



energy hills



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energy hills



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ENERGY HILLS

„Energy Hills“ is the largest energy cluster and therefore, the leader in the European Union when it comes to know-how in the energy sector.

Energy Hills combines the energy industry-related expertise, research and development skills of five leading German, Dutch and Belgian universities, three other academies, three major research institutions and forty companies (as of 2008) active in the energy sector.

Energy Hills is a regional technical association pursuing the following goals:

- to be active as consultant and expert concerning the various topics associated with the energy industry, to lobby politicians and the public and to raise research funds for Energy Hills;
- to promote Energy Hills as excellence cluster in this field on a global scale and to become the international expertise centre in the energy sector by 2020;
- to combine, promote and market the top skills within Energy Hills worldwide through public relations;
- to promote and sponsor other clusters of research institutions and companies active in the energy sector in the geographical vicinity of Energy Hills;
- to convey future energy-related know-how by means of annual energy conferences and other information events.

The energy industry is one of the most promising economic sectors with major geo-strategic significance. The competition concerning the research, development and utilisation of efficient energy technologies boosts the market; the current growth forecast is not equally favourable for any other industry. New research results and developments are expected to continue changing the energy industry, with new products and production facilities developing. The energy price has become an economic and socio-political hot topic thanks to the rising energy costs. The provision of classical energy, such as natural gas and crude oil becomes increasingly difficult from a geo-strategic point of view. Dependencies are holding us back. Fossil energies are straining the climate and polluting the environment.

NEW SOLUTIONS ARE REQUIRED.

Energy Hills is committed to the promotion of innovative energy technologies and to the efficient energy use in research, development, training, service and industry-related applications. Energy Hills task forces are discussing important and relevant topics concerning the energy industry and decide and implement future developments.



POOLING EXPERTISE

Energy Hills is the largest and most significant expertise pool in the fields of research, development, production, innovation and consulting in the energy industry within the European Union. Energy Hills is a conglomerate of:

- Seven universities, including the flag-ship RWTH Aachen University
- Three research institutions, including the Jülich research centre, E.ON energy research centre and Philips research centre
- One Dutch and one German city (Aachen and Heerlen)
- One Dutch and one German Chamber of Industry and Commerce
- Major companies such as RWE Power, E.ON, NUON, Siemens (Aachen)
- The energy agency of North-Rhine Westphalia
- As well as forty in part medium-sized companies active in the energy sector.

With respect to energy-related research, the RWTH Aachen University and the Jülich research centre alone cover the following:

- 1,400 energy research employees
- Annual research volume of 200 million EURO
- 225 graduates annually
- 40 dissertations and 900 publications annually
- 210 ongoing cooperations in the industry with an order value of 57 million EURO.

The members of „Energy Hills“ are jointly utilising their knowledge and know-how to develop innovative solutions, products and services in the fields of energy consumption, energy efficiency, energy storage and efficient energy use.

These operations are complemented with new consulting and training activities in the energy sector, including at schools, to sensitise students for energy-related topics at an early age and with an industry-specific cross-border job market providing access to jobs in Germany, The Netherlands and Belgium.





OFFERING EXPERTISE

Energy Hills is internationally recognised for its expertise in the following fields in which Energy Hills is considered a global leader:

- Interdisciplinary system research across the borders and technological development within the international research network
- Nuclear fusion
- Solar thermal power plants
- Power generating systems
- Fuel cells
- Plasma physics
- Photovoltaics
- Safety research and reactor engineering
- Energy transfer networks

Other relevant primary research activities and applications:

- Energy generation, distribution and storage
 - CO₂-less energy creation (solar energy, Clean Tech)
 - Mini power systems, combined heat and power
 - Micro gas turbines
 - Biogas or wind energy plants
 - Conventional power generation
 - Planning and risk analysis of the mains operation
 - Network monitoring and control
 - „Smart grid“ automation

- Network operation and control
- Geothermal energy (exploration and recovery of geothermal energy, development of new tools for this purpose)
- Efficient electrical energy conversion
- CO₂ storage in the subsoil
- Electrical energy storage
- Systems for the generation of hydrogen as storage medium
- Electrochemical storage systems

- Energy consumption and efficiency
 - Energy efficient buildings and indoor climate
 - Efficient energy consumption for lighting and medical engineering
 - Power electronics

- Energy industry
 - Conceptual designs for the energy market
 - Energy consumption forecasts
 - Optimisation of the energy generation and acquisition
 - Energy trade and trade platforms
 - Energy market communication
 - Balancing group management
 - Network utilisation and network access management
 - Energy consumers' behaviour
 - Energy-related data management



ACTIVITIES

INFORMATION EVENTS INCLUDING THE ANNUAL ENERGY CONFERENCE, INTERNATIONAL EXCHANGE, MONTHLY THINK TANKS

Energy Hills organises an annual conference featuring leading experts from the fields of energy, energy policies and the environment. Energy Hills promotes the interdisciplinary dialogue, brings together know-how and expertise across the borders and develops innovative ideas.

COORDINATION OF KNOW-HOW AND RESEARCH

Energy Hills coordinates the know-how and research activities of its partners in three countries, avoids redundant work and supports the development of priority research. Companies are encouraged to share synergies with other companies.

INNOVATIONS AND PRODUCT DEVELOPMENT

Energy Hills brings new impulses to the energy-related research through expert dialogues with internationally renowned researchers and companies. Sensible energy management relies on new developments. Energy Hills promotes and submits applications for support.

QUALIFICATION

The company is practicing know-how management by organising workshops, think tanks and conferences and visibly conveys the state-of-the-art in the energy sector. Energy Hills supports the continuous conveyance of skills.

TRADE SHOW PARTICIPATION

Energy Hills organises the participation of the energy sector at the Hannover trade show.

WORKING GROUPS

The working groups are used to exchange information and to define, coordinate and implement the common main responsibilities. Last but not least, the „energy group of regulars“ is used for networking between the partners in a relaxed atmosphere.





STRONG PARTNERS

Energy Hills is pooling know-how, research and public support from three countries. The first-class international expertise becomes apparent based on the composition of its members and references. Members of Energy Hills include (as of December 2008):

COMPANIES

A.F.Q. Consultancy, Innovation & New Business Development
AGIT mbH - Business development agency
for the Aachen technology region
AVANTIS GOB NV
BMR Energy Solutions GmbH
Büro für Energiewirtschaft und Technische Planung GmbH
CAR e.V
Consentec Consulting für Energiewirtschaft und -technik GmbH
E-Avantis
Ecofys bv
E-quad Power Systems GmbH
EUtech Energie & Management GmbH
G.O.B. Euroservices
Industriön
liNear GmbH
Management Engineers
NUON Energie und Service GmbH
ProCom GmbH
RegioIT GmbH
Rengers AC Architektur Consult
RWE Power AG
Siemens NL Aachen
Solitem GmbH
Solland Solar
SOPTIM AG
STAWAG Stadtwerke Aachen Aktiengesellschaft
Trianel GmbH
Vika-Ingenieure GmbH

MAJOR RESEARCH INSTITUTIONS

Jülich research centre

SPECIAL RESEARCH INSTITUTIONS

E.ON energy research centre at RWTH Aachen University
Philips Technologie GmbH, research laboratories, Aachen

UNIVERSITIES

RWTH Aachen University
Arcus College
Hogeschool Zuyd
Katholieke Hogeschool Limburg (ass.)
Open University of the Netherlands
University of Applied Sciences Aachen
Universiteit Hasselt (ass.)

RESEARCH INSTITUTES

Fachhochschule Aachen - Institut Nowum-Energy
Fachhochschule Aachen, Solar-Institut Jülich (SIJ) der FH Aachen, Campus Jülich
Forschungszentrum Jülich - Institut für Energieforschung IEF 1
Forschungszentrum Jülich - Institut für Energieforschung IEF 2
RWTH Aachen - E.ON Energy Research Center
RWTH Aachen - Institut für Biologie I
RWTH Aachen - Institut für Elektrische Anlagen und Energiewirtschaft
RWTH Aachen - Lehrstuhl für Verbrennungskraftmaschinen

STATE-RUN INSTITUTIONS, BODIES, ASSOCIATIONS

Business Club Aachen-Maastricht
EnergieAgentur NRW
Industrie- und Handelskammer Aachen
Industriebank und Entwicklungsgesellschaft der niederländischen Provinz
Limburg (LIOF)
Kamer van Koophandel Limburg
Stichting Voortgezet Onderwijs Parkstad Limburg (SVOPL)
Stiftung Kathy Beys
Stadt Aachen
Stadt Heerlen



Would you like to learn more about the opportunities offered by Energy Hills?

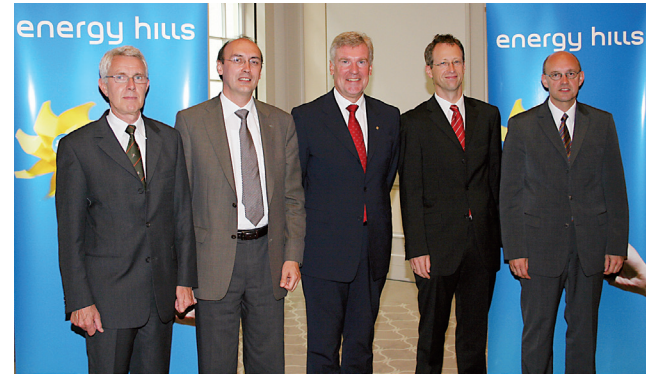
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