



SUSTAINABLE ENERGY COMMUNITIES N°2 - June 2008

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EUSEW 2009

Intelligent Energy - Europe

EDITORIAL -The SEC Tools project is dedicated to encouraging the establishment of Sustainable Energy Communities (SEC) in Europe; e.g. local bodies that will take up the challenge of making a sustainable energy supply structure by building on local renewable resources and improving the security of energy supply. The project's main focus is on smaller communities in the EU's new member states (between 3,000 and 30,000 inhabitants) and pilot projects are under way in Latvia, Lithuania, Poland, the Czech Republic, Bulgaria and eastern Germany. A key feature of those projects is the development of a 'Toolbox' that will assist communities and other involved in developing SEC activities.

SEC Tools is now in its final year and the efforts for the dissemination of SEC methods are being intensified. In recent times, this involved holding a number of events and other dissemination activities in the targeted regions. The core product of the project, the Toolbox, is a dynamic process and the challenge is to make communities around Europe aware of the potential benefits of SEC activities and showing how they can be achieved in practice.

Our readers can find an update of the project activities in this Newsletter while further information is provided on the project website, www.sec-tools.net, where linkages to the local websites can also be found

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Video to inspire SEC activities! The communities involved have produced some videos showing their development since they have been involved in the process of sustainability. A general coverage video has been produced from the national videos of the pilot activities undertaken in Latvia, Lithuania, Poland and Bulgaria. The aim is to show the overall prospects from initiating Sustainable Energy Communities (SEC) activities. It is based on the pilot work implemented under the SEC Tools project. You are welcome to take advantage of the SEC practices. Please click on the icon below to see the video:



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Energy balance of the town of Ustka in Poland Situated on the Baltic Sea in the west of the Pomeranian Region, Ustka has a surface of 1014ha and is inhabited by 16,955 people. The town is a tourist centre and spa. The main heat source of the town is a district heating system operated by DH „EMPEC” Ltd. The town is supplied with heat by 5 boilers of 5.8MW capacity fired by coal dust and one 6MW boiler fired by natural gas and fuel oil. The total capacity is around 21MW.

The major end-user of heat supplied by the district heating system is residential housing. 35% of the demand for the heating of residential buildings is met by the district heating system. Individual wood and coal fired boilers also in use. Natural gas is used by around 95% of the population, mostly for cooking and the preparation of hot water in households.

The source of the largest share of the town’s energy balance – 38.6% - is coal. This high share of coal results from the fact that the central boiler house is fired by coal dust.

The spatial planning policy of the town is based on the principle of sustainable development.

Both the „Development Strategy of Pomeranian Region” and the „Programme of Environmental Protection in the Pomerania Region”, attach importance to the improvement of ecological conditions through upgrading the quality of the air. It is especially significant for the town of Ustka because of its spa character.

The factors determining the directions of changes are:

- rational use of energy
- increased share of RES
- requirement to ensure energy security for the town
- improved living standards

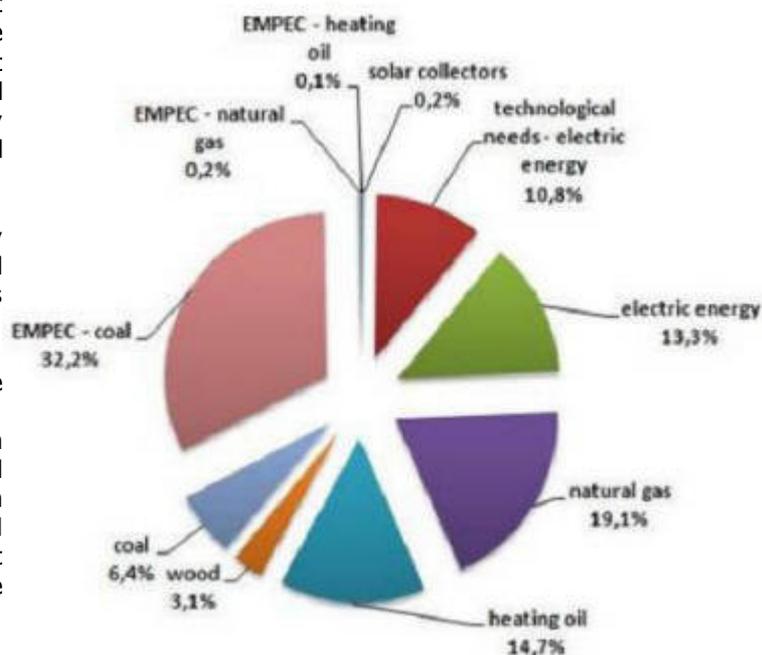


Chart 1. Present share of sources in the energy balance

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Prospects & examples from Latvia An initial evaluation of the situation in Iecava (Latvia), regarding the energy efficiency of private apartment blocks, demonstrated that one of the most serious problems is a lack of training and staff who could organise the management of the accommodation and the implementation of energy efficiency measures. The Iecava municipality has implemented a training programme for managers in order to support the organisation of housekeeping co-operatives and to initialise discussions about the efficient and sustainable management of the older apartment blocks.

A training programme entitled “Administering and organising the management of private apartment blocks” included:

- Legal aspects of co-operative management of private accommodation
- Life-cycle of apartment blocks
- Electricity, gas, water and heat supply; principles of calculation of tariffs, planning and implementation of energy efficiency measures
- Bookkeeping, taxation and calculation of operational expenses
- Record keeping and organisation of correspondence
- Communication and resolution of conflict situations

At the beginning of 2008, as part of the SEC Tools project, the municipality of Iecava, in cooperation with the companies Strasa Konsultanti and Vides projekti, created a video about the development of the village heating system over the last 10 years. This 10-minute video includes interviews with the director of the heat supply company, of the Chairman of the Iecava municipality and representatives of municipal organisations that implement different energy saving measures. The video has been broadcast twice on Latvian television.

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Project SEC-Tools continuation in Czech Republic In practice, every city and large

village has to take care of its own local energy system, mainly in relation to heat. The municipality owns the heating system and is participating in the identification of solutions for the renovation of the heating network and the sources of energy. It is directly involved as the energy supplier for own buildings. Indirectly it is participating in negotiations on landscape planning.

These aspects and other items in the field of energy planning and energy savings were the subject of the seminar held last winter in the building of the Southern Bohemian Region in the city of Ceske Budejovice. More details on the seminar, including all of the presentations, can be found on the Czech web site for the SEC-Tools project (www.sec-tools.cz). The seminar was held as a part of the project.

The activities of the project are directly focused on the city of Milevsko. The community energy planning tools were tested there but the overall activities of the project in the Czech Republic are much broader. SEVEN, Energy Efficiency Center, is the co-ordinator of the project in the Czech Republic and is in contact with many other communities that need consultation or assistance in the field of energy planning.

The next seminar is planned for the Southern Moravian Region, in the city of Brno in 2008.

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Installation of biofuel boiler in Kaisiadorys in Lithuania The Kaisiadorys municipality covers 1,087km² and has 37,000 inhabitants. Its centre - Kaisiadorys town - is inhabited by 10,000 people. The project activities in Kaisiadorys were implemented in 2 directions: the first provided assistance in the installation of a bio-fuel boiler in the heat supply company "Kaisiadoriu siluma" and the second one on energy management in public buildings.

Bio-fuel boiler The Kaisiadorys district heating plant supplies to the network with heat produced in natural gas fired boilers of 44.1MW capacity in total. Due to sharply rising natural gas prices and in line with the SEC-Tools project, it was decided to install a bio-fuel heat boiler of 5MW capacity. Locally produced wood chips are intended to be used as a fuel. The boiler should be working at 100% capacity in winter time and covering 60% of the total heat demand. In the summer, only 20% of boiler capacity will be used in order to supply warm tap water. The investment of 3.3 million Lt (950,000 €) will include the installation of the bio-fuel boiler, the construction of a wood chip storage facility, the fuel transportation system and a new chimney. The financial appraisal of the project viability was made using a special SEC-Tool "Economic and financial appraisal of heat supply projects" (located on the SEC-Tools website). The operation of the bio-fuel boiler will require 15,000 tons of wood chips per year. Calculations confirmed the profitability of the investment. The heat production cost is estimated at 9.3-9.5 ct/kWh, which is well below the cost of heat produced by natural gas boilers - 11.95 ct/kWh (this heat production price was approved by the Price Commission in its decision of 4th May, 2007). The change of fuel will allow the municipality to protect district heating consumers from rapidly growing natural gas and heat prices. The construction of the bio-fuel boiler is expected to be complete by the autumn of 2008.

Energy management in public buildings In the town of Kaisiadorys, 2 public buildings - the "Zvaigzdute" nursery school and the public library - have been selected for the introduction of energy management with a view to optimising heating in accordance with the required indoor temperature and perhaps save energy. The special energy management software is currently being selected for practical testing in the selected buildings. These issues are in negotiation with some Danish companies.

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Measures on renovation of multifamily houses in Kelme in Lithuania Kelme municipality covers 1705km² and has 40,900 inhabitants. Its centre - the town of Kelme - is inhabited by 10,900 people.

The project activities in Kelme municipality were implemented by delivering awareness campaigns on energy efficiency to residents in multi-family houses. However, the first straightforward attempts to convince people to embark on renovation of their highly energy-inefficient homes were unsuccessful. More detailed analysis of the situation revealed 2 main barriers:

- As not a single house has an established home owners association, the municipal authorities appointed local administrators. Due to lack of motivation and weak control, the administrators' performance was poor. This resulted in the absence of a spokesperson even though the property belonged to the flat owners.
- Flat owners typically complained about a lack of personal funds for renovation. Scarcity of finance has been pre-determined by inadequate government policy, which does not require mandatory planning of renovation and the corresponding accumulation of earmarked funds. Planning of renovation is therefore absent and the accumulation of funds is on a voluntary base. Combined with weak administration, both shortcomings resulted in a very poor situation

– people do not have any renovation plans - or even intentions - and, at the same time, they have no funds for renovation.

It should be noted that these deficiencies, which exist throughout the country, have been addressed at the state level. To date, the following measures were taken:

- Analysis of the housing administrators' work was done and conclusions, as well as proposed changes in government regulations, were submitted to the Environment Ministry which is responsible for these matters. The proposals were discussed at 2 meetings with mid-level officials.
- It has been agreed with the Environment Ministry to organise a workgroup and a follow-up conference on the above issues with the participation of the main stakeholders in May-June.
- It was suggested that the Ministry should provide further assistance in case new government regulations are to be drafted.

Additionally, as an extra means, 2 new and more progressive heat allocation methods in multi-family houses were developed by an SEC-Tools partner. One method is based on an allocation related to square meters. Another method involves heat meters and so creates the motivation to save energy. A further method uses a technical innovation, which allows for more precise allocation of heat consumption and does not require all flat owners to install heat consumption meters. Such strict requirements were a serious impediment for the installation of heat meters because in many cases, there has been a few opposing flat owners. Both methods are more precise compared to existing practice, which is based on a normative approach. In addition, the official method with heat meters suffers from an improper method of calculation that weakens heat saving motivation. This existing weakness has been removed in the new method.

With a supportive letter from the Ministry of Economy, both methods were proposed to the Price Commission for approval and that is currently under way. After approval, these methods will be offered to people in Kelme. It is intended to reward the first house that makes a positive decision, by the installation of heat meters and partial funding of this investment from the earmarked project funds.

Both heat allocation methods will be soon be placed on the Lithuanian SEC-Tools website.

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Heat supply planning in Trakai municipality in Lithuania Trakai municipality covers 1200km² and has 38,200 inhabitants. At its centre is the town of Trakai which has a glorious historical past. The town is inhabited by 5400 people. In accordance with the SEC-Tools action plan, activities in Trakai municipality were carried out in 2 domains: the first on Municipal energy planning and the second on energy management in public buildings:

Heat supply planning in 3 small towns In May-June 2007, heat supply planning was launched for 3 small towns: Aukstadvaris (1000 inhabitants), Senieji Trakai (1500) and Rudiskes (2500). All the 3 towns are in somewhat similar situations and exhibit the following features:

- Heat supply is costly due to the small size of all 3 systems. They also exhibit numerous weaknesses – low boiler efficiency, bad insulation of distribution networks and oversized piping originally intended for more users.
- Due to high heating costs, a lot of consumers have disconnected from the district heating systems and installed various individual heating systems, many of which are rather primitive. Currently, less than half of flats remain connected to the district heating systems, leaving district heating in a very unfavourable position.
- Owing to the complexity of district heating regulations, the heating prices in small towns are relatively high compared to those of large cities and this is combined with unfair practices frequently applied by heat suppliers. The district heating system lacks attractiveness to consumers so people tend to favour individual modes of heating.

So far, the 3 heat supply plans have been drafted, the most important results being reflected in detailed maps, which depict consumer zones with preferred heating modes. The plans were discussed at a few meetings organised by the Trakai municipal administration and with the participation of an SEC-Tools consultant. The consultant's main findings and suggestions were:

- Heat demand prospects need better substantiation. Taking into account that a great number of consumers have disconnected from the district heating network, a more detailed consumer survey is needed. Investigation of consumer preferences for district or individual heating modes should be carried out at the planning stage and preliminary agreements with multi-family houses and other larger consumers are strongly recommended. This would considerably increase the reliability of planning. Meanwhile, all 3 draft plans have used very approximate and unreliable figures for estimation of the heat demand.
- The choice of wood pellets as a bio-fuel for district heating is quite expensive and may undermine the competitiveness of the district heating option. The use of much cheaper wood chips must be considered and that may significantly favour the district heating option.
- There is no uniform and reliable heat supply planning approach among consulting companies. Each company uses its own methodology, principles and software, some of which seem quite primitive and inadequate. Consequently, a well substantiated planning methodology, based on simple and easily understandable principles would be of great value for better energy planning throughout the country. Within the SEC-Tools project, it is intended to develop a special heat planning tool, which might remove the present shortcomings, make a consultant's work more efficient

and the heat planning outcome considerably better.

Energy management in public buildings 2 public buildings have been selected for the introduction of energy management with a view to optimising heating in accordance to the required indoor temperature and possible energy savings. The 2 buildings are situated in Trakai town. Currently, a special energy management software is being selected for practical testing in the public buildings. Negotiations with some Danish companies are under way.

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EUSEW 2009 Under the umbrella of the Sustainable Energy Europe campaign (SEE), the European Commission's Directorate-General for Energy and Transport, the European Institutions and major stakeholders concerned with sustainable energy, together arranged the second EU Sustainable Energy Week. During EUSEW 2008, more than 55 events were held in Brussels, gathering more than 5100 participants, while 12 decentralised events attracted more than 4300 participants.



EUSEW 2009 will be held in Brussels, Belgium and in other cities across Europe from the 9th to the 13th of February, 2009. We wish all the best to this 3rd round of the EU Sustainable Energy Week!!



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Energy - Europe IEE II programme as part of the Competitiveness and Innovation Framework Programme. €730 million will be available to fund projects for the promotion of energy efficiency and renewable energy. The new programme will build on the strengths of IEE I whilst giving greater emphasis to addressing the needs of small and medium-size enterprises, as well as improved competitiveness and innovation. The programme will cover three main areas – energy efficiency, renewable energy sources and transport – and within these areas many of the themes from previous years have been repeated, including buildings, industry, consumer products, renewable electricity, heating and cooling and biofuels.

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