

# Bilateral project cooperatives

Contact:

Rafal Strzalka, Dietrich Schneider, Jacek Kalina Stuttgart University of Applied Sciences Silesian University of Technology

www.intbiochp.polsl.pl/

## Hochschule für Technik **Stuttgart**



### Our profile

We offer a broad-based experience in the integration of renewable energy systems into municipal supply networks. Especially the integration, optimisation and simulation of thermal biomass plants is one of our core competencies. Additionally we are provided with extensive know how built up over many years in the simulation of energy supply, heat network distribution and the simulation of the building energy demand by using 3D virtual urban models. With our simulation tools we offer suitable solutions for city planners as well as energy suppliers in order to define and coordinate the low CO2 strategies for their cities.

### Bilateral cooperation projects

Relatively broad-based experience base in the field of decentralised cogeneration systems is already available in Germany. The same conditions apply to product and services with successful establishing and management of innovative energy supply concepts. On the other hand there is a relatively high demand for modernisation and refurbishment to the energy sector on the Polish side. The resulting synergies are in the focus of our interests.

In addition to national activities, European and bilateral research projects are carried out by our research institute. The development and cooperation with Poland within former projects: POLYCITY, CITYNET and GREENFOODS can serve as examples of successes in this field.





Former and present cooperation projects

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Federal Ministry of Education and Research



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#### Research area

Renewable energies, biomass, bioenergy, CHP, combustion, energy system optimisation, energy supply infrastructure, demand infrastructure analysis.

Broad-based experience in the field of bioenergy from plants installed in Germany.

#### Services

We offer optimal conditions for the development and installation of new control components for the optimisation of decentralised power plant systems and their combination with different heat sinks options. We provide founded knowledge and practical experience not only with regard to model-based plant optimisation but also with regard to hardware modifications of energy generation systems on site.

#### Methods

We have developed a large and comprehensive knowledge in the increase of efficiency of decentralised cogeneration plants and have supported for many years the development of new energy supply concepts and optimisation measures for existing plants which were applied at production and energy generation facilities.

We implemented a methodology of the heat demand forecast on the basis of virtual 3D building models.

#### Products

- · Studies and expertise
- Research cooperation
- · Planning and decision support tools
- Modell predictive control
- · Hardware components

#### Networks

Experience from many national, European and international projects. Several German-Polish cooperation initiatives. We are looking for new science cooperation projects at national, bilateral and international level. Another interesting topics are: technology transfer, product development and deployment, research activities in the area of renewable energies, especially bioenergy.

#### Experiences

Experience originated from many national, European and international projects. Several European and bilateral German-Polish cooperatives. We have a broad experience base in terms of operational management technology, the strengths and weakness of technologies for the combined heat and power production which have been analysed in previous projects. We have been working with energy supply companies as a research partner, captured and analysed operational data, developed and implemented hardware component solutions.

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für Technik

**Stuttgart** 

Contact:

Rafal Strzalka, Dietrich Schneider Stuttgart University of Applied Sciences Schellingstrasse 24 70174 Stuttgart Tel: +49 711 8926 2889 Rafal.Strzalka@hft-stuttgart.de

www.hft-stuttgart.de