

**Information about the
Straubing Centre of Excellence for Renewable Resources**

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The scarcity of both fossil fuels and raw materials, along with the adverse effects on the climate and environment, call for the use of renewable energy and natural resources. One of the more favourable options is the use of renewable materials from agriculture or forestry. They can provide resources for either solid, liquid or gaseous fuels. Basic material can also be utilized for non-energetic uses. At the Centre of Excellence for Renewable Resources in Straubing the Bavarian State Government has focused all of its activities towards the field of renewable resources. The objective is to support applications of renewable resources by basic or applied research. This includes the development and testing of equipment as well as the exchange of technology and knowledge. Aid is also given for the emergence of new markets, evaluation of projects and for the execution of support programs.

At the Centre of Excellence these goals are achieved by the co-operation of three independently organized facilities; the Centre of Science, the Technology and Support Centre and C.A.R.M.E.N. e.V. Each of these institutions has a specific purpose and the objectives are attained by the combined effort and collaboration of all three affiliations.

The **Straubing Centre of Science** was founded in July 2005 by the Munich University of Technology, the Weihenstephan University of Applied Sciences, the University of Regensburg, and the Deggendorf University of Applied Sciences. It is financially supported by the Bavarian State Ministry of Sciences, Research and the Arts. The main funding comes initially from the Munich University of Technology and the Weihenstephan University of Applied Sciences, who will both provide three professorships for the Straubing Centre of Science. A new building of 2800 square metres will be opened in 2008, and eight professorships will focus on research and academic teaching in Straubing. The cost of the new building will amount to approximately 16 million Euros. The main research topics within the field of renewable resources will be:

- Technology of biogenous resources
- Material technology
- Geothermal energy
- Chemistry and molecular biology
- Analytical chemistry

- Pharmaceutical biology
- Marketing and management
- Economic management

The Technology and Support Centre (TFZ), which has been established in Straubing in 2002, belongs to the Bavarian Ministry of Agriculture and Forestry (Bayerisches Staatsministerium für Landwirtschaft und Forsten). However, this institution has exclusive rights over the legal decisions it makes. The staff is composed mainly of 38 people plus several additional employees, which are financially supported by research funds.

At the TFZ, two long term experienced research groups were created from the State Research Centre of Agriculture and the Centre of Agricultural Engineering. At these institutions the primary research in this specific field began 20 to 30 years ago. In addition to these research units a Support Centre was established at the TFZ. The main goals of the TFZ are the support of the agricultural production, the processing and utilization of renewable resources by applied research, the development and testing of products and methods, and the transfer of technology by demonstration and education. Specific tasks are listed as the following:

- development of agricultural production technology including plant breeding for new raw material crops, which shall be used for both, energetic and non-energetic applications,
- conduction and evaluation of agriculture field trials and execution of model projects,
- continued development and testing of technology and methods for the provision of renewable biomass fuels and raw materials with particular focus on applications in rural areas,
- provide consulting services to the agricultural sector and to companies, politicians as well as administrators,
- demonstration of practical applications, including permanent and non-permanent exhibitions and regular training sessions,
- the granting of governmental subsidies for biomass-based raw material applications.

C.A.R.M.E.N. e. V. (Central Agrarian Raw Material Marketing and Evolution Network) is a private non-profit organization which was founded in 1992. Before the relocation to the Centre of Excellence in 2001, C.A.R.M.E.N. e.V. with its 20 staff members was located in Rimpfar near Würzburg.

The aims of C.A.R.M.E.N. e.V. are

- compilation, processing and analysis of information about the utilization and applications of,
- renewable resources,
- transfer of information by consulting, training and education activities,
- increase public relations for the renewable resources by brochures, events, fairs and exhibitions,
- preparation of site-specific analyses for decision makers,
- the installation and coordination of demonstration projects,
- the assessment and evaluation of projects in the field of research and development for renewable resources.

Permanent Joint Activities. TFZ and C.A.R.M.E.N. e.V. jointly operate a permanent Training and Exhibition Centre including a comprehensive exhibition of general renewable resource applications. This exhibition opened during the summer of 2003. Furthermore, TFZ organises a combined seminar and exhibition tour on domestic applications regarding information on solid biofuels. It is conducted weekly during the winter and once a month during the summer. The exhibition displays around 100 domestic biomass combustion units. It is free of charge to visit the exhibition as well as to attend the seminar.

The tasks of the Straubing Centre of Excellence are accompanied and assisted by a Coordinating Council where representatives from the sciences, industry, practise and from local politics are involved. The Coordination Council is participating in the annual work scheduling of the three institutions and it advises the heads of these institutions in all important matters

concerning renewable resources. Furthermore it identifies useful R&D focuses and helps to allocate the limited public resources in an efficient and topic-related manner.

In 2005, the association "Straubing, a university city, e.V." was founded. The charter of this association is to:

- support science and research in the Straubing Center of Excellence
- win friends and promoters for the Straubing Center of Excellence
- help to establish Straubing as the leading competence for renewable resources in Germany
- promote the development of Straubing to become a university city

In the course of the new buildings being constructed a biomass combusting plant shall be built in the area of the Centre of Excellence. This large wood chip furnace (about 1200 kW heat power output) shall provide the heating energy for all the onsite institutions. By doing so the Centre of Excellence sets a good example and demonstrates the feasibility of larger biomass installation in urban areas. Further use of the produced energy shall be utilised when the heating circulation of the Centre is linked to the district heating network of the City of Straubing.