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## TOPIC 1

# Council of the Baltic Sea States 21 Eco Regions final conference in Gdynia

16<sup>th</sup>-17<sup>th</sup> November 2011 (PL)

On 16-17 November, 2011 the PEA project was promoted at the Council of the Baltic Sea States (CBSS) 21 EcoRegion final conference in Gdynia. The Project Eco Region, led by the German Federal Ministry for Environment, is a Baltic 21 Lighthouse Project as well as a flagship Project of the EU Strategy for the Baltic Sea Region and gathered 27 partners and experts working on improving sustainability management and sustainable development measures of regional and local administrations.

The conference brought together regional practitioners, sectorial experts and policy makers to present and discuss project's findings, to adopt the Gdynia Declaration with recommendations for future policy actions on sustainable development and to promote and facilitate exchange of existing good practices in the Baltic Sea Region.

The PEA project corresponds with the activities undertaken in Eco Region project in terms of energy efficiency, which became an important topic not only for the Baltic Sea Region but also for whole Europe. The conference was a great chance to exchange experiences and knowledge gained in both projects. Especially the Baltic Energy Strategies which have been elaborated within PEA project as well as other outputs of the project won huge interest among participants and were seen as important for the further development of the different European regions.

*by Ewa Domke, PEA communication officer of the Szewalski Institute for Fluid-Flow Mashinery (PL)*



CBSS Baltic 21 EcoRegion final conference, © Ewa Domke

## TOPIC 2

# Usage of Kraslava hemp for the heat insulation of buildings in Latvia

January 2012 (LV)

The Kraslava municipality council implemented a pilot activity within PEA project – the heat insulation of a social service building by using local materials. The approach to use local hemp for heat insulation was new and tried out for the first time.

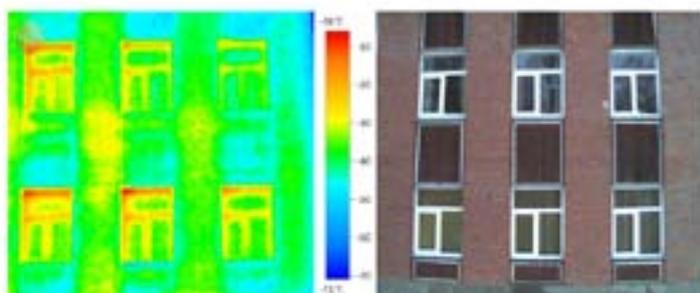
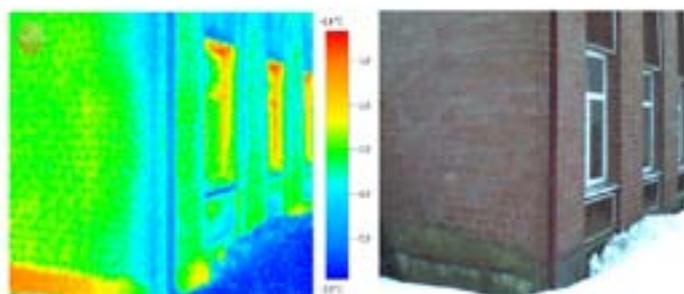
Hemp is known as ancient cultivated plant, which was and is widely used in the textile industry, paper industry, automobile industry, food production and cosmetic industry. Heat insulation materials, which are industrially manufactured from the hemp fibres, may be considered to be a product with high added value. Sheaves are one of the components that available during the hemp processing process. The usage of the sheaves in the production of construction materials is the course with continuous development and search of new application possibilities.



In the beginning a survey of the products forming during the production process of the hemp grown in the municipality was carried out. This was done in order to evaluate the suitability of the hemp fibre for the production of different type of heat insulation materials, as well as for the approbation of the new hemp material and technology for applying it to the walls of the building. Several factors were taken into account – the type of the building, climate conditions of Latvia, construction traditions, market peculiarity, etc. The mixture of hemp sheaves and organic cotton or cellulose fibre has been considered to be the most suitable heat insulation materials for heat insulation of the Kraslava municipality social service building.

The technology anticipates that the delimiting construction – carcass is located round the external walls of the building, where the mixture of hemp sheaves and organic cotton is deposited in a “dry” way without water supply. The result of the experimental comparison regarding the main characteristics of the new material (hemp sheaves/lime) with the classical hemp heating insulation material clarified the new material is better for insulation.

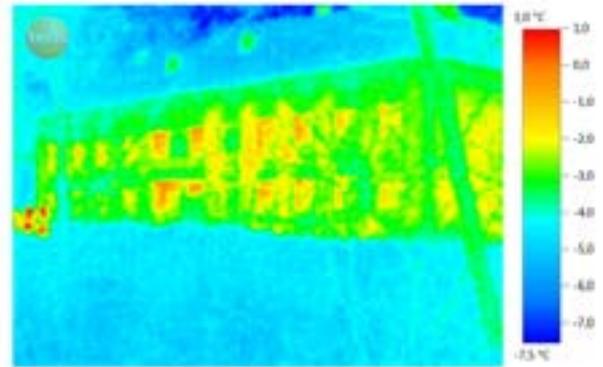
One of its main thermal parameters – rate of thermal conductivity is **0.051 W/ (m.K)**. Although according the other technical indices it is not equally competitive with such heat insulation materials as mineral cotton, foam polystyrene, fibre of cellulose, the mixture of hemp



sheaves/ organic cotton unequivocally surpasses the above mentioned materials regarding its ecological aspect. After the finishing of the construction and the end of the heating season the actual parameters of energy efficiency will be compared and calculated to further develop the new material.

The hemp of Kraslava will find and obtain the status of ecological construction article not only in Latvia, but also outside its borders, thus increasing the usability proportion of renewable energy resources in the region and thus promoting the economic development of the municipality.

*by Laila Vilmane, PEA project coordinator of the Kraslava municipality (LV)*



**Kraslava hemp in building heat insulation, © Laila Vilmane**

### TOPIC 3

## Two days training course for municipalities and counties in Võru, Estonia

25<sup>th</sup>-26<sup>th</sup> October 2011 (EST)

On the 25th and 26th of October several representatives of municipalities and members of Estonian University of Life Sciences' Energyclass met in the town of Võru to make their contribution to the energy sector of Võrumaa.

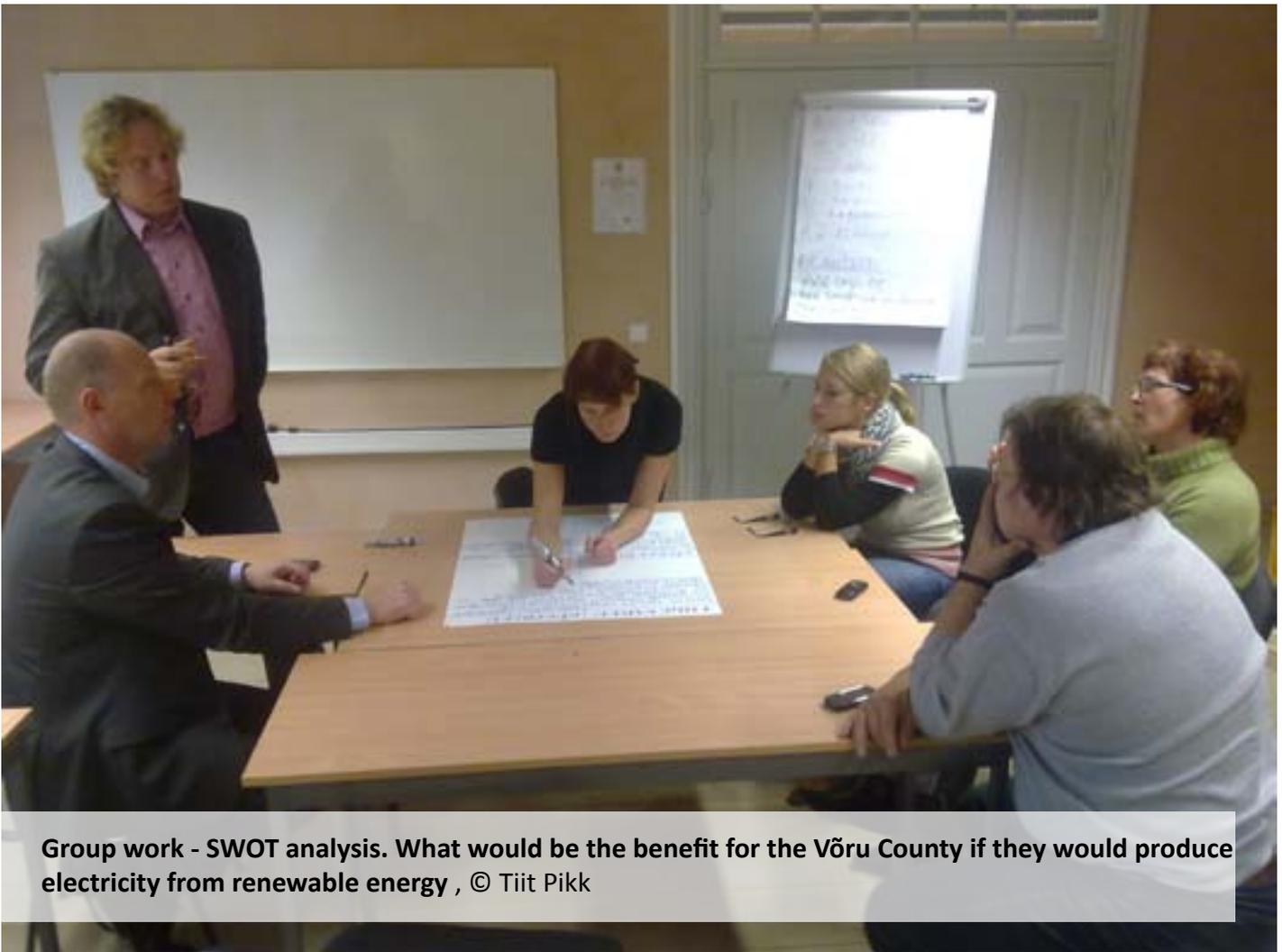
Energyclass in cooperation with Võru county organized a 2-day training course for municipalities and counties set up and developed within the framework of the PEA project. The programme's main topics were the future of

Estonian energy sector and possibilities for the development of energy management.

Representatives from Tartu Regional Energy Agency who spoke about energy efficiency in buildings and the total energy usage of the region of Võru were also present. They presented the Agency's vision of how to increase the proportion of renewable energy while considering local community, economic and environmental conditions. In the topic of energy efficiency in the building sector, the energy labels of buildings and the first steps in improving the energetic situation of the buildings were thoroughly discussed. It was agreed, that building insulation, ventilation and heat recovery are vital topics when undertaking renovation. The participants of the training analysed existing buildings chosen from the Võru region during the seminar to get a better understanding of the real needs of the region.



Marek Muiste is presenting EU energy sector policy and future plans, © Tiit Pikk



**Group work - SWOT analysis. What would be the benefit for the Võru County if they would produce electricity from renewable energy , © Tiit Pikk**

In this context the Energy Strategy of Võru county and the overview of the Baseline Study were discussed during the seminar to include the goals and findings into the sample planning and analysis of the participants. Feasibility studies for the schools and public buildings in the Võru region were also presented. Furthermore, specific steps to improve the energy efficiency of buildings, and corresponding investments and the respective times for the return of investments were also discussed. At the end of the second day a SWOT (**S**trengths, **W**eaknesses/ Limitations, **O**pportunities, and **T**hreats) analysis was made in the context of regional energy and heat production. Since most of the heat production comes from using wood energy, possibilities to start producing electricity from renewable energy sources were presented and strengths and weaknesses of these kinds of actions were discussed. Electricity is currently an

important topic in Estonia, because almost all of the Estonian electricity comes from one company and the electricity market will be opened for private customers as well at the beginning of 2013. These new changes in the Estonian electricity market will most certainly bring more expensive electricity prices for the customers but may also help to promote the integration of renewable energy equipment with the grid.

In the seminar, which was funded by PEA project 20 heads of municipalities, engineers and energy specialists participated. They now have a much better overview from Energy Policies in general and how Energy Strategies can be useful.

*by Tiit Pikk and Jaanus Uiga, PEA project manager, Estonian University of Life Sciences - Energyclass, Estonia*



TOPIC 4

## Getting renewable - two schools of the Ignalina district in Lithuania got their pupils involved

November and December 2011 (LIT)

In November and December 2011 two schools in the Ignalina district (LIT) implemented 4 sub-projects of the PEA project.

13-15 years old pupils of the Ignalina District Secondary School of Ceslovas Kudaba implemented the sub-project „Introduction to the Variety of Energy Resources“. During the activity they created brochures, collages and models of wind power plants as well as the educational material about the alternative energy resources.

6-11 years old pupils of the same school have had the sub-project „Creative Workshops“ where they collected and sorted waste and created



models out of plastic waste. The people who saw these works at the exhibition, which was arranged in the school library, were fascinated by the variety of uses of waste material. The pupils produced many nice things out of simple plastic bottles, for example home decorations, vases, Christmas decorations and even jewellery.

7-10 year old pupils were involved to the sub-project “I Save Energy – I Save the Earth”. During



Pupils got interested to the energy alternatives, © Inga Šidlauskienė



this class they studied what the types of energy resources are and what to do with them and also that it should be used sparingly and effectively. Students sorted the waste and brought up it to the trash containers, studied the need to collect used batteries and dispose them to the specially prepared areas. The schoolchildren painted and created works out of household waste and then organized the exhibition. At the end of the project, they visited a good example of the use of water power – the watermill of Slyninka in the Zarasai district, where they participated in the educational program “The Way of Bread”. On their way back they visited the boiler of Dukstas village in the Ignalina district and inspected the solar system which is the output of PEA project.



The 4th sub-project „Sun, Wind, Water and Ground - the best Sources of Energy” was implemented in the Ignalina district Didžiasalis village school. The whole school community participated actively in it. The first event was named „Pinwheels“ during which the primary school pupils and their teacher discussed about the positive and negative aspects of wind, produced the pinwheels and with them tested the wind power in a field. Senior classes created posters for the competition “Wind, Sun and Water - Our Future” and participated in an essay contest “Alternative Energy in Our District”. At the final event of the sub-project all the participants were awarded and the created works decorate the schools now.



*by Inga Šidlauskienė, PEA project manager, director of Ignalina NPP Regional Development Agency, Lithuania*



## TOPIC 5

# Latvian pupils collect ideas on how to save energy

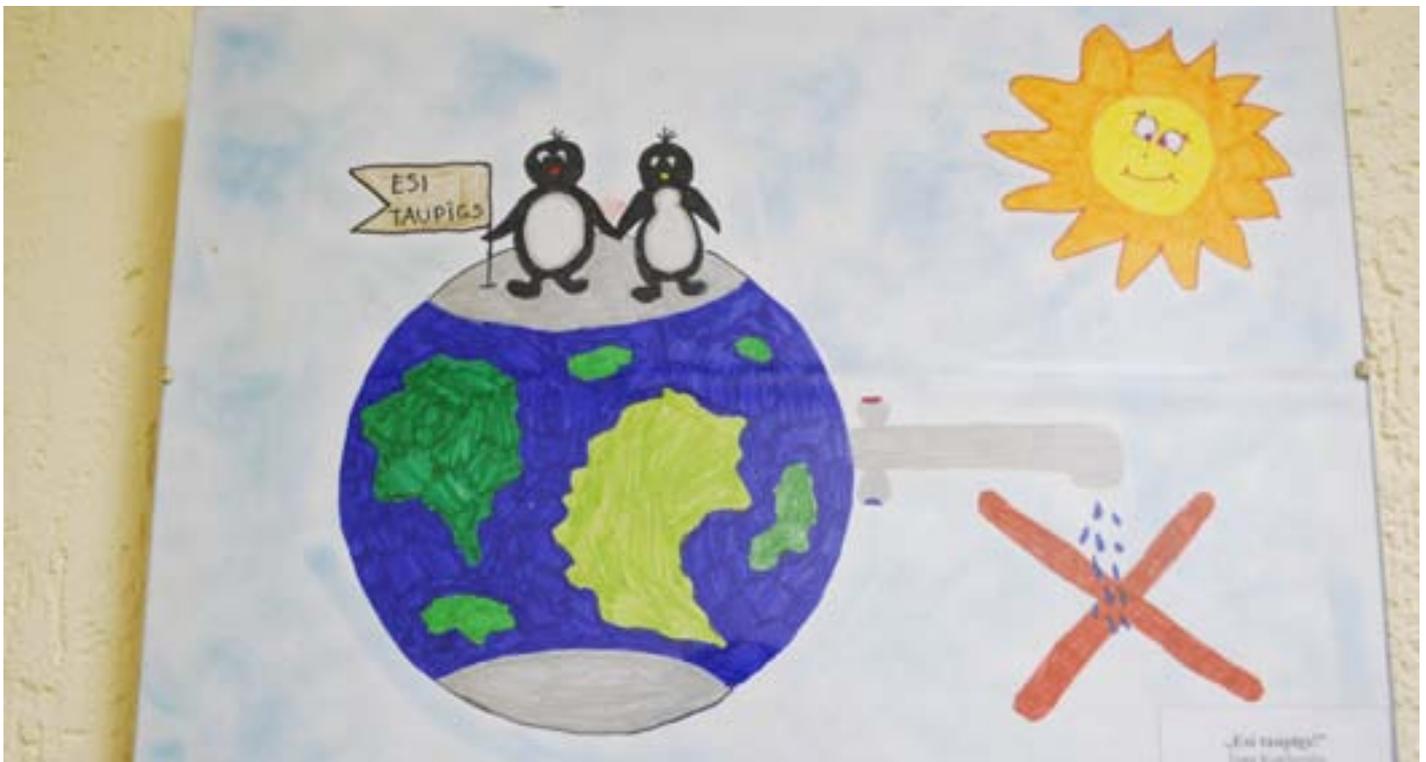
September 2011 (LV)

Within the framework of the PEA project activity “Idea competition in schools” an essay and poster contest was organized for the pupils of the Kraslava municipality. The topic was energy saving and the increase of energy efficiency. All the participants of the contest were invited to the awarding ceremony. They were not only told about the activities of PEA project and its pilot activity – e.g. heat insulation using the local materials, but also the authors of the best works were awarded. At the end of this ceremony the audience was invited to view the exhibition of the best works of the contest together with the pupils in the Kraslava municipality council.

Even if the topic of the contest was quite difficult, the response of pupils was surprisingly big concerning the contribution of posters and essays. The youngest participant was only 6 years, the oldest – 18 years old.

The posters were drawn individually by the pupils, in pairs or as a class activity, taking care not only about a creative layout, but also showing their knowledge in energy saving, heat insulation of buildings, saving of electricity and choice of bulbs, as well as in the usage of alternative energy resources. The essays were written both in English and Latvian, mentioning for example the way of energy saving and the increase of energy efficiency including for example the daily amount of energy saved by them.

In conclusion of the activity, the 12 authors of the best works were invited to go on an excursion to see sights, where alternative energies and ecological constructions are currently being successful. Also they got the possibility to



Idea of pupils, © Līga Upeniece

do practical experiments by themselves and to gain further knowledge on the topics of energy savings and efficiency.

The first location of the visit was the museum of power industry in the area of Kegums, Hydroelectric Power Station-2 (HPS-2). The exhibited collection of technological equipment and methods shows the conception of the electricity generation, the management and distribution in Latvia and the daily routine of an electrician's work. Also it introduces to the history of the Daugava power station, its construction and activities.

Walking along the paths in Vienkoci Park in the Ligatne municipality, which is constructed basing on the possibly maximal usage of natural materials, pupils got the possibility to view different sculptures made of wood. Here they could see different animals, characters of fairytales and legends or the objects made according after the historical sources. Small log-building houses are located in the central part of the park, but several miniature watermills are located in one of the glens.

Of particular rapture and interest for the pupils was the sand bag house (ground bag house), which up till now was never been tried to build in Latvia before, and the natural bathhouse, which is made of all that could be found on the very spot – trees, ground and stones, which have been taken from the river.

The third and the last location of the excursion was Z(in)oo Children Science Centre in Cesis, where pupils could try out different technologies in the interactive expositions, testing different nature laws, running the robots, comprehending friction, driving unusual cars as well as moving objects by the force of thought.

During excursion pupils were asking the questions about things they saw, about things they had read with pleasure, in the bus they gladly discussed the possibilities of alternative energy resource usage in the Kraslava municipality and shared the impressions of the school heat insulation works and improvements, which were implemented in the municipality this summer.

The contest was organized within PEA project and allowed not only to get to know and to evaluate the pupils' works, but also to assure their widening of knowledge, whereof the surrounding people may learn. Pupils were writing both about the proper choice of the bulbs and heat insulation of the building, but also reminding the fact that energy may be saved by spending more time together with family and friends instead of watching TV or playing computer. Family could play games and talk together – as an alternative!

*by Līga Upeniece, , assistant of the project PEA coordinator, Kraslava municipality, Latvia*



## TOPIC 6

# Regional Conference on Energy Saving and Energy Efficiency in Local Enterprises in Wittenberge

24<sup>th</sup> November 2011 (DE)

Many enterprises in the Prignitz region (DE) are keen to implement energy efficiency actions and a few of them are already quite successful to some extent.

Energy efficiency and environmental protection are topics that become more and more interesting not only in the public perception but also in the mind of local small and medium sized enterprises. Besides a positive image, lower costs and competitive advantages are linked with energy efficient methods of operating and producing.

But which possibilities for improved energy efficiency do local SMEs have? How to implement these actions? Are there any funds available for it and if yes how and where can one apply for them?

These and other questions concerning energy saving and energy efficiency in local SMEs were asked and answered at the regional conference

„Energy efficiency in Enterprises – Regional experiences and Expert Knowledge“ which took place at 24th November 2011 in Wittenberge.

The event was organised by the PEA project on behalf of the Regional Core of Growth Prignitz. Next to representatives of local and regional enterprises as well as members of the political and administrative institutions of the Prignitz region the interested public was invited.

The event was opened by the Mayor of Wittenberge, Dr Oliver Hermann. He underlined how important energy efficiency is, not only for the enterprises themselves, but also for the municipalities. During times where costs for SMEs are rising due to the fact of increased energy related costs it is important for businesses to decrease their energy consumption and to save costs. By doing so, enterprises can generate competitive advantages and contribute to their own prosperity. In return prosper regional and local enterprises are important for a whole region.

Representatives of local enterprises which have already implemented energy efficiency actions explained on their experiences and appreciations. Mr Dominik Schiller from Braas Monier explained the efforts of the company regarding environmental protection and energy saving. The Braas Monier factory in Karstädt achieved the seal of quality “Ökoprofit” (“Eco-profit”). That shows that the company took exemplary actions in this field. Further Dr. Friedrich-Wilhelm Baumann from the Prignitz Chemie explained which actions the company takes to save energy.

Besides these practical examples an expert presented some general facts about energy management, its approach, its benefits and its costs. Claudia Clemens introduced many facts about the more general frame of what energy management is and what the political and industrial implications are. Horst Jaruczewski in-

**Dr. Oliver Hermann opening the event,**  
© Jan Schmidt



roduced the possibilities that regional SMEs have to check their actual energy consumption and how to implement energy saving actions.

The nearly 50 guests enjoyed the event very much and had the chance to gather many new information and ideas. After the presentations the guest made use of the possibility to get together and exchange information in a more familiar atmosphere.

*by Jan Schmidt, project manager Wittenberge, Germany*



Regional Conference, © Jan Schmidt

## TOPIC 7

# Study visit of PEA project partners from Lithuania and Latvia to Sweden and Denmark

2<sup>nd</sup>-8<sup>th</sup> November 2011

On 2-8th of November, 2011 PEA Project partners of the Ignalina NPP regional development agency, Lithuanian energy institute, Kraslava municipality council, municipality administration of Ignalina district, municipality administration of Zarasai district and municipality administration of Visaginas participated in a study visit to Sweden and Denmark. Project partners invited local authorities – the mayor of Ignalina district Bronis Ropė, directors of Zarasai district and Visaginas administrations Vytautas Sekonas ir Virginijus Bukauskas – and energy specialists to take part in the study visit.

The aims of the study visit were:

- to introduce local authorities and energy specialists from Ignalina NPP region (Lithuania) and Kraslava district (Latvia) to new technologies in the sphere of energy saving

and the use of renewable energy sources.

- to collect information about good practices in the municipalities in Sweden and Denmark in providing heat and electricity using renewable energy sources
- to find out about strategic and investment planning in Sweden and Denmark when planning big energy investments and communicating to society.
- to visit efficient energy usage/ sustainable energy/ energy strategy related objects and places in Denmark and Sweden.

The preparation phase to this visit took about two months. Meetings with local authorities and energy companies in Sweden and Denmark had all been arranged in beforehand. The knowledge gained was very important and helped to develop the energy strategies of Ignalina NPP region and Kraslava district and also supported

the choice of best strategic approach for the development of the energy sector.

During the study visit PEA project partners visited:

- Gryaab AB waste treatment company. Gryaab is owned by seven municipalities: Ale, Göteborg, Härryda, Kungälv, Lerum, Möln dal and Partille. At the Rya WWTP, wastewater from the owning municipalities is treated, as well as the residual sludge product. Biogas is produced from the sludge and upgraded to a vehicle fuel. The biogas produced of Gryaab during one year is enough to take a car around the globe for almost 2000 trips.
- Ljungby AB heating company. The partners visited the 18 MW waste fired boiler with limited power production. The boiler fully fills the EU requirements (it has a SNCR-system for NOx-reduction) within a full automatic plant.
- Malmo district Augustenborg. Ekostaden Augustenborg is the collective name for a program to make Augustenborg into a more socially, economically and environmentally sustainable neighbourhood. Ekostaden Augustenborg, one of Sweden's largest urban sustainability projects, was supported by the government's Local Investment Programme and also financed by key local partners within Malmö City and the MKB housing company. Ekostaden is working within the residential area of Augustenborg in Malmö, Sweden, as well as with the school, industrial area and other local businesses. One of the key aims of the project is to enable residents to take a leading role in the ideas, design and implementation of the project. The project was launched in 1998 and the results so far indicate that Augustenborg has become an attractive, multicultural neighbourhood in which the turnover of tenancies has decreased by almost 20% and the environmental impact has decreased to a similar degree.
- Malmo West Harbour. The Western Harbour in Malmö is powered by 100% local renewable energy and is one of the most popular areas of the city and has been a phenomenal economic success.
- Clean Air Technologies in Kristianstad, Sweden. Clean Air Technologies AB provides unique, patented flue gas processing technology designed to increase the efficiency of



Study visit of PEA project partners, © Dmitrij Sosunov

heat plants by recovering the heat in flue gases. Simultaneously this technology bring exhaust emissions into compliance with the increasingly stringent standards specified by environmental agencies.

- Halegeville ecovillage in Denmark. Hallingebjerg is the name of a 70 acre farm in the village of Valsømagle near Ringsted on central Zealand, Denmark. The grounds of Hallingebjerg are the site of the community Hallingelille, previously Landsby 2000, which, when fully developed, will consist of 20 eco-houses, the old farm buildings and a common house forming a village based on permacultural principles.
- Samsøe 100 percent renewable energy island in Denmark. Inhabitants on the small Danish island of Samsø have collaborated to form a social energy revolution. The small Baltic island has become one of the first industrialized places in the world to qualify as being totally energy self-sufficient.

- Sorensen wind energy company in Copenhagen. The company has a very big expertise in building wind turbines based on cooperative ownership models.

During the study visit PEA project partners made discussions about the development of energy strategies based on the experience and advices they made during the visit of the different objects and information gained. Also the study visit allowed local authorities to understand the importance of developing the energy sector and the results of getting it efficient to municipalities and energy companies.

*by Dmitrij Sosunov, PEA communication officer,  
Ignalina Nuclear Power Plant, Lithuania*



## TOPIC 8

# A workshop about energy technologies to improve efficiency

7<sup>th</sup> February 2012 (LV)

Riga Technical University (RTU) in cooperation with the PEA project and the IEE project “CHP goes green” organized a workshop on energy technologies on the 7th February 2012.

The workshop was arranged for energy experts, representatives of municipalities, district heating enterprises and other interested persons. At the beginning of the workshop a presentation by the deputy of the state secretary of Ministry of Economics Mr Gatis Abele was held. He presented the latest information on the development of renewable energy laws as well as

on the Energy Strategy 2030. This is especially of interest because the Ministry of Economics in January 2012 presented the first draft of their Energy Strategy for 2030.

Prof. Dagnija Blumberga informed the audience about the main aspects of the wider use of wood chips in boiler houses in municipalities. Her presentation also integrated the various aspects of sustainable energy planning that are widely discussed within the PEA project for example during the implementation of the Finish pilot activity the wood chip gasifier. As wood chip boiler houses have a usual efficiency of an average of 80-85%, the next presentations by Prof. Ivars Veidenbergs and Edgars Vigants introduced the technological solution for wood chip boilers - gas condenser. The gas condenser was developed in close cooperation between researchers of the RTU and the industrial partner Komforto Ltd.

*by Marika Rosa, PEA project manager, Riga Technical University, Latvia*



**Prof. Blumberga presenting aspects on sustainable energy planning, © Marika Rosa**

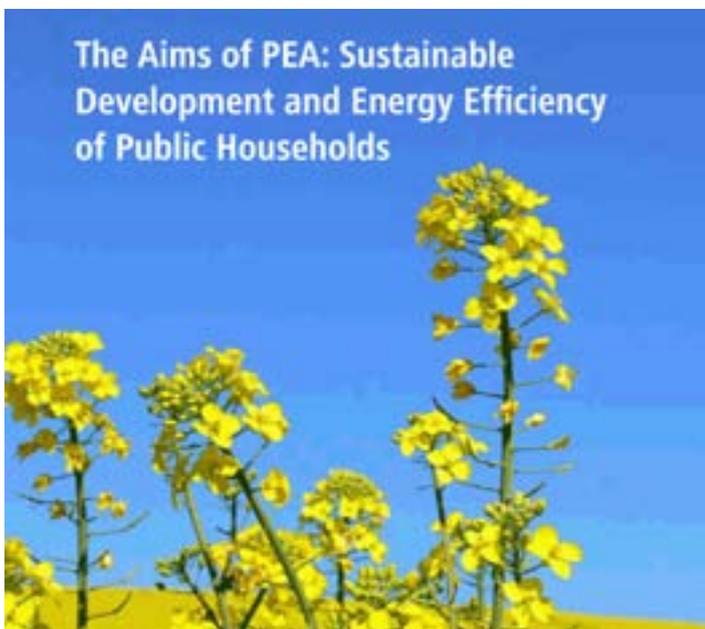
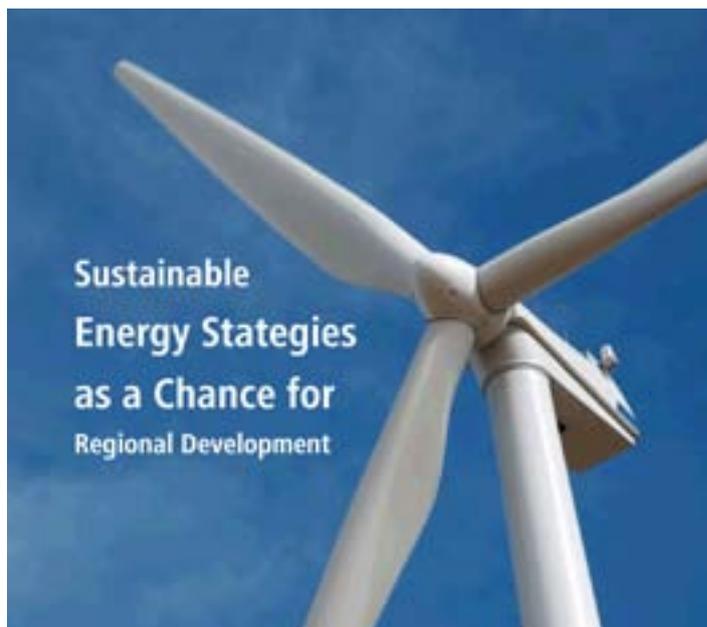
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