

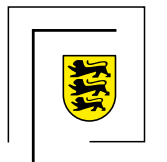
Climate protection for Baden-Württemberg



KEA

The State Energy Agency

Energy Agency
of the State of
Baden-Württemberg
Germany



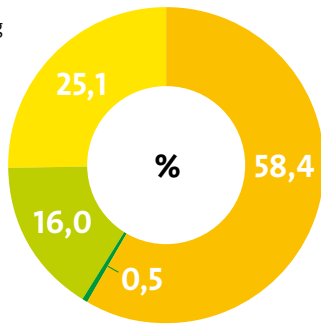
KEA

The State Energy Agency

Shareholders and staff

KEA's shareholders

- State of Baden-Württemberg
- Verband für Energie- und Wasserwirtschaft - VfEW (Association of Power producers and Water supply companies)
- GbR 3: BWHT Baden-Württembergischer Handwerkstag (Baden-Württemberg State Skilled Trades and Crafts Association) and other organizations
- Landesnaturschutzverband (State Association of Nature Conservation Societies)



KEA Klimaschutz- und Energieagentur Baden-Württemberg GmbH (KEA Climate Protection and Energy Agency of Baden-Württemberg GmbH) was founded in 1994 at the initiative of the State Government of Baden-Württemberg, its principal shareholder. Other shares are held by utility companies in the state, the state Skilled Trades and Crafts Association and other professional organizations and the Landesnaturschutzverband (State Association of Nature Conservation Societies).

KEA is an independent, impartial organization dedicated to climate protection.



KEA's staff has years of experience in a wide range of projects. Benefit from our expertise!

Energy initiatives for Baden-Württemberg

Our mission and assignment

Our objective is to actively shape climate protection policy in the State of Baden-Württemberg by supporting municipalities, church institutions and small and medium-sized enterprises (SME), especially in the areas of

- energy conservation,
- the rational use of energy and
- the use of renewable energies.

We encourage the establishment and networking of regional energy agencies in Baden-Württemberg. KEA also acts as a state office for the European Energy Award, the European management and certification system for municipalities.

Together with partners like Deutsche Energieagentur dena (German Energy Agency) and Bundesverband der Energie- und Klimaschutzagenturen Deutschlands eaD (Federal Association of Energy- and Climate Protection Agencies in Germany) we work for nationwide and EU-wide projects.

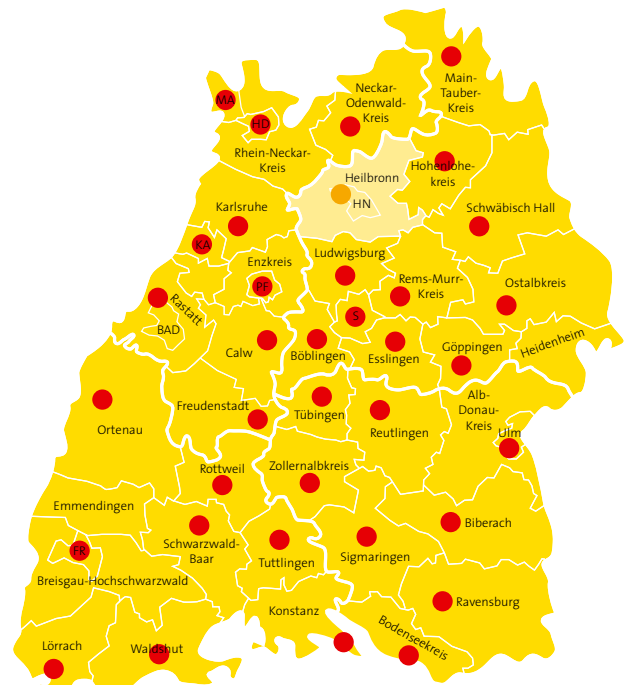
This brochure provides a general overview of our activities and projects. For further information and news, please see our website: www.kea-bw.de

We would be glad to assist you with any questions related to energy and climate protection, and looking forward to hearing from you either by telephone:

+49 (721) 984 71-0

or by e-mail:

info@kea-bw.de



Energy agencies in Baden-Württemberg

- Existing energy agencies
- Agencies in course of formation / in the planning stages

(Valid as of: 6.2013)

What can we do for you?

Activities and services

Energy schemes

KEA develops energy schemes for new green-field developments, conversion areas and existing building complexes with the aim of establishing a sustainable energy supply. We work together with our clients to assess heat demand, energy efficiency requirements and other determining factors.

We take various energy-efficiency building codes and standards (from minimum requirements according to national building code EnEV up to passivehouse) and various possible sources of energy into consideration. We investigate the use of renewable energy and cogeneration systems, sometimes in conjunction with a small district heating system. To design these networks, we use geographical information systems (GIS). Our clients can make sound decisions based on heat production costs and the CO₂, energy and emissions balance. Sensitivity analyses indicate how various combinations will perform with respect to projected future energy costs. Ideally, supplying energy to residential and industrial areas through small district heating systems links the use of renewable energy with cogeneration systems.

→ www.kea-bw.de/e-konzepte



Feasibility studies: Biomass and district heating

KEA prepares pilot studies and concept studies for municipalities for the purpose of developing economical energy supply schemes based on sound cost estimates. We evaluate technical and economic boundary conditions and compare different technical solutions for the district heat station. To visualise the results, we use geographical information systems (GIS). Our primary task is to make realistic assessments of heat demand and plot annual load curves. We calculate potential energy savings as a result of installing insulation and building management equipment.

We determine the equivalent cost of burning fossil fuels as the basis for calculating the costs of various bioenergy systems, using VDI guideline 2067.

In addition, we calculate the potential amounts greenhouse gas emissions and air pollution produced by the various energy sources. We offer recommendations on how to proceed based on our comparison of these energy sources.

→ www.kea-bw.de/biomasse

Climate protection Concepts

For municipalities, we develop comprehensive climate protection concepts. We focus on the energy balance – the carbon footprint of the city – and development of an action plan and a communication concept. It's very important to involve every relevant stakeholder in the city. The Bundesumweltministerium (Federal Ministry of the Environment, Nature Conservation and Nuclear Safety) has been funding these concepts since 2008.



Contracting: A financing tool

The optimal use and provision of energy requires increasingly specialized expertise, particularly for renewable energy. Contracting is an established tool to integrate this expertise from external sources. The end result is lower energy consumption for the customer.

Contractors not only plan, construct and overhaul energy systems, they are also usually responsible for the systems' operation, servicing and maintenance. They even handle energy management and offer risk assumption.

KEA is not a contractor, but an impartial consultant. We help municipalities start contracting projects by collecting and analysing data, facilitating the tendering process and evaluating the technical and economic aspects of bids. Municipal authorities can thus implement retrofitting measures despite their own limited resources. As a pleasant result, the municipal authorities concerned tend to develop and expand their range of competency.

There are two forms of contracting:

Energy performance contracting

This type of contracting forces the contractor to be energy efficient. The contractor's payment is contingent upon the actual amount of energy conservation achieved. The basic concept is to minimize energy demand and to meet the remaining demand in the most efficient way. Energy costs can be reduced in this way by 20 to 60 %. This type of project is particularly attractive to public authorities.

Energy supply contracting

Here, the contractor produces heat, cold water or steam and sells the useful energy to the building owner.

KEA offers comprehensive consulting services:

- feasibility studies
- tendering procedures
- drawing up contracts
- consulting during implementation
- technical examination of invoices

→ www.kea-bw.de/contracting



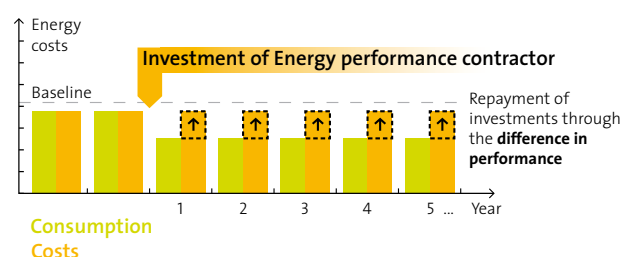
Grant programmes

As directed by the Ministerium für Umwelt, Klima und Energiewirtschaft Baden-Württemberg (Ministry of the Environment, Climate Protection and the Energy Sector), KEA is responsible for planning and providing technical support to the Klimaschutz-Plus ("Climate Protection Plus") grant programme. Since 2002, this programme has taken a unique approach to pursuing climate protection goals: the amount of money granted for any measure is contingent on the amount of resulting reduced CO₂ emissions (with an absolute and relative cap). 50 euros is granted for each ton of CO₂ reduced during the lifespan of the measure.

All municipalities and districts in Baden-Württemberg and their majority holding companies are eligible to apply to the municipal part of the programme. Small and medium-sized businesses, churches, registered non-profit associations and other institutions may apply to the general part of the programme. Grants may be given for a wide range of measures to modernize heating systems in existing buildings or to use renewable energy and cogeneration in existing or new commercial buildings. Grants are also available for model projects, integral energy audits for commercial buildings or the participation in the European Energy Award®.

KEA also develops contests for the State of Baden-Württemberg, energy providers or other clients.

→ www.klimaschutz-plus.baden-wuerttemberg.de



The basic concept of energy performance contracting: the contractor gains from the reductions

Municipal Energy Management (MEM)

As numerous studies and practical experience have shown, there is often great energy conservation potential in public properties. On average, the annual cost of electricity and heat in public buildings in Baden-Württemberg amounts to approximately 30 euros per citizen. Experience has shown that these costs can be reduced by about 30 %. Half of these savings can be achieved through non-investment energy-management measures, for example energy use analyses, optimizing heating systems, training caretakers and educating consumers.

KEA's MEM model is designed to implement energy management in public buildings in such a way that it will bring our clients the greatest benefit and the least risk: the energy savings achieved are verifiable and will pay for the program. KEA also offers energy-management consulting to businesses and service providers. KEA has already helped more than 60 municipalities meet their energy-management goals.

→ www.kea-bw.de/kem



Projects in Schools

Many schools in Baden-Württemberg pursue climate protection goals by conserving electricity, heat and water. This has rarely involved expensive structural measures; rather, soft measures such as changing behaviour, optimizing heating systems and making organizational improvements have had the desired effects. The educational value of projects in schools is at least as important as the savings they engender, as students become more aware of conservation issues.

KEA offers interested schools and school boards an initial consultation. KEA has been appointed by the Ministerium für Umwelt, Klima und Energiewirtschaft (Ministry of the Environment, Climate Protection and the Energy Sector) to help schools carry out pilot projects and train school environmental conservation mentors ("Eco-Mentors"). KEA supports regional energy agencies in Baden-Württemberg to teach students in various grades about "stand-by mode". KEA also helps implement "Fifty-fifty" energy-savings projects in schools. In these projects, schools receive half of the energy cost savings they achieved by an energy efficient behaviour.

Energy Management for Businesses (BEM)

Many businesses consume huge amounts of energy. However, energy consumption accounts for less than 2 % of turnover in many industries and is therefore not a focus of management's concern. Furthermore, businesses expect a much faster return on investment compared to the public sector.

Based on our years of experience with the public sector, we have developed a three-step plan for tapping energy efficiency potentials in businesses.

- Step 1: Conduct an energy audit
- Step 2: Introduce a company energy-management scheme
- Step 3: Conduct a low-cost high-profit survey



Educating consumers in office buildings



People working in administrative buildings have a significant impact on energy consumption too. But in many cases, they have limited awareness of the economical use of energy or the potential savings involved. Factors which influence energy use are

- motivation,
- knowledge and
- habits.

We take these factors into account when we work with clients to design and implement customized energy-use campaigns and communications strategies.

KEA-Academy



Since 2010, KEA has offered several and courses and one-day workshops to municipal officers. As a result of the training, participants shall be able to organize their Municipal Energy Management. In addition to training sessions, KEA offers coaching on site.

→ www.kea-akademie.de

KEA  **AKADEMIE**
Energie-Wissen für Baden-Württemberg

“Zukunft Altbau” (“A Future for Old Homes”)



The programme “Zukunft Altbau” (“A Future for Old Homes”) is a marketing and information campaign of the Ministerium für Umwelt, Klima und Energiewirtschaft (Ministry of the Environment, Climate Protection and the Energy Sector) to promote energy conservation in existing residential buildings. The goal of the campaign is to motivate owners of apartments or homes with limited technical expertise to make improvements in energy-efficiency.

Architects, technicians and energy consultants, serving as both partners and influencers, are supported by “Zukunft Altbau” with informational materials for consulting and marketing.

“Zukunft Altbau” provides property owners with information on the benefits of energy-efficiency improvements. The programme explains step-by-step what concrete measures to take, following a three-part plan: get information, get energy consulting and make improvements. The programme puts consumers in contact with energy consultants, architects, engineers, energy agencies and local technicians.

KEA prepares and distributes flyers and press releases, and maintains the “Zukunft Altbau” website. Together with booths at trade fairs and markets, and various other local activities, KEA helps property owners and interested parties find assistance in planning and making decisions.

→ www.zukunftaltbau.de

Free hot line (only in Germany):

0800 012 33 33

The focus of “Zukunft Altbau” is to promote energy-efficiency improvements to existing buildings.



ZUKUNFT  **ALTBAU**
mir zuliebe

Competent Energy Consulting Services

We would be happy to assist you.

Please contact us about:

Energy schemes:

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Feasibility studies: Biomass and district heating:

Dipl.-Ing. Helmut Böhnisch + 49 (721) 984 71-13

Contracting:

Dipl.-Wirtschaftsing. Rüdiger Lohse + 49 (721) 984 71-15

Grant programmes:

Dr.-Ing. Martin Sawillion + 49 (721) 984 71-18

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Dipl.-Ing. Claus Greiser + 49 (721) 984 71-17

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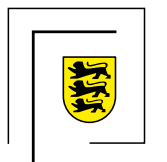
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