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➤ EXPERIENCE EXCHANGE WORKSHOP IN STUTTGART DRIVES ENERKEY COLLABORATION

From 12 to 16 July the EnerKey Experience Exchange Workshop took place in Stuttgart, Germany. A group of 15 guests from South Africa representing the Cities of Joburg and Tshwane and research and non-governmental energy organisation were welcomed in Stuttgart. In their opening statements the Mayor of the City of Stuttgart, Matthias Hahn, and the deputy chancellor of the University of Stuttgart, Prof. Dr. Jörg Brüderm emphasized the importance of common applied projects between universities and cities and the necessity of an international perspective on energy issues, city planning and sustainability. Mr. Gregor Laumann welcomed the guests on behalf of BMBF within the group of the other fourteen megacity projects.



Participants of the experience exchange workshop visiting the settlement site "Scharnhäuser Park" in Ostfildern

In the following workshops and field visits the opportunities and restrictions for sustainable energy supply and utilisation in cities and urban environments were analysed and discussed. Among the field trips were visits to two new urban development sites (Burgholzof, Scharnhäuser Park) with innovative energy concepts, guided tours to two power plants, one with biomass and another with waste incineration boilers, and to a recently energy refurbished retirement home

(generation center). In these projects modern and innovative features of energy savings and renewable energy supply, e.g. based on solar energy, biomass or waste were implemented.



The EnerKey group visiting the waste incineration plant in Stuttgart-Münster

As part of the field trip also the Uhland school was visited, a school with 35 year old energy standards and high energy costs. This school is selected by the City of Stuttgart for refurbishment and shall be converted into a low-energy possibly even 'plus'-energy house, where more energy is produced than used (see below). The Uhland school is ready to serve as a partner in the EnerKey schools project. A partner school in the Gauteng area is currently being identified.

Particularly the field trips activated the discussion on the possible options and limitations for implementation in cities, for their contribution to a more sustainable development and more specifically on a possible transfer to other urban areas and particularly to South Africa.

The visit of the group from South Africa also strengthened the ties between the participants of the EnerKey consortium and accelerated the development of projects and ideas to be tackled in the next future.

The workshop presentations and further information are available on the project website ⇒ www.enerkey.info

➤ **THE ENERKEY SCHOOL PROJECT
LIGHTHOUSE IN STUTTGART: "PLUS-
ENERGY- AND 3-LITRE-SCHOOL"**

The city of Stuttgart is going to retrofit a school as a "Plus-Energy-School" and as a "3-Litre-School". The Uhland-School is proposed as the next project. "Plus-Energy-School" means that the yearly average energy production is higher than the energy consumption. A "3-Litre-House" is a building with such a low energy demand of max. 3 litre fuel oil per square metre and year.



*Uhland-School in Stuttgart:
South view of the main building*

Therefore the energy-efficiency of the school must be increased up to a maximum by retrofitting the building envelope and the systems. Furthermore renewable energy systems, mainly solar panels will be installed.

All the time, the energy consumption will be monitored in detail and the efficiency of the realised measures will be verified and analysed. The monitoring results will be documented and shown to the school and the public by means of a monitor display.

➤ **SUSTAINABLE MOBILITY STUDY
WITHIN ENERKEY PROJECT**

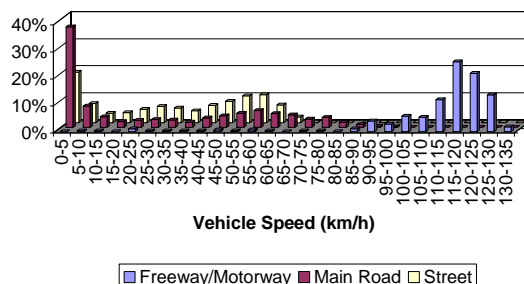
The impact of traffic on energy use and air pollution is one of the major topics considered by the mobility working group of the Enerkey project. A pilot project has been initiated to measure real driving conditions

in Johannesburg and to correlate them to atmospheric pollution. The effects of road infrastructure provision and the vehicle fleet growth will be examined in terms of the changes in driving conditions. For this reason Philip Goyns from UJ is on a three month research visit in Germany. During this time he will study the transport energy and emissions models developed and used at IER, Jülich Research Centre and TÜV Rhineland and consider their suitability to South Africa.

During the experience exchange workshop an endeavour was made to travel to events and field trips using the public transport system. This provided the opportunity to demonstrate the convenience and efficiency of Stuttgart's transport system.

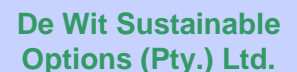
A visit to the joint traffic control centre Stuttgart was included in the excursions during the workshop. The traffic control centre was recently setup as a joint project between departments in the City of Stuttgart, the rail company SSB, and the police. The centre played a large role in coordinating the transportation of spectators to and from the Gottlieb Daimler Stadium and to and from the City centre during the 2006 Soccer World Cup.

% Time spent at different speeds for different road types between 06:30 and 09:00



An example of data collected in the mobility study. It shows the amount of time spent at different speeds for three different road types. An important point to note is large percentage of time spent in the 0-5 km range for street and main roads. This indicates a large amount of congestion particularly on main roads.

PROJECT PARTNERS



Experience Exchange Workshop Stuttgart



at the Integrated Traffic Control Center



Stuttgart Mayor Matthias Hahn



Councillor Prema Naidoo, City of Johannesburg



Burgholzhof solar energy performance display



Visiting the Waste Incineration Power Plant Stuttgart-Münster

➤ ENERKEY AT THE WORLD URBAN FORUM (WUF III) IN VANCOUVER

The UN Habitat World Urban Forum in Vancouver, Canada, 18th to 23rd of June, entitled "Our future: sustainable Cities – turning ideas into action" was the major event for pushing forward sustainable urban development in 2006. More than 10.000 participants coming from more than 100 countries worldwide were present during this week. Seventy exhibitors also presented their activities on posters and presentations. The German BMBF representatives presented the Megacity program, all projects under this umbrella – also EnerKey - were also there.



Beside others, key issues addressed at the WUF III were the development of infrastructure, energy supply and new instruments in urban developments and management - which are also the main topics of the EnerKey project. The topics were discussed in round tables, networking sessions and theme sessions. With respect to energy on June 22nd a dialog round on "Energy: local action, global impact" was held, trying to identify options for affordable and successful renewable energies for cities and to highlight the role of industry and public-private-partnerships (ppp). The importance of the German initiatives in research and international cooperation was acknowledged widely.

⇒ www.wuf3-fum3.ca

➤ CLEAN DEVELOPMENT MECHANISM WITHIN ENERKEY PROJECT ?

Creating a Bridge by Kyoto

The insured losses claimed by the insurance companies clearly show that global warming is not merely an ecological but also an economic problem. Thus, Market Instruments in Global Environmental Protection are necessary, like Clean Development Mechanism (CDM), based on the fact, that the Emission reductions should be implemented where it is possible and at the same time where the least financial expenditure is required. Together with the TÜV Rheinland Group, Cologne, the Deutsche Investitions- und Entwicklungsgesellschaft mbH, Cologne (DEG), has developed the network Kyoto Coaching Cologne (KCC), which accompanies potential investors through the complex certification process on their way towards climate protection. The aim: simplifying the way from the project idea up to the sales of carbon credits. The Network partners will also concentrate on South Africa in the near future. Both, the TÜV Rheinland Group and DEG have local offices in SA. The local framework conditions for climate protection projects and the CDM ICI for South Africa are good (*CDM-MARKET BRIEF*, May 2006).

Josef Brosthaus, TÜV Rheinland

⇒ www.kyoto-coaching-cologne.net

➤ IEW 2006 IN CAPE TOWN- INT. ENERGY WORKSHOP HOSTED BY ENERKEY PARTNER ERC

The International Energy Workshop "IEW 2006" took place in Cape Town, South Africa from 27-29 June, and was co-organised by the EnerKey partner Energy Research Centre, University of Cape Town (ERC). Topics of the sessions and presentations were ranging from questions related to global energy supply and climate change over energy issues in Africa and

developing countries in other regions of the world to local energy planning. In a session dedicated to Africa, the Gauteng Provincial Government presented an energy audit of its public buildings to identify possibilities and measures for energy savings, which might qualify also for a Clean Development Mechanism (CDM) initiative. Colleagues from the EnerKey partners ERC and IER, University of Stuttgart, also participated in the workshop. Presentations from ERC were among others discussing the problems related to the use of biomass in rural areas, experiences with the newly electrification of low income African households and the impact of energy market reforms on residential energy demand in Africa. Colleagues from IER presented studies on the global energy supply and trade, the perspectives of the electricity and gas sectors in Europe and South America as well as the environmental and health impacts of energy use and the contribution of technologies to sustainable energy development. The workshop program and the presentations can be found under

⇒ www.iiasa.ac.at/Research/ECS/IEW2006

➤ TIMES WORKSHOP IN JOBURG

On June 20th, the University of Joburg together with IER organized a three day energy systems modeling workshop for the South African EnerKey partners and a delegation from the Department of Minerals and Energy (DME).

The aim of this event was to introduce the participants to the basics principles of modeling with the linear optimization tool TIMES and to discuss and to evaluate possible applications and future modeling collaborations within the EnerKey project. The workshop was attended by participants from the municipalities of Ekurhuleni and Tshwane, the University of Johannesburg,

the energy supply company ESKOM and the DME.

The participants were introduced into using the TIMES modeling software. They completed different exercises and individually created a first training model version. The TIMES model proved to be of interest for the application within the EnerKey project framework and for further applications in the working field of the DME.

➤ ENERKEY AT THE INSITE 2006 – IN JOHANNESBURG IN SEPT. 06

The first International Science, Innovation and Technology exhibition - INSITE was launched in 2004 with 4.689 visitors and 50 participating countries. The next meeting is scheduled from 24 to 27 September 2006 at the Sandton Convention Centre in Johannesburg. The general theme for INSITE 2006 will be "the role of Science, Technology and Innovation as key drivers of economic growth and development, and for the enhancement of the quality of life". This theme will be focused on three key concepts: "Youth", "Strategic economic sectors and interventions", and "Sustainable development".



The EnerKey project which aims to promote the sustainable transformation of the urban region of greater Johannesburg by initiating adapted and integrated energy projects as a key factor for sustainability will also be present at this exhibition as one member of a common German pavillion.

Please come and visit our stand.

⇒ <http://www.insitex.co.za>

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