

TOP-Energy® at a glance



Discover Potentials

Ecological and economic evaluation of investments and new business fields



Structural Optimization

Determine the optimal technologies and sizes for your energy system



Optimizing Operating mode

Best possible operation of your energy system under consideration of time-dependent parameters

Opportunities with TOP-Energy®



Recognizing Paths

Identify transformation paths to CO2 neutrality using the scenario manager



Multi-Parameter Studies

Holistic design of sector-coupled energy systems and investigation of sensitivities



Individual solutions

Customized energy concepts for your application



Variety

The extensive component library allows mapping of any energy system



Standardization

Project templates for common use cases



Optimization

Integrated optimizers find the economic, ecological, and energetic optimum

Arguments for TOP-Energy®



Time Saving

Quick and easy creation of energy and district concepts



Direct Sales

Development and service, competent consulting, and support from a single source



Flexibility

Compare technically and economically a multitude of solution approaches with little effort

The TOP-Energy®-Team

The simulation software TOP-Energy® has been developed in the Gesellschaft zur Förderung angewandter Informatik e. V. (GFai, Society for the Advancement of Applied Computer Science, registered non-profit association) in Berlin since 2003. An independent working group in the GFai's Graph Based Engineering Systems (Graphing) research division is perfecting TOP-Energy® in an agile software development process with continuous intensive testing. Energy and process engineers, economists, software developers, modeling experts, mathematicians, and scientists from other disciplines provide development, sales, and support. Comprehensive documentation ensures clear access to the details.

The software is constantly enhanced with new components and possibilities:

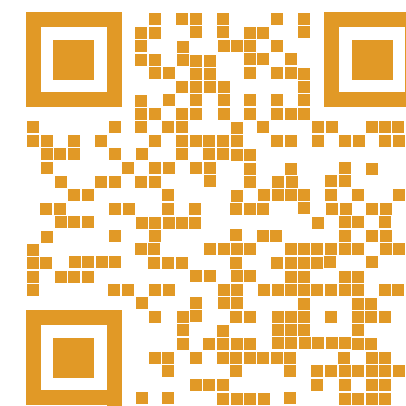
„Constantly changing conditions always pose new challenges for us, that's why we keep working on the topics of tomorrow“, so Dr. Stefan Kirschbaum, head of the Graphing research division of GFai.

GFai

The Gesellschaft zur Förderung angewandter Informatik e. V. (Society for the Advancement of Applied Computer Science, registered non-profit association, GFai for short), as a private research institute, has been supporting its partners in innovations with industry-oriented and application-oriented research for over 30 years. In addition to graphical engineering systems such as TOP-Energy®, more than 150 employees also develop promising solutions in the areas of signal processing (acoustic camera), 3-D data processing, and process automation.

Do you want to test
TOP-Energy®?

Please simply register free of charge at
www.top-energy.de/30-tage-demo
and test the software without obligation.



TOP-Energy®
Modeling, optimization and
Analysis of energy systems

What is TOP-Energy®

Optimizing Energy Systems

TOP-Energy® is software for the analysis and evaluation of complex energy systems. It helps you to optimize your plant operation and creates a solid basis for your investment decisions. Quickly and easily create a digital twin of your energy system. Compare different variants according to economic and ecological aspects and present your simulation results graphically appealing in diagrams, time series plots, and flow charts. Get the latest measurement data and forecasts evaluated to optimally design and operate your plant at all times.

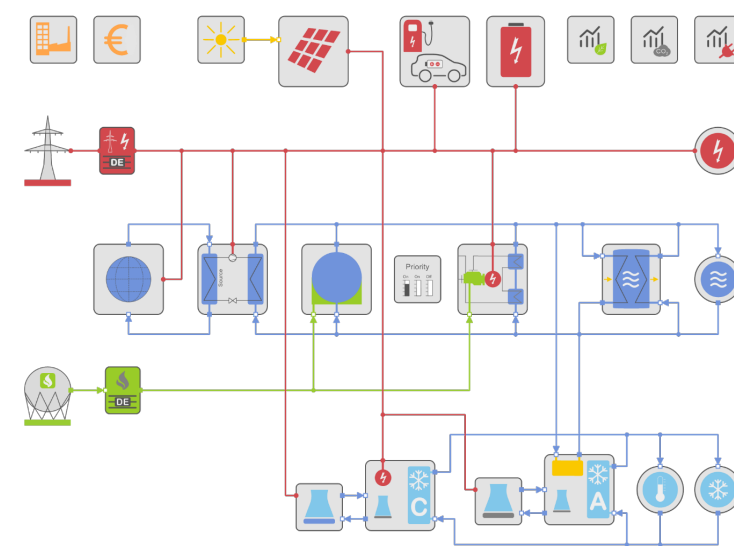
Transforming Energy Systems

The transformation of the energy supply offers companies the opportunity to build up competitive advantages by investing in innovative technologies. TOP-Energy® shows the potentials and paths resulting from the combination of renewable and conventional energy generators in industry and commerce, in the construction industry, in neighborhood management, and in the mobility sector, and evaluates the interdependencies that are difficult to grasp. TOP-Energy® thus goes far beyond the possibilities of conventional Excel tools and the calculation with standards and estimation tools.

With TOP-Energy®, you minimize energy and operating costs and exploit the optimization potential of sector-coupled energy systems.

The optimization results are used for predictive loading of storage facilities, marketing of generated energy, optimized purchasing, and avoidance of peak loads.

The convenient and easy-to-use interface of TOP-Energy® allows power plant and district operators, engineering firms, and research institutions to answer the most complicated energy-related questions. You can also model energy engineering special cases and your innovative ideas with TOP-Energy® with little effort.



Place and connect the components of your energy system on the scheme

TOP-Energy® User Interface

- Component Library**
More than 200 prefabricated components from the sectors electricity, heating, cooling, steam, compressed air, and mobility
- Scheme**
The graphical modeling allows the clear and flexible representation of complex projects
- Variant Comparison**
Make your investment decisions based on a sound economic and ecological scenario analysis



Potential analysis - integration of an energy storage device and PV into the building energy system

- Weather Data**
At the click of a mouse, you get weather data exactly for your location in Germany
- Plot Windows**
Visualize time series according to your wishes and illustrate parameter relationships in 2-D and 3-D representations
- Key Figures**
Simply display self-consumption rate, CO2 emission factor, and other key performance indicators

The quick entry into the world of TOP-Energy®

Workshops

To get you started quickly, we offer training courses and workshops in which we show you proven methods and how to use the simulation software effectively - if you like, based on a project of your choice. This way, you will quickly become very familiar with the software and have your best-practice basic model at your disposal right from the start.

Experienced users also benefit from our experts: through our support and workshops in which you learn, for example, to create your own special components.

- Customized**
We know that your challenges are unique. That's why we tailor our training to your needs.
- Expert Knowledge**
Benefit from our experienced modelers who know the full potential of the software and actively contribute to new components.
- Support**
We handle the modeling of your project. This gives you more time for your core business.
- Industry Expertise**
25 years of expertise in energy engineering and modeling make us your partner of choice.

Services

For extensive simulation or modeling tasks, we offer TOP-Energy® as a service. We support you in creating the models, or you outsource complex modeling tasks and simulations completely to us. Our experts are happy to work with you to find solutions for your energy objectives. We provide you with customized models and well-prepared results.