe

<http://www.fzk.de>

Forschungszentrum Karlsruhe is one of the biggest science and engineering research institutions in Europe and funded jointly by the Federal Republic of Germany and the State of Baden-Wuerttemberg. Its research and development programs are of public interest and serve peaceful purposes exclusively. They concentrate on the five research areas of Structure of Matter, Earth and Environment, Health, Energy, and Key Technologies. In pursuing these research activities, the Forschungszentrum Karlsruhe cooperates with partners in science and industry. Furthermore, it operates large-scale facilities also for external users.



Energy Utilities – Research



Fuel Cell Education and Training Center Ulm e.V. (WBzU), Ulm

<http://www.fuelcell-educationcenter.com>

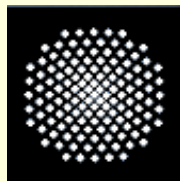
WBZU, the fuel cell education and training center Ulm (Weiterbildungszentrum Brennstoffzelle Ulm) is set up as a not for profit society registered in Ulm. The society has been founded in 2002, its members are from trade, industry, and academia. Providing high level education and training in the field of fuel cell and hydrogen technology addressing the needs all the different target groups from trade, industry, academia, and schools is the societies key task. Besides, provision of unbiased information for decision makers in politics and industry as well as general information of the public on these technologies and their application potential are addressed as well.



Center for European Economic Research (ZEW), Mannheim

<http://www.zew.de>

The ZEW is a non-profit economic research institute with the legal form of a limited liability company (GmbH). It was founded in 1990 on the initiative of the government of the federal state Baden-Württemberg, trade and industry, and the Mannheim University. The ZEW works in the field of user-related empirical economic research. In this context it particularly distinguished itself nationally and internationally by analysing internationally comparative issues in the European context and by compiling scientifically important data bases.



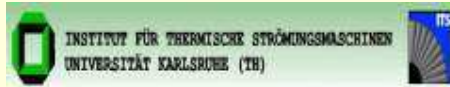
Institute for Energy Management and Rational Energy Applications (IER), University of Stuttgart

<http://www.ier.uni-stuttgart.de>

The Institute for Energy Management and Rational Energy Applications (IER) focuses on research into: (1) the analysis and assessment of new energy technologies and energy systems, (2) technology assessment and environmental analysis, (3) development of models and decision support systems for energy economics and energy policy, (4) energy system analysis, (5) rational use of energy.



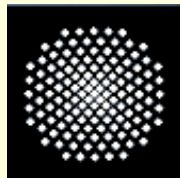
Energy Utilities – Research



Institute of Thermal Turbomachines, University of Karlsruhe

<http://www.its.uni-karlsruhe.de>

The Institute of Thermal Turbomachines deals with the variety of issues arising from the thermodynamic process of gas turbines with its high pressures and temperatures. The key aspects of research activities are strongly associated with gas turbine components such as combustion chamber, turbine, rotor and bearing chamber. Thus, in a broader sense, they are concerned with flows in complex geometries taking especially into account the phenomena of two phase flow, chemical reaction, turbulent mixing, wall cooling methods and heat transfer as well as the interaction of flow and structure.



Institute for Nuclear Energetics and Energy Systems (IKE), University of Stuttgart

<http://www.ike.uni-stuttgart.de>

The Institute for Nuclear Energetics and Energy Systems (IKE), one of Stuttgart University's largest institutes, is integrated into the department of energy technology. Over the years, IKE's research activities have evolved beyond the sphere of nuclear technology and today focus on system and plant technology and thermofluid dynamics, reactor physics and applied radiation physics, nuclear installations and environmental protection technology, heating and air conditioning technology, solar thermal installations and hydrogen technology. The institute carries out both basic research and application research.



Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), Stuttgart

<http://www.zsw.de>

The Centre for Solar Energy and Hydrogen Research works on the research and development of technologies for the environmentally friendly provision of power, heat and fuel, their realization in marketable products together with industry partners, as well as consulting for producers, users, political decision-makers and associations. Research focus is photovoltaic materials, batteries and fuel cells.

